a collection of manufacturers' catalogs

SECTION 1-5

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Mike Jackson, FAIA

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structural systems and materials

structural systems a
building specialties b
masonry c
wood and wood treatments d
metals e
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roofing and siding

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waterproofing, masonry treatments a
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garage d
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aluminum a
steel b
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Light Construction File

A file of manufacturers' catalogs compiled for the use of designers and builders of houses and other light structures.

Sweet's Catalog Service
Division—F. W. Dodge Corporation
119 West 40 St., New York 18, NY

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index system:

firms

products

trade names

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Accurate Metal Weather Strip Co., Inc. 6b/Ac
Acme Steel Co.,–see Geneva Modern Kitchens ... 9a/Gev
Adam, Frank, Electric Co. 8g/Ad
Adams Engineering Co., Inc. 5d/Ad
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Altex Engineering Co. 5a/Ae
Aluminum Home Products Co. 5a/AL
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Aluminum Window Mfrs. Assn. 5a/ALu
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American Zinc Institute, Inc. 2a/Am
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firms

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Consoweld Corp. 7e/Co
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•*wood windows* 5c/Lu

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•*fireplaces and incinerators* 8f/Ma
•*heating and air conditioning* 8c/Ma
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•*wood doors* 4b/Men
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Monsanto Chemical Co. 7g/Mo
Mosley Electronics, Inc. 8i/Mo
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(Streamline Pipe & Fittings Div.) 8a/Mu
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–see Valley Metal Products Co. 5a/Va
Muncie Gear Works, (Marvair Div.) 8c/Mu
Myers, F. E., & Bro. Co. 8b/My

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National Gypsum Co.
•*paint* 7g/Na
•*roofing and siding* 2b/Na
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National Tile & Mfg. Co. 7a/Na
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NuTone, Inc. 8e/Nu

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Pecora Paint Co., Inc. 7f/Pe
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Perma Products Co. 2b/Pe
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•*reinforcing mesh* 1a/Pi
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•*garage doors* 4d/Re
•*gutters and downspouts* 2a/Rey
•*insulation* 3b/Rey
•*shingles* 2b/Re
Reynolds Windows, Inc. 5c/Re
Rheem Mfg. Co.
•*air conditioning* 8c/Rh
•*water heaters, tanks, etc.* 8b/Rh
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Robbins Floor Products, Inc. 7c/Ro
Robinson Clay Product Co. 8a/Ro
Roddis Lumber & Veneer Corp.
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•*doors* 4b/Ro
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•*folding doors* 4c/Ro
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Russell & Erwin Div., American Hardware Corp. 6a/Ru

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Slide-View Steel Door & Window Co. 4a/SL
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Southern States Iron Roofing Co.,
(Standard Mfg. Div.) 4a/So
Southwood Corp. 7e/So
Sterling Hardware Mfg. Co. 6a/Ste
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Superior Electric Co. 8g/Su
Superior Fireplace Co. 8f/Su
Symons Clamp & Mfg. Co. 1a/Sy

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Thomason Plywood Corp. 4b/Th
Thrush, H. A., & Co. 8d/Th
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Trade Wind Motorfans, Inc. 8e/Tr
Tru-Seal Windows Div.,
Industrial Machine Tool Co., Inc. 5a/Tru
Truscon Steel Div., Republic Steel Corp. 5b/Tr

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Union Asbestos & Rubber Co.
(Heating & Cooling Div.) 8c/Un
Union Machine Co. 5d/Un
Unique Balance Co., Inc. 6a/Un
United States Plywood Corp.
•*plywood* 1d/Un
•*wood doors* 4b/Un
United States Rubber Co., (Uskon Dept.) 8c/Uni
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Universal-Rundle Corp.
•*kitchen equipment* 9a/Un
•*plumbing fixtures* 9b/Un
Upson Co. 3d/Up

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Valspar Corp., Div. Valentine & Co. 7g/Va
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Visking Corp., Plastics Div. 3a/Vi

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Warren Shade Co., Inc. 4c/Wa
Washington Steel Products, Inc. 6a/Wa
Waterfilm Boilers, Inc., Div. L. O.
Koven & Bro., Inc. 8d/Wa
Westinghouse Electric Corp. 8c/We
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WindowMaster Corp. 5a/Win
Woodall Industries Inc. 4b/Wo
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World Steel Products Corp. 4a/Wor

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see admixtures

acoustical materials

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blanket type
Lockport Mills, Inc. 3b/Lo
Owens-Corning Fiberglas Corp.....3b/Ow

fastening devices for
Miracle Adhesives Corp.....1b/Mi

plaster
Great Lakes Carbon Corp. 1c/Gr
Zonolite Co. 3d/Zo

tile
Armstrong Cork Co. 3b/Ar
Barrett Div. 3b/Bar
Celotex Corp. 3b/Ce
Owens-Corning Fiberglas Corp.....3b/Ow

adhesives

(see also cement)

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Marsh Wall Products, Inc.....7e/Ma
Miracle Adhesives Corp. 1b/Mi
Pecora Paint Co., Inc.....7f/Pe
Robbins Floor Products, Inc. 7c/Ro
Roddis Plywood Corp. 4b/Ro

admixtures

accelerators—concrete or mortar
Nova Sales Co. 3a/No

acid resistant—concrete
Nova Sales Co. 3a/No

antifreeze—concrete or mortar
Nova Sales Co. 3a/No

curing—concrete
Nova Sales Co. 3a/No

hardeners and densifiers—concrete
Nova Sales Co. 3a/No

water reducing or repelling
Nova Sales Co. 3a/No

aggregates—concrete

insulating
Great Lakes Carbon Corp. 1c/Gr
Zonolite Co. 3d/Zo

lightweight
Great Lakes Carbon Corp. 1c/Gr
Zonolite Co. 3d/Zo

perlite
Great Lakes Carbon Corp. 1c/Gr

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vermiculite
Zonolite Co. 3d/Zo

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central plant
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Chrysler Airtemp 8c/Ch
Coleman Co., Inc. 8c/Co
Crane Co. 9b/Cr
General Air Conditioning Corp.....8c/Ge
Henry Furnace Co. 8c/He
Iron Fireman Mfg. Co. 8c/Ir
Kaustine Furnace & Tank Corp.....8c/Ka
Muncie Gear Works.....8c/Mu
Olsen, C. A., Mfg. Co.....8c/OL
Rheem Mfg. Co. 8c/Rh
Servel, Inc. 8c/Se
Union Asbestos & Rubber Co. 8c/Un
Westinghouse Electric Corp. 8c/We

standing unit
Carrier Corp. 8c/Ca
Chrysler Airtemp 8c/Ch
Coleman Co., Inc. 8c/Co
Crane Co. 9b/Cr
Henry Furnace Co. 8c/He
Hotpoint Inc. 9a/Hot
Iron Fireman Mfg. Co. 8d/Ir
Kaustine Furnace & Tank Corp.....8c/Ka
Majestic Co. 8c/Ma
Muncie Gear Works.....8c/Mu
Olsen, C. A., Mfg. Co.....8c/OL
Rheem Mfg. Co. 8c/Rh
Servel, Inc. 8c/Se
Union Asbestos & Rubber Co. 8c/Un
Westinghouse Electric Corp. 8c/We

window unit
Admiral Corp. 9a/Ad
Chrysler Airtemp 8c/Ch
General Electric Co. 9a/Ge

anchors

beam or joist
Cleveland Steel Specialty Co., Inc.....1b/CL
Conver Steel & Wire Co., Inc. 1b/Co
Hohmann & Barnard, Inc. 1b/Ho

bolt
Cleveland Steel Specialty Co., Inc.....1b/CL
Conver Steel & Wire Co., Inc. 1b/Co
Hohmann & Barnard, Inc. 1b/Ho

buck
Cleveland Steel Specialty Co., Inc.....1b/CL
Conver Steel & Wire Co., Inc. 1b/Co
Hohmann & Barnard, Inc. 1b/Ho

cavity wall
Cleveland Steel Specialty Co., Inc.....1b/CL
Hohmann & Barnard, Inc. 1b/Ho

anchors *cont.*

furring
Cleveland Steel Specialty Co., Inc.....1b/CL
Conver Steel & Wire Co., Inc. 1b/Co
Hohmann & Barnard, Inc. 1b/Ho
Miracle Adhesives Corp. 1b/Mi

masonry
American Zinc Institute, Inc. 2a/Am
Cleveland Steel Specialty Co., Inc. ...1b/CL
Conver Steel & Wire Co., Inc. 1b/Co
Hohmann & Barnard, Inc. 1b/Ho
Miracle Adhesives Corp. 1b/Mi

partition
Conver Steel & Wire Co., Inc. 1b/Co

screw
Conver Steel & Wire Co., Inc. 1b/Co

sleeper
Cleveland Steel Specialty Co., Inc.....1b/CL
Hohmann & Barnard, Inc. 1b/Ho

slot and slots for
Conver Steel & Wire Co., Inc. 1b/Co

veneer wall
Cleveland Steel Specialty Co., Inc.....1b/CL
Conver Steel & Wire Co., Inc. 1b/Co

area walls

metal
Brainard Steel Div. 1e/Br
Cleveland Steel Specialty Co., Inc. ...1b/CL
Hohmann & Barnard, Inc. 1b/Ho

asphalt—basic or emulsion

(see also floor coverings—asphalt; masonry treatments; paint; roofing—built-up; shingles —asphalt
Flintkote Co. 2b/FL

awnings

Clearview Louver Window Corp. 5d/CL
Metal Tile Products, Inc. 7b/Me

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bases—cove, wall

see floor coverings; wall coverings

bathroom accessories—various types

ceramic
National Tile & Mfg. Co. 7a/Na

metal
Crane Co. 9b/Cr

products

bathroom accessories—various types *cont.*

vitreous china
Fairfacts Co., Inc. 9c/Fa
Universal-Rundle Corp. 9b/Un

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Crane Co. 9b/Cr

bathtubs

AllianceWare, Inc. 9b/AL
Briggs Mfg. Co. 9b/Bri
Crane Co. 9b/Cr
Eljer Co. 9b/EL
Universal-Rundle Corp. 9b/Un

enclosures for
Shower Door Co. of America 9b/Sh

beams, girders and rafters

(see also joists; structural shapes)
Jones & Laughlin Steel Corp. 1a/Jo

bells, buzzers, chimes

NuTone, Inc. 8e/Nu

blowers—centrifugal or axial

(see also fans; ventilators)

ventilating or exhaust
Berns Mfg. Corp. 8e/Be
Lau Blower Co. 8e/La
NuTone, Inc. 8e/Nu
Pryne & Co., Inc. 8e/Pr
Trade-Wind Motorfans, Inc. 8e/Tr

boiler-burner units

Aldrich Co. 8d/AL
Crane Co. 9b/Cr
Waterfilm Boilers, Inc. 8d/Wa

boilers

coal fired
Waterfilm Boilers, Inc. 8d/Wa

fire tube
Aldrich Co. 8d/AL

gas fired
Aldrich Co. 8d/AL
Chrysler Airtemp 8c/Ch
Crane Co. 9b/Cr
Hydrotherm, Inc. 8d/Hy
Iron Fireman Mfg. Co. 8d/Ir
Waterfilm Boilers, Inc. 8d/Wa

oil fired
Aldrich Co. 8d/AL
Chrysler Airtemp 8c/Ch
Crane Co. 9b/Cr
Iron Fireman Mfg. Co. 8d/Ir
Waterfilm Boilers, Inc. 8d/Wa

water tube
Waterfilm Boilers, Inc. 8d/Wa

bolts

(see also hardware)

expansion
Hohmann & Barnard, Inc. 1b/Ho

bonding compounds

Crossfield Products Corp. 7c/Cr
Miracle Adhesives Corp. 6f/Mir

brick

(see also tile)

face or front
Natco Corp. 1c/Na

SCR
Natco Corp. 1c/Na

bridging

see wood frame construction accessories

building insulation

blanket or batt form
Armstrong Cork Co. 3b/Ar
Barrett Div. 2b/Ba
Carey, Philip, Mfg. Co. 2b/Ca
Celotex Corp. 3b/Ce
Flintkote Co. 2b/FL
Lockport Mills, Inc. 3b/Lo
Owens-Corning Fiberglas Corp. 3b/Ow
Reflectal Corp. 3b/Re
Ruberiod Co. 2b/Ru

block, board or panel
Armstrong Cork Co. 3b/Ar
Barrett Div. 3b/Bar
Celotex Corp. 3b/Ce
Flintkote Co. 2b/FL
Homasote Co. 3b/Ho
Nova Sales Co. 3a/No
Owens-Corning Fiberglas Corp. 3b/Ow

lath
Celotex Corp. 3b/Ce

powdered, granulated or shredded
Armstrong Cork Co. 3b/Ar
Barrett Div. 2b/Ba
Celotex Corp. 3b/Ce
Flintkote Co. 2b/FL
Owens-Corning Fiberglas Corp. 3b/Ow
Ruberoid Co. 2b/Ru
Zonolite Co. 3d/Zo

reflective
American Sisalkraft Corp. 2c/Am
Celotex Corp. 3b/Ce
Glas-Kraft, Inc. 2c/GL
Lockport Mills, Inc. 3b/Lo
Reflectal Corp. 3b/Re
Reynolds Metals Co. 3b/Rey
Ruberoid Co. 2b/Ru

vapor seal or barrier
American Sisalkraft Corp. 2c/Am
Carey, Philip, Mfg. Co. 2b/Ca
Celotex Corp. 3b/Ce
Glas-Kraft, Inc. 2c/GL
Lockport Mills, Inc. 3b/Lo
Owens-Corning Fiberglas Corp. 3b/Ow
Reflectal Corp. 3b/Re
Reynolds Metals Co. 3b/Rey
Ruberoid Co. 2b/Ru
Visking Corp. 3a/Vi

burners

(see also boilers; furnaces)

gas
Chrysler Airtemp 8c/Ch
Henry Furnace Co. 8c/He
Majestic Co. 8c/Ma
Olsen, C. A., Mfg. Co. 8c/OL

oil
Aldrich Co. 8d/AL
Chrysler Airtemp 8c/Ch
Henry Furnace Co. 8c/He
Majestic Co. 8c/Ma
Olsen, C. A., Mfg. Co. 8c/OL

C

cabinet work

see woodwork

cabinets—kitchen—china, linen, etc.

accessories for
American Kitchens Div. 9a/Am
Carr, Adams & Collier Co. 9a/Ca
Crosley Div. 9a/Cr
General Electric Co. 9a/Ge
Geneva Modern Kitchens .9a/Gen; 9a/Gev
Hotpoint Inc. 9a/Hot
Kitchen Maid Corp. 9a/Ki
Universal-Rundle Corp. 9a/Un
Washington Steel Products, Inc. 6a/Wa

light-fan combination
Pryne & Co., Inc. 8e/Pr

metal
American Kitchens Div. 9a/Am
Briggs Mfg. Co. 9b/Bri
Crane Co. 9b/Cr
Crosley Div. 9a/Cr
Eljer Co. 9b/EL
General Electric Co. 9a/Ge
Geneva Modern Kitchens 9a/Gen; 9a/Gev
Hotpoint Inc. 9a/Hot
Universal-Rundle Corp. 9a/Un

wood
Carr, Adams & Collier Co. 9a/Ca
Kitchen Maid Corp. 9a/Ki

caging

see reinforcing

caps and bases—column or post

see wood frame construction accessories

casings

door
see doors

window
see windows

castings

iron
McKinley Iron Works 1e/Mc
Tennessee Fabricating Co. 1e/Te

caulking compounds

Accurate Metal Weather Strip Co., Inc. 6b/Ac
Calbar Paint & Varnish Co. 3a/Ca
Marsh Wall Products, Inc.....7e/Ma
Miracle Adhesives Corp. 1b/Mi
Nova Sales Co. 3a/No
Pecora Paint Co., Inc.....7f/Pe

ceilings

plastic—corrugated or flat sheet
Alsynite Co. of America 1f/AL
American Panal Inc. 1f/Ame

suspended systems
Pittsburgh Steel Products Co. 3d/Pi

cement

grouting
Miracle Adhesives Corp. 1b/Mi
Nova Sales Co. 3a/No
Pecora Paint Co., Inc.....7f/Pe

mastic—for application of flooring, wallboard, etc.
Armstrong Cork Co. 3b/Ar; 7c/Ar
Bruce, E. L., Co. 7d/Bru
Marsh Wall Products, Inc.....7e/Ma
Miracle Adhesives Corp. 1b/Mi
Pecora Paint Co., Inc.....7f/Pe

mortar—premixed
Louisville Cement Co., Inc. 1c/Lo

patching and resurfacing
Armstrong Cork Co. 7c/Ar
Flintkote Co. 2b/FL
Pecora Paint Co., Inc.....7f/Pe

channel stringers

see structural shapes

checks, closers and holders—door

Corbin, P. & F., Div. 6a/Co
Pittsburgh Plate Glass Co. 1f/Pi
Russell & Erwin Div. 6a/Ru
Sterling Hardware Mfg. Co.....6a/Ste
Truscon Steel Div. 5b/Tr

chimneys

linings for
Natco Corp. 1c/Na
Robinson Clay Product Co. 8a/Ro

packaged
Majestic Co. 8c/Ma

chutes

coal
Majestic Co. 8f/Ma

laundry—doors for
Cleveland Steel Specialty Co., Inc. ...1b/CL

circuit breakers

Adam, Frank, Electric Co. 8g/Ad

circulators or boosters—heating system

Bell & Gossett Co. 8d/Be

clamps

(see also reinforcing)

beam, column, joist, wall, etc.
Conver Steel & Wire Co., Inc. 1b/Co
Hohmann & Barnard, Inc. 1b/Ho
Symons Clamp & Mfg. Co. 1a/Sy

cleaning and polishing equipment

floor, wall, furniture, etc.
Bruce, E. L., Co. 7d/Bru
Kentile, Inc. 7c/Ke
Marsh Wall Products, Inc.....7e/Ma
Pecora Paint Co., Inc.....7f/Pe

clips

see reinforcing

closets

accessories for
Knape & Vogt Mfg. Co.....6a/Kn

lining for
Bruce, E. L., Co. 7c/Bru

prefabricated
Mengel Co. 4b/Meg; 4b/Men

clothes poles

Hohmann Industries, Inc. 9a/Ho

coaters and sealers

see paint; sealers; etc.

coatings

see masonry treatments; paint; roofing—cement and coatings for

cold storage insulation

see low temperature insulation

columns

(see also ornamental metalwork)

steel
(see also structural shapes)
Brainard Steel Div. 1e/Br
Cleveland Steel Specialty Co., Inc. ..1b/CL
McKinley Iron Works.....1e/Mc

communication systems

see intercommunicating systems

concrete

see aggregates—concrete

concrete construction accessories

see admixtures; anchors; forms—concrete; inserts; plugs; reinforcing

controls—electric

(see also heating—controls)

dimmer
Superior Electric Co. 8g/Su

convectors

(see also radiators)
Crane Co. 9b/Cr
Iron Fireman Mfg. Co. 8d/Ir
Union Asbestos & Rubber Co. 8c/Un

coolers—drinking water

see fountains

cooling towers

Halstead & Mitchell 8c/Ha

copings

cast stone, clay, stone or terra cotta
Indiana Limestone Co., Inc.....1c/In
Robinson Clay Product Co. 8a/Ro

metal
McKinley Iron Works.....1e/Mc

corner beads

see lath

counters

tops for
see tops

couplings

see pipe—fittings

cove base

see specific type of flooring

curtains and drapery

bamboo or wood slat
Heinley Mastercraft Products.....6b/He
Nova Sales Co. 3a/No

d

damper regulators

see heating—controls

dehumidifiers

Admiral Corp. 9a/Ad
General Electric Co. 9a/Ge
Muncie Gear Works 8c/Mu

disappearing stairways

EZ-Way Sales, Inc. 1d/Ez
Precision Parts Corp. 1d/Pr

dishwashers

American Kitchens Div. 9a/Am
Crane Co. 9b/Cr
Crosley Div. 9a/Cr
General Electric Co.....9a/Ge
Hotpoint Inc. 9a/Hot

doors

access—ceiling or wall
Bilco Co. 4e/Bi
Hohmann & Barnard, Inc. 1b/Ho
Inland Steel Products Co.....3d/In

products

doors *cont.*

airplane hangar
Overhead Door Corp. 4d/Ov

aluminum
Alwintite Div. 5a/ALw
Kaufman Corp. 6b/Kau
Overhead Door Corp. 4d/Ov
Panaview 4a/Pa
Reynolds Metals Co. 4d/Re
World Steel Products Corp.....4a/Wor

ash pit, coal, trap or clean-out
Cleveland Steel Specialty Co., Inc. ..1b/CL
Hohmann & Barnard, Inc. 1b/Ho
Inland Steel Products Co.....3d/In
Superior Fireplace Co. 8f/Su

bottoms for
see weatherstrips

bronze
World Steel Products Corp.....4a/Wor

bulkhead
Bilco Co. 4e/Bi
Heatilator Inc. 4e/He

cabinet
Roddis Plywood Corp. 4b/Ro
Woodall Industries Inc. 4b/Wo

casement
Hope's Windows, Inc. 5b/Ho
Truscon Steel Div. 5b/Tr

closet—folding, sliding, etc.
(see also wardrobes)
Diebold, Inc. 4a/Di
Mengel Co. 4b/Meg; 4b/Men
Rolscreen Co. 4c/Ro
Truscon Steel Div. 5b/Tr
United States Plywood Corp.....4b/Un
Woodall Industries Inc. 4b/Wo
World Steel Products Corp.....4a/Wor

closing devices for
see checks, closers and holders—door

fire—labeled
Roddis Plywood Corp. 4b/Ro
Truscon Steel Div. 5b/Tr
United States Plywood Corp.....4b/Un
World Steel Products Corp.....4a/Wor

fire resistant
Roddis Plywood Corp. 4b/Ro
United States Plywood Corp.....4b/Un

flush—metal
Diebold, Inc. 4a/Di
Truscon Steel Div. 5b/Tr
World Steel Products Corp.....4a/Wor

flush—plywood or wood
Atlas Plywood Corp. 4b/At
General Plywood Corp. 4b/Ge
Mengel Co. 4b/Meg; 4b/Me
Overhead Door Corp. 4d/Ov
Paine Lumber Co., Ltd.....4b/Pa
Roddis Plywood Corp. 4b/Ro
Thomason Plywood Corp. 4b/Th
United States Plywood Corp....1d/Un; 4b/Un

folding and sliding
Alwintite Div. 5a/ALw
Atlas Overhead Door Co. 4d/At
Crawford Door Co. 4d/Cr
Diebold, Inc. 4a/Di

doors *cont.*

folding and sliding *cont.*
Kinnear Mfg. Co. 4d/Ki
Mengel Co. 4b/Meg; 4b/Men
Nova Sales Co. 3a/No
Overhead Door Corp. 4d/Ov
Panaview 3a/Pa
Raynor Mfg. Co. 4d/Ra
Reynolds Metals Co. 4d/Re
Roddis Plywood Corp. 4b/Ro
Rolscreen Co. 4c/Ro
Rowe Mfg. Co. 4d/Ro
Slide-View Steel Door & Window Co. 4a/SL
Truscon Steel Div. 5b/Tr
United States Plywood Corp.....4b/Un
Warren Shade Co., Inc.....4c/Wa
Woodall Industries Inc. 4b/Wo

garage—metal or wood
Atlas Overhead Door Co. 4d/At
Crawford Door Co. 4d/Cr
Kinnear Mfg. Co. 4d/Ki
Overhead Door Corp. 4d/Ov
Raynor Mfg. Co. 4d/Ra
Reynolds Metals Co. 4d/Re
Rowe Mfg. Co. 4d/Ro

glass
Libbey-Owens-Ford Glass Co. 1f/Li
Pittsburgh Plate Glass Co. 1f/Pi

glass—sliding (window wall)
Adams Engineering Co., Inc. 5d/Ad
Ludman Corp. 4a/Lu
Panaview 4a/Pa
Slide-View Steel Door & Window Co. 4a/SL

hardware for
see hardware

jalousie
Adams Engineering Co., Inc. 5d/Ad
Arnold Products, Inc. 5a/Ar
Clearview Louver Window Corp. 5d/CL
Denison Corp. 5d/De
Heinley Masterkraft Products 6b/He
Kaufmann Corp. 6b/Kau
Nova Sales Co. 3a/No
Union Aluminum Co., Inc. 5a/Un
Union Machine Co. 5d/Un
Universal Fabricators 5d/Uni
Ware Laboratories, Inc. 5a/Wa

metal—hollow
Crawford Door Co. 4d/Cr
Diebold, Inc. 4a/Di
World Steel Products Corp.....4a/Wor

metal—kalamein
Overhead Door Corp. 4d/Ov
World Steel Products Corp.....4a/Wor

overhead type
Atlas Overhead Door Co. 4d/At
Crawford Door Co. 4d/Cr
Kinnear Mfg. Co. 4d/Ki
Overhead Door Corp. 4d/Ov
Raynor Mfg. Co. 4d/Ra
Reynolds Metals Co. 4d/Re
Roddis Plywood Corp. 4b/Ro
Rowe Mfg. Co. 4d/Ro

power operated
Atlas Overhead Door Co. 4d/At
Crawford Door Co. 4d/Cr
Kinnear Mfg. Co. 4d/Ki
Overhead Door Corp. 4d/Ov

doors *cont.*

power operated *cont.*
Raynor Mfg. Co. 4d/Ra
Rowe Mfg. Co. 4d/Ro

screen and storm combination
(see also screens)
Alwintite Div. 4a/ALw
Hope's Windows, Inc. 5b/Ho
Self Storing Window Co., Inc. 4a/SeL

shower stall
see shower—doors

sidewalk
Bilco Co. 4e/Bi

sound insulated
Roddis Plywood Corp. 4b/Ro
Rolscreen Co. 4c/Ro

steel
Diebold, Inc. 4a/Di
Heatilator Inc. 4e/He
Kinnear Mfg. Co. 4d/Ki
Slide-View Steel Door & Window Co. 4a/SL
Truscon Steel Div. 5b/Tr

ventilator paneled
Clearview Louver Window Corp. 5d/CL
Diebold, Inc. 4a/Di
General Plywood Corp. 4b/Ge
Mengel Co. 4b/Me
Paine Lumber Co., Ltd.....4b/Pa
Roddis Plywood Corp. 4b/Ro
Truscon Steel Div. 5b/Tr
United States Plywood Corp.....4b/Un
World Steel Products Corp.....4a/Wor

wood
Atlas Overhead Door Co. 4d/At
Atlas Plywood Corp. 4b/At
Clearview Louver Window Corp. 5d/CL
Crawford Door Co. 4d/Cr
General Plywood Corp. 4b/Ge
Mengel Co. 4b/Me
Overhead Door Corp. 4d/Ov
Paine Lumber Co., Ltd.....4b/Pa
Roddis Plywood Corp. 4b/Ro
Rolscreen Co. 4c/Ro
Rowe Mfg. Co. 4d/Ro
Thomason Plywood Corp. 4b/Th
United States Plywood Corp.....4b/Un
Woodall Industries Inc. 4b/Wo

wood—plastic faced
Thomason Plywood Corp. 4b/Th

x-ray protective
Roddis Plywood Corp. 4b/Ro

drainboards

see tops—cabinet, counter, lavatory, sink or table

drains

Cleveland Steel Specialty Co., Inc. 1b/CL
Kaustine Furnace & Tank Corp. 8b/Fa

ducts

fiber
Sonoco Products Co. 8c/So

metal
Coleman Co., Inc. 8c/Co
Crane Co. 9b/Cr

e

ejectors

Fairbanks, Morse & Co. 8b/Fa
Kaustine Furnace & Tank Corp. 8b/Ka
Myers, F. E., & Bro. Co. 8b/My

enamels

Devoe & Raynolds Co., Inc. 7g/De

acid or alkali resistant
Devoe & Raynolds Co., Inc. 7g/De

undercoat
Devoe & Raynolds Co., Inc. 7g/De

f

fabric—curtain, drapery, upholstery, etc.

Federal Leather Co. 7c/Fe

fans

(see also blowers; ventilators)

attic
Berns Mfg. Corp. 8e/Be
Diehl Mfg. Co. 8e/Di
Hunter Fan & Ventilating Co. 8e/Hu
Lau Blower Co. 8e/La
Robbins & Myers, Inc. 8e/Ro

kitchen or bathroom
American Kitchens Div. 9a/Am
Berns Mfg. Corp. 8e/Be
Crane Co. 9b/Cr
Crosley Div. 9c/Cr
Diehl Mfg. Co. 8e/Di
Fasco Industries, Inc. 8e/Fa
NuTone, Inc. 8e/Nu
Pryne & Co., Inc. 8e/Pr
Robbins & Myers, Inc. 8e/Ro
Trade-Wind Motorfans, Inc. ..... 8e/Tr.

wall, ceiling or pedestal
Diehl Mfg. Co. 8e/Di
Fasco Industries, Inc. 8e/Fa
Lau Blower Co. 8e/La
NuTone, Inc. 8e/Nu
Pryne & Co., Inc. 8e/Pr
Robbins & Myers, Inc. 8e/Ro

window ventilator
Diehl Mfg. Co. 8e/Di
Hunter Fan & Ventilating Co. 8e/Hu
Lau Blower Co. 8e/La

fasteners

see acoustical materials

fencing

wood
Colonial Hand Split Shingles, Inc. ..2b/Co

fillers

concrete
Calbar Paint & Varnish Co. 3a/Ca
Nova Sales Co. 3a/No

filters—air

electronic
Westinghouse Electric Corp. 8c/We

finishes

see flooring—treatments and maintenance; paint; sealers; wax

fireplaces

accessories for
Cleveland Steel Specialty Co., Inc. ..1b/CL
Heatilator, Inc. 8f/He
Hohmann & Barnard, Inc., ... 1b/Ho
Majestic Co. 8f/Ma
Superior Fireplace Co. 8f/Su

ash and cleanout dumps for
Cleveland Steel Specialty Co., Inc. 1b/CL
Hohmann & Barnard, Inc. 1b/Ho
Majestic Co. 8f/Ma

dampers for
Cleveland Steel Specialty Co., Inc. 1b/CL
Hohmann & Barnard, Inc. 1b/Ho
Majestic Co. 8f/Ma
Superior Fireplace Co. 8f/Su

heater units for
Heatilator, Inc. 8f/He
Superior Fireplace Co. 8f/Su

mantels for
Indiana Limestone Co., Inc. 1c/In

outdoor
Majestic Co. 8f/Ma

prefabricated
Heatilator Inc. 8f/He
Majestic Co. 8c/Ma; 8f/Ma

flagging

see specific type of stone

flashings

blocks, forms and receivers for
Conver Steel & Wire Co., Inc. 1b/Co

combination—metal with fiber, bituminous compound or fabric
American Sisalkraft Corp. 2c/Am
Glas-Kraft, Inc. 2c/GL

metal
American Zinc Institute, Inc. 2a/Am
Chomes Co., Inc. 2a/Ch
Revere Copper & Brass Inc. 2a/Re
Reynolds Metals Co. 2b/Re

floodlights or spotlights

Moe Light, Inc. 8h/Mo
Prescolite Mfg. Corp. 8h/Pr
Pryne & Co., Inc. 8h/Pry

floor coverings

asphalt tile
Armstrong Cork Co. 7c/Ar
Kentile, Inc. 7c/Ke
Tile-Tex Div. 7c/Ti

asphalt tile—base, edgings, inserts
Armstrong Cork Co. 7c/Ar
Kentile, Inc. 7c/Ke
Tile-Tex Div. 7c/Ti

floor coverings *cont.*

cork and cork composition
Armstrong Cork Co. 7c/Ar
Kentile, Inc. 7c/Ke
Robbins Floor Products, Inc. 7c/Ro

non-sparking or static discharging
Armstrong Cork Co. 7c/Ar
Crossfield Products Corp. 7c/Cr

plastic
American Biltrite Rubber Co. 7c/Am
Armstrong Cork Co. 7c/Ar
Bonafide Mills, Inc. 7c/Bon
Kentile, Inc. 7c/Ke
Tile-Tex Div. 7c/Ti

plastic—adhesives for
Armstrong Cork Co. 7c/Ar
Homasote Co. 3b/Ho
Miracle Adhesives Corp. 1b/Mi
Pecora Paint Co., Inc. 7f/Pe
Robbins Floor Products, Inc. 7c/Ro

rubber
American Biltrite Rubber Co. 7c/Am
Armstrong Cork Co. 7c/Ar
Crossfield Products Corp. 6a/Cr
Kentile, Inc. 7c/Ke
Robbins Floor Products, Inc. 7c/Ro

floor decking

concrete
Great Lakes Carbon Corp. 1c/Gr
Lith-I-Bar Co. 1a/Li
Zonolite Co. 3d/Zo

flooring

acid resistant
Armstrong Cork Co. 7c/Ar
Bonafide Mills, Inc. 7c/Bon
Crossfield Products Corp. 7c/Cr
Kentile, Inc. 7c/Ke
National Tile & Mfg. Co. 7a/Na
Robbins Floor Products, Inc. 7c/Ro
Tile-Tex Div. 7c/Ti

greaseproof
Armstrong Cork Co. 7c/Ar
Bonafide Mills, Inc. 7c/Bon
Crossfield Products Corp. 7c/Cr
Kentile, Inc. 7c/Ke
National Tile & Mfg. Co. 7a/Na
Robbins Floor Products, Inc. 7c/Ro
Tile-Tex Div. 7c/Ti

magnesium oxychloride cement—bond for
Crossfield Products Corp. 7c/Cr

non-sparking or static discharging
Armstrong Cork Co. 7c/Cr
Crossfield Products Corp. 6a/Cr
Stylon Corp. 7a/St

patching or resurfacing for
Armstrong Cork Co. 7c/Ar
Crossfield Products Corp. 7c/Cr
Miracle Adhesives Corp. 1b/Mi

reinforcing wire mesh for
Pittsburgh Steel Products Co. 1a/Pi

treatments and maintenance
Bruce, E. L., Co. 7d/Bru
Miracle Adhesives Corp. 1b/Mi
Pecora Paint Co., Inc. 7f/Pe

products

flooring *cont.*

underlayment
Atlas Plywood Corp. 1d/Ar
Crossfield Products Corp. 7c/Cr
Douglas Fir Plywood Assn. 1d/Do
Glas-Kraft, Inc. 2c/GL
Homasote Co. 3b/Ho
Miracle Adhesives Corp. 1b/Mi
Pecora Paint Co., Inc. 7f/Pe
Zonolite Co. 3d/Zo

flooring—asphalt

mastic
Armstrong Cork Co. 7c/Ar

flooring—clay tile

adhesives for
Minnesota Mining & Mfg. Co. 7a/Mi
Miracle Adhesives Corp. 1b/Mi
Pecora Paint Co., Inc. 7f/Pe
Robinson Clay Products Co. 8a/Ro

base edgings, inserts for
National Tile & Mfg. Co. 7a/Na
Pomona Tile Mfg. Co. 7a/Po
Stylon Corp. 7a/St

ceramic mosaic
National Tile & Mfg. Co. 7a/Na
Stylon Corp. 7a/St

glazed
National Tile & Mfg. Co. 7a/Na
Pomona Tile Mfg. Co. 7a/Po
Stylon Corp. 7a/St

unglazed
National Tile & Mfg. Co. 7a/Na
Stylon Corp. 7a/St

flooring—synthetic rubber

Crossfield Products Corp. 7c/Cr

flooring—terrazzo

base beads, dividers, edgings, grids for
American Zinc Institute, Inc. 2a/Am

rubber or synthetic rubber for
Crossfield Products Corp. 7c/Cr

flooring—wood

adhesives for
Bruce, E. L., Co. 7d/Bru
Higgins Industries Inc. of New Orleans 7d/Hi
Miracle Adhesives Corp. 1b/Mi
Pecora Paint Co., Inc. 7f/Pe

beech
Bradley Lumber Co. of Arkansas. 7d/Br
Bruce, E. L., Co. 7d/Bru
Harris Mfg. Co. 7d/Ha
National Oak Flooring Mfrs. Assn. ..7d/Na

birch
Connor Lumber & Land Co. 7d/Co
National Oak Flooring Mfrs. Assn. ...7d/Na

blocks—residential (parquet, etc.)
Bradley Lumber Co. of Arkansas. 7d/Br
Bruce, E. L., Co. 7d/Bru
Connor Lumber & Land Co. 7d/Co
Harris Mfg. Co. 7d/Ha
Higgins Industries Inc. of New Orleans 7d/Hi

flooring—wood *cont.*

hickory
Bruce, E. L., Co. 7d/Bru

installation systems
Harris Mfg. Co. 7d/Ha

maple
Connor Lumber & Land Co. 7d/Co
Harris Mfg. Co. 7d/Ha
National Oak Flooring Mfrs. Assn. ...7d/Na

oak
Bradley Lumber Co. of Arkansas. 7d/Br
Bruce, E. L., Co. 7d/Bru
Connor Lumber & Land Co. 7d/Co
Harris Mfg. Co. 7d/Ha
Higgins Industries Inc. of New Orleans 7d/Hi
National Oak Flooring Mfrs. Assn. ...7d/Na

pecan
Bradley Lumber Co. of Arkansas. 7d/Br
Bruce, E. L., Co. 7d/Bru
National Oak Flooring Mfrs. Assn. ...7d/Na

planks
Bradley Lumber Co. of Arkansas. 7d/Br
Bruce, E. L., Co. 7d/Bru
Connor Lumber & Land Co. 7d/Co
Harris Mfg. Co. 7d/Ha

prefinished
Bradley Lumber Co. of Arkansas. 7d/Br
Bruce, E. L., Co. 7d/Bru
Harris Mfg. Co. 7d/Ha
Higgins Industries Inc. of New Orleans 7d/Hi

strips
Bradley Lumber Co. of Arkansas. 7d/Br
Bruce, E. L., Co. 7d/Bru
Connor Lumber & Land Co. 7d/Co
Harris Mfg. Co. 7d/Ha
National Oak Flooring Mfrs. Assn. ...7d/Na

flues

linings for
Natco Corp. 1c/Na
Robinson Clay Product Co. 8a/Ro

forms—concrete

hangers for
Conver Steel & Wire Co., Inc. 1b/Co
Hohmann & Barnard, Inc. 1b/Ho

liners for
Symons Clamp & Mfg. Co. 1a/Sy
United States Plywood Corp. 1d/Un

metal
Pittsburgh Steel Products Co. 1a/Pi
Symons Clamp & Mfg. Co. 1a/Sy

plywood or wood
Associated Plywood Mills, Inc. 1d/As
Douglas Fir Plywood Assn. 1d/Do
Roddis Plywood Corp. 4b/Ro
Symons Clamp & Mfg. Co. 1a/Sy
United States Plywood Corp. 1d/Un

removable
Associated Plywood Mills, Inc. 1d/As
Douglas Fir Plywood Assn. 1d/Do
Roddis Plywood Corp. 4b/Ro
Symons Clamp & Mfg. Co. 1a/Sy
United States Plywood Corp. 1d/Un

rentable
Symons Clamp & Mfg. Co. 1a/Sy

forms—concrete *cont.*

ties, clamps, patches and spreaders for
Conver Steel & Wire Co., Inc. 1b/Co
Hohmann & Barnard, Inc. 1b/Ho
Hohmann Industries, Inc. 9a/Ho
Symons Clamp & Mfg. Co. 1a/Sy

fountains—drinking water

Eljer Co. 9b/EL
Universal-Rundle Corp. 9b/Un

frames—door

buck and trim units
Diebold, Inc. 4a/Di
Southern States Iron Roofing Co. 4a/So
Truscon Steel Div. 5b/Tr
World Steel Products Corp. 4a/Wor

metal
Diebold, Inc. 4a/Di
Pittsburgh Plate Glass Co. 1f/Pi
Southern States Iron Roofing Co. 4a/So
Sunlight Steel Corp. 4a/Su
Truscon Steel Div. 5b/Tr
World Steel Products Corp. 4a/Wor

wood
Carr, Adams & Collier Co. 4c/Ca

framing

see joists; structural shapes; etc.

freezers

Admiral Corp. 9a/Ad
Crosley iv. 9a/Cr
General Electric Co. 9a/Ge
Hotpoint Inc. 9a/Hot

furnaces

(see also air conditioners)

coal fired
Henry Furnace Co. 8c/He
Jackson & Church Co. 8c/Ja
Olsen, C. A., Mfg. Co. 8c/OL

floor or wall
Coleman Co., Inc. 8c/Co
Kaustine Furnace & Tank Corp. 8c/Ka
Rheem Mfg. Co. 8c/Rh
Stewart-Warner Corp. 8c/St

forced circulation
Coleman Co., Inc. 8c/Co
Henry Furnace Co. 8c/He
Jackson & Church Co. 8c/Ja
Kaustine Furnace & Tank Corp. 8c/Ka
Majestic Co. 8c/Ma
Olsen, C. A., Mfg. Co. 8c/OL
Rheem Mfg. Co. 8c/Rh

gas fired
Chrysler Airtemp 8c/Ch
Coleman Co., Inc. 8c/Co
Crane Co. 9b/Cr
Henry Furnace Co. 8c/He
Jackson & Church Co. 8c/Ja
Kaustine Furnace & Tank Corp. 8c/Ka
Majestic Co. 8c/Ma
Olsen, C. A., Mfg. Co. 8c/OL
Rheem Mfg. Co. 8c/Rh

furnaces *cont.*

gravity circulation

Crane Co. 9b/Cr
Henry Furnace Co. 8c/He
Jackson & Church Co. 8c/Ja
Kaustine Furnace & Tank Corp.....8c/Ka
Olsen, C. A., Mfg. Co.....8c/OL
Rheem Mfg. Co. 8c/Rh

oil fired

Chrysler Airtemp 8c/Ch
Coleman Co., Inc. 8c/Co
Crane Co. 9b/Cr
Henry Furnace Co. 8c/He
Jackson & Church Co. 8c/Ja
Kaustine Furnace & Tank Co.....8c/Ka
Majestic Co. 8c/Ma
Olsen, C. A., Mfg. Co.....8c/OL
Rheem Mfg. Co. 8c/Rh

furring and studding

channel, u-stud, bracket, hollow partition, etc.

Inland Steel Products Co.....3d/In
Pittsburgh Steel Products Co. 3d/Pi

g

garage

door hangers

see hangers—door, partition or gate

door operators

see operators—door

doors

see doors—garage

garbage

disposers—electric

American Kitchens Div. 9a/Am
Crane Co. 9b/Cr
Crosley Div. 9a/Cr
General Electric Co. 9a/Ge
Given Mfg. Co. 9a/Giv
Hotpoint Inc. 9a/Hot
In-Sink-Erator Mfg. Co. 9a/In
Universal-Rundle Corp. 9a/Un

glass

anti-glare

Libbey-Owens-Ford Glass Co. 1f/Li
Mississippi Glass Co. 1f/Mi

brick or block

see glass blocks

diffusing

see glass patterned

heat absorbing

Libbey-Owens-Ford Glass Co. 1f/Li

insulating panel

Libbey-Owens-Ford Glass Co. 1f/Li
Pittsburgh Plate Glass Co. 1f/Pi

masonry

see glass blocks

glass *cont.*

mirrors

see mirrors

patterned or textured

Libbey-Owens-Ford Glass Co. 1f/Li
Mississippi Glass Co. 1f/Mi
Pittsburgh Plate Glass Co. 1f/Pi

plastic—colored

Alsynite Co. of America 1f/AL
American Panal Inc. 1f/Ame

plate

Libbey-Owens-Ford Glass Co. 1f/Li
Pittsburgh Plate Glass Co. 1f/Pi

safety

Libbey-Owens-Ford Glass Co. 1f/Li

sheet

Libbey-Owens-Ford Glass Co. 1f/Li
Pittsburgh Plate Glass Co. 1f/Pi

shower doors

see shower doors

structural—corrugated, etc.

Libbey-Owens-Ford Glass Co. 1f/Li
Mississippi Glass Co. 1f/Mi
Pittsburgh Plate Glass Co. 1f/Pi

tempered

Libbey-Owens-Ford Glass Co. 1f/Li

wire

Libbey-Owens-Ford Glass Co. 1f/Li
Mississippi Glass Co. 1f/Mi

glass blocks

Pittsburgh Plate Glass Co.....1f/Pi

glue

see adhesives

grates

fireplace

see fireplaces—accessories for

griddles

Lindemann, A. J., & Hoverson Co. 9a/Li

grilles

heating, ventilating or air conditioning

Diehl Mfg. Co. 8e/Di
Heatilator, Inc. 8f/He
Hunter Fan & Ventilating Co.....8e/Hu
Majestic Co. 8f/Ma
Robbins & Myers, Inc.....8e/Ro
Superior Fireplace Co. 8f/Su

grounds

see screeds

guards

screen

Truscon Steel Div. 5b/Tr

guns

caulking

Calbar Paint & Varnish Co. 3a/Ca

gutters, leaders and downspouts

American Zinc Institute, Inc. 2a/Am
Revere Copper & Brass Inc. 2a/Re
Reynolds Metals Co. 2a/Rey

gypsum

see lath; wallboard

h

hangers

beam, joist, wall, etc.

Cleveland Steel Specialty Co., Inc.....1b/CL
Conver Steel & Wire Co., Inc. 1b/Co
Hohmann & Barnard, Inc. 1b/Ho

door, partition or gate

Knape & Vogt Mfg. Co.....6a/Kn
Sterling Hardware Mfg. Co.....6a/Ste

garment

Knape & Vogt Mfg. Co.....6a/Kn

hardboard

see wallboard

hardeners and densifiers

Standard Dry Wall Products, Inc. 2b/St

hardware

bolts

Corbin, P. & F., Div. 6a/Co
Hohmann & Barnard, Inc. 1b/Ho
Russell & Erwin Div. 6a/Ru
Truscon Steel Div. 5b/Tr

cabinet

Corbin, P. & F., Div. 6a/Co
Knape & Vogt Mfg. Co.....6a/Kn
Russell & Erwin Div. 6a/Ru
Sterling Hardware Mfg. Co.....6a/Ste
Washington Steel Products, Inc. 6a/Wa

casement door or window

Grand Rapids Hardware Co.....6a/Gr
Russell & Erwin Div. 6a/Ru
Sterling Hardware Mfg. Co.....6a/Ste

hinges and butts

Grand Rapids Hardware Co.....6a/Gr
Sterling Hardware Mfg. Co.....6a/Ste
Washington Steel Products, Inc. 6a/Wa

hinges and butts—spring pivot

Russell & Erwin Div. 6a/Ru
Truscon Steel Div. 5b/Tr
Washington Steel Products, Inc. 6a/Wa

knobs, pulls or slides—drawer

Grand Rapids Hardware Co.....6a/Gr
Knape & Vogt Mfg. Co.....6a/Kn
Peabody Co., Inc. 6a/Pe
Russell & Erwin Div. 6a/Ru
Washington Steel Products, Inc. 6a/Wa

knobs, push and pull bars—door

Russell & Erwin Div. 6a/Ru
Sterling Hardware Mfg. Co.....6a/Ste
Truscon Steel Div. 5b/Tr
Washington Steel Products, Inc. 6a/Wa

products

hardware *cont.*

latches
Grand Rapids Hardware Co.....6a/Gr
Sterling Hardware Mfg. Co. 6a/Ste
Truscon Steel Div. 5b/Tr
Washington Steel Products, Inc. 6a/Wa

locks
Corbin, P. & F., Div. 6a/Co
Peabody Co., Inc. 6a/Pe
Russell & Erwin Div. 6a/Ru
Truscon Steel Div. 5b/Tr

shelving
Knape & Vogt Mfg. Co.....6a/Kn

showcase or counter
Knape & Vogt Mfg. Co.....6a/Kn

sliding, rolling or folding door
Cleveland Steel Specialty Co., Inc.....1b/CL
Knape & Vogt Mfg. Co.....6a/Kn
Peabody Co., Inc. 6a/Pe
Sterling Hardware Mfg. Co.....6a/Ste
Washington Steel Products, Inc. 6a/Wa

window—awning, projected, etc.
Gate City Sash & Door Co. 5c/Ga
Grand Rapids Hardware Co.....6a/Gr
Russell & Erwin Div. 6a/Ru

hatchways

doors for
see doors—bulkhead

roof
Bilco Co. 4e/Bi

heaters

air—coal, gas or oil fired
see furnaces

auxiliary or bathroom
Adam, Frank, Electric Co. 8g/Ad
Berko Electric Mfg. Corp.....8c/Be
NuTone, Inc. 8e/Nu
Pryne & Co., Inc. 8e/Pr
Rheem Mfg. Co. 8c/Rh
United States Rubber Co.....8c/Uni

convector
see convectors

electric—light combination
NuTone, Inc. 8e/Nu

fireplace unit
Heatilator, Inc. 8f/He
Superior Fireplace Co. 8f/Su

space
Berko Electric Mfg. Corp.....8c/Be
Coleman Co., Inc. 8c/Co
NuTone, Inc. 8e/Nu
Rheem Mfg. Co. 8c/Rh

unit—gas fired
Henry Furnace Co. 8c/He
Olsen, C. A., Mfg. Co.....8c/OL
Rheem Mfg. Co. 8c/Rh

unit—steam or hot water
Union Asbestos & Rubber Co. 8c/Un

water supply—coils for
Bell & Gossett Co. 8d/Be

water supply—electric
Crane Co. 9b/Cr
Crosley Div. 9a/Cr
General Electric Co. 9a/Ge

heaters *cont.*

water supply—electric *cont.*
Hotpoint Inc. 9a/Hot
Rheem Mfg. Co. 8b/Rh
Waterfilm Boilers, Inc. 8d/Wa

water supply—gas fired
Aldrich Co. 8d/AL
Coleman Co., Inc. 8b/Co
Crane Co. 9b/Cr
Hydrotherm, Inc. 8d/Hy
Rheem Mfg. Co. 8b/Rh
Waterfilm Boilers, Inc. 8d/Wa

water supply—oil fired
Aldrich Co. 8d/AL
Rheem Mfg. Co. 8b/Rh

water supply—storage
Aldrich Co. 8d/AL
Bell & Gossett Co. 8d/Be
Coleman Co., Inc. 8b/Co
Crosley Div. 9a/Cr
Hydrotherm, Inc. 8d/Hy
Rheem Mfg. Co. 8b/Rh
Thrush, H. A., & Co.....8d/Th
Waterfilm Boilers, Inc. 8d/Wa

heating

air
see air conditioners; furnaces

controls
Bell & Gossett Co. 8d/Be
Hohmann & Barnard, Inc. 1b/Ho
Iron Fireman Mfg. Co. 8d/Ir
Thrush, H. A., & Co.....8d/Th

steam, hot water, vacuum-vapor
see boilers; heating systems; radiators

heating systems

baseboard
Crane Co. 9b/Cr

electric
United States Rubber Co.....8c/Uni

hot water—circulators for
Bell & Gossett Co. 8d/Be
Thrush, H. A., & Co.....8d/Th

hot water or steam
Bell & Gossett Co. 8d/Be
Iron Fireman Mfg. Co. 8d/Ir
Thrush, H. A., & Co. 8d/Th

panel or radiant
see panel heating; radiant heating

specialties
Bell & Gossett Co. 8d/Be
Thrush, H. A., & Co. 8d/Th

warm air
see air conditioners; furnaces

home equipment and utilities

see air conditioners; bathroom accessories; heaters; heating systems; kitchen; laundry; refrigerators; etc.

honeycomb structural panels

see panels—honeycomb

hoppers

see sinks

i

incinerators

Crane Co. 9b/Cr
Henry Furnace Co.....8c/He
Majestic Co. 8f/Ma
Olsen, C. A., Mfg. Co.....8c/OL

parts for (hopper and fire doors, grates, etc.)
Majestic Co. 8f/Ma

inserts—concrete, brick, etc.

continuous
Conver Steel & Wire Co., Inc. 1b/Co

hanger
Conver Steel & Wire Co., Inc. 1b/Co

screw or nutted
Conver Steel & Wire Co., Inc. 1b/Co

slotted
Conver Steel & Wire Co., Inc. 1b/Co

wedge
Conver Steel & Wire Co., Inc. 1b/Co

insulation

cellulose fiber—asbestos-cement or asphalt coated
Celotex Corp. 3b/Ce

cellulose fiber (cotton, paper, wood)
Bird & Son, Inc. 3b/Bi
Homasote Co. 3b/Ho
Lockport Mills, Inc. 3b/Lo

glass—cellular, fiber
Flintkote Co. 2b/FL

mineral
Armstrong Cork Co. 3b/Ar
Carey, Philip, Mfg. Co.....2b/Ca
Celotex Corp. 3b/Ce
Lockport Mills, Inc. 3b/Lo
Zonolite Co. 3d/Zo

prefinished panels and boards—asbestos-cement
Celotex Corp. 3b/Ce

insulation—roof

see roof insulation

intercommunicating systems

Bell Telephone System 8i/Be

J

jalousies

see doors; windows

joint(s)

expansion—protection for
Nova Sales Co. 3a/No

expansion or pressure relieving
Conver Steel & Wire Co., Inc. 1b/Co
Nova Sales Co. 3a/No

fillers and sealers
Celotex Corp. 3b/Ce
Miracle Adhesives Corp. 1b/Mi
Nova Sales Co. 3a/No
Robinson Clay Product Co. 8a/Ro

wallboard—treatments for
see *wallboard—joint finishers*

joists

bridging for
Hohmann & Barnard, Inc. 1b/Ho
Jones & Laughlin Steel Corp. 1a/Jo

hangers for
see *hangers*

reinforced concrete
Lith-I-Bar Co. 1a/Li

steel
Jones & Laughlin Steel Corp. 1a/Jo

wood
Arkansas Soft Pine Bureau.....1d/Ar

k

kitchen

dishwashers
see *dishwashers*

fans and ventilators
American Kitchens Div. 9a/Am
Crane Co. 9b/Cr
Diehl Mfg. Co. 8e/Di
Fasco Industries, Inc. 8e/Fa
Trade-Wind Motorfans, Inc. 8e/Tr

planning
Crane Co. 9b/Cr
Crosley Div. 9a/Cr
Kitchen Maid Corp. 9a/Ki

ranges
see *ranges*

sinks
see *sinks*

units—metal or wood
American Kitchens Div. 9a/Am
Carr, Adams & Collier Co. 9a/Ca
Crane Co. 9b/Cr
Crosley Div. 9a/Cr
General Electric Co. 9a/Ge
Hotpoint Inc. 9a/Hot
Kitchen Maid Corp. 9a/Ki
Universal-Rundle Corp. 9a/Un

units—self-contained
Crane Co. 8b/Cr

L

ladders

disappearing
see *disappearing stairways*

latches

see *hardware*

lath

arches or columns—formed
Inland Steel Products Co.....3d/In
Sunlight Steel Corp.....4a/Su

base screeds for
see *screeds*

corner beads and miter
Inland Steel Products Co.....3d/In
Keystone Steel & Wire Co. 3d/Ke
Pittsburgh Steel Products Co. 3d/Pi
Sunlight Steel Corp.....4a/Su

expanded or perforated metal
Inland Steel Products Co.....3d/In

fiber
Armstrong Cork Co. 3b/Ar
Celotex Corp. 3b/Ce
Flintkote Co. 2b/FL

gypsum—plain or perforated
Celotex Corp. 3b/Ce

insulating
see *building insulation*

metal—insulation or paper combination
Pittsburgh Steel Products Co. 1a/Pi; 3d/Pi

metal—wire
Keystone Steel & Wire Co. ...2b/Key; 3d/Ke
Pittsburgh Steel Products Co. ..1a/Pi; 3d/Pi

picture moulding—metal
Inland Steel Products Co.....3d/In

self-furring
see *lath—expanded or perforated metal*

laundry

equipment
(see also washers; etc.)
Bendix Div. 9a/Cr
General Electric Co. 9a/Ge
Hotpoint Inc. 9a/Hot

lavatories

AllianceWare, Inc. 9b/AL
Briggs Mfg. Co. 9b/Bri
Crane Co. 9b/Cr
Eljer Co. 9b/EL
Universal-Rundle Corp. 9b/Un

dressing table units for
Crane Co. 9b/Cr
Universal-Rundle Corp. 9b/Un

letters

asphalt tile
Kentile, Inc. 7c/Ke

lighting fixtures

accessories for—bolts, hangers, pendants, etc.
Prescolite Mfg. Corp. 8h/Pr

fluorescent
American Kitchens Div. 9a/Am
Crosley Div. 9a/Cr
General Lighting Co. 8h/Ge
Moe Light, Inc. 8h/Mo

lighting fixtures *cont.*

incandescent
General Lighting Co. 8h/Ge
Moe Light, Inc. 8h/Mo
Prescolite Mfg. Corp. 8h/Pr
Pryne & Co., Inc. 8h/Pry

night light or hospital
Pryne & Co., Inc. 8h/Pry

lights

window—plastic
American Panal Inc. 1f/Ame

lime—masonry mortar

Celotex Corp. 3b/Ce

limestone—ashlar, facings, veneers, etc.

Indiana Limestone Co., Inc.....1c/In

linings

chimney
see *chimneys—linings for*

flue
see *flues*

tank
Robinson Clay Product Co. 8a/Ro

linoleum

Armstrong Cork Co. 7c/Ar

cement for
Armstrong Cork Co. 7c/Ar
Miracle Adhesives Corp. 1b/Mi

lintels

Brainard Steel Div. 1e/Br
Cleveland Steel Specialty Co., Inc....1b/CL
Majestic Co. 8f/Ma
Truscon Steel Div. 5b/Tr
Vento Steel Products Co., Inc.....5b/Ve

locks

see *hardware*

louvers—door or window

adjustable
(see also venetian blinds; windows—jalousie)
Heinley Mastercraft Products 6b/He

air conditioning or ventilating
Cleveland Steel Specialty Co., Inc....1b/CL
Hohmann & Barnard, Inc. 1b/Ho
Inland Steel Products Co.....3d/In
Robbins & Myers, Inc.....8e/Ro

low temperature insulation

Lockport Mills, Inc. 3b/Lo
Reflectal Corp. 3b/Re
Reynolds Metals Co. 3b/Rey

lumber

asbestos
see *siding—asbestos-cement; wallboard—asbestos-cement*

products

lumber *cont.*

beech or birch
Roddis Plywood Corp. 4b/Ro
United States Plywood Corp. 1d/Un

limba or prima vera
Roddis Plywood Corp. 4b/Ro
United States Plywood Corp. 1d/Un

mahogany or walnut
Roddis Plywood Corp. 4b/Ro
United States Plywood Corp. 1d/Un

maple
Roddis Plywood Corp. 4b/Ro
United States Plywood Corp. 1d/Un

oak or elm
Roddis Plywood Corp. 4b/Ro
United States Plywood Corp. 1d/Un

pine or hemlock
Arkansas Soft Pine Bureau.....1d/Ar
Bradley Lumber Co. of Arkansas.....7d/Br
Roddis Plywood Corp. 4b/Ro
United States Plywood Corp. 1d/Un

plywood
see plywood

redwood
California Redwood Assn. 1d/Ca

termite preventive
see preservatives—wood

treatment of
see preservatives—wood

m

mail boxes

Cleveland Steel Specialty Co., Inc. ..1b/CL

mantels

see fireplaces—mantels for

masonry construction accessories

anchors, clips, inserts, ties
American Zinc Institute, Inc.....2a/Am
Cleveland Steel Specialty Co., Inc.....1b/CL
Conver Steel & Wire Co. 1b/Co
Hohmann & Barnard, Inc. 1b/Ho
Miracle Adhesives Corp. 1b/Mi

reinforcing
Cedar Rapids Block Co. 1a/Ced
Conver Steel & Wire Co., Inc. 1b/Co
Hohmann & Barnard, Inc. 1b/Ho
Keystone Steel & Wire Co. ..2b/Key; 3d/Ke
Pittsburgh Steel Products Co. 3d/Pi

masonry treatments

admixtures
Crossfield Products Corp. 7c/Cr
Nova Sales Co. 3a/No

cement coating
National Gypsum Co. 6g/Na
Nova Sales Co. 3a/No

integral
Nova Sales Co. 3a/No

masonry treatments *cont.*

paint and compounds
Barrett Div. 2b/Ba
Calbar Paint & Varnish Co. 3a/Ca
National Gypsum Co. 6g/Na
Nova Sales Co. 3a/No
Valspar Corp. 7g/Va

mastic

see cement—mastic

mesh

wire
see reinforcing—wire mesh or expanded metal; masonry construction accessories—reinforcing

metal

copper or copper alloy
Revere Copper & Brass Inc. 2a/Re

corrosion and rust resistant
American Zinc Institute, Inc.....2a/Am
Chomes Co., Inc. 2a/Ch
Revere Copper & Brass Inc. 2a/Re

expanded
see lath

lath
see lath

ornamental
see ornamental metalwork

mildew preventives

see preservatives—wood

millwork

Bradley Lumber Co. of Arkansas.....7d/Br
United States Plywood Corp. 1d/Un

mirrors

Libbey-Owens-Ford Glass Co. 1f/Li
Pittsburgh Plate Glass Co. 1f/Pi

adhesives for
see adhesives

transparent
Libbey-Owens-Ford Glass Co. 1f/Li

mortar

see cement

mosaics

see tile—clay

mouldings

(see also trim)

base
see flooring; floor coverings

fiber
Marsh Wall Products, Inc.....7e/Ma
Upson Co. 3d/Up

metal or plastic
American Kitchens Div. 9a/Am
Marsh Wall Products, Inc.....7e/Ma

mouldings *cont.*

metal or plastic *cont.*
Tennessee Fabricating Co. 1e/Te
Tile-Tex Div. 7c/Ti
United States Plywood Corp. 1d/Un

picture—metal
see lath

wood
see trim—wood

n

nails, screws, etc.

Homasote Co. 3b/Ho

o

oil

fired boilers
see boilers—oil fired

furnaces
see furnaces—oil fired

operators—door

manual
Atlas Overhead Door Co. 4d/At
Crawford Door Co. 4d/Cr
Kinnear Mfg. Co. 4d/Ki
Overhead Door Corp. 4d/Ov
Rowe Mfg. Co. 4d/Ro

power operated
Atlas Overhead Door Co. 4d/At
Crawford Door Co. 4d/Cr
Kinnear Mfg. Co. 4d/Ki
Overhead Door Corp. 4d/Ov
Rowe Mfg. Co. 4d/Ro

ornamental metalwork

McKinley Iron Works 1e/Mc
Tennessee Fabricating Co.....1e/Te

ovens

Caloric Stove Corp.....9a/C
Lindemann, A. J., & Hoverson Co. 9a/Li
Samuel Stamping & Enameling Co. ..8a/Sa

overhead type doors

see doors—overhead type

p

paint

acoustical surface
Devoe & Raynolds Co., Inc. 7g/De

aluminum
Devoe & Raynolds Co., Inc. 7g/De
Flintkote Co. 2b/FL
Miracle Adhesives Corp. 1b/Mi
Valspar Corp. 7g/Va

paint *cont.*

asphalt
Flintkote Co. 2b/FL

canvas or fabric
Devoe & Raynolds Co., Inc. 7g/De

cement base
National Gypsum Co. 7g/Na

chemically resistant
Devoe & Raynolds Co., Inc. 7g/De
Miracle Adhesives Corp. 1b/Mi
Nova Sales Co. 3a/No

exterior (house)
Devoe & Raynolds Co., Inc. 7g/De
Monsanto Chemical Co. 7g/Mo

floor or deck
Devoe & Raynolds Co., Inc. 7g/De
Miracle Adhesives Corp. 1b/Mi
Standard Dry Wall Products, Inc. 2b/St
Valspar Corp. 7g/Va

fungi resistant
Devoe & Raynolds Co., Inc. 7g/De
Miracle Adhesives Corp. 1b/Mi

heat resistant
Devoe & Raynolds Co., Inc. 7g/De

interior (ceiling, wall)
Devoe & Raynolds Co., Inc. 7g/De
Monsanto Chemical Co. 7g/Mo
National Gypsum Co. 7g/Na
Pittsburgh Plate Glass Co. 1f/Pi
Valspar Corp. 7g/Va

masonry
Devoe & Raynolds Co., Inc. 7g/De
National Gypsum Co. 7g/Na
Nova Sales Co. 3a/No
Valspar Corp. 7g/Va

metal protective
Devoe & Raynolds Co., Inc. 7g/De

odorless
Devoe & Raynolds Co., Inc. 7g/De

plywood
Atlas Plywood Corp. 4b/At
Roddis Plywood Corp. 4b/Ro
United States Plywood Corp. 1d/Un

primers—masonry
Devoe & Raynolds Co., Inc. 7g/De
National Gypsum Co. 7g/Na

primers—metal
Devoe & Raynolds Co., Inc. 7g/De

primers—plaster
Devoe & Raynolds Co., Inc. 7g/De
National Gypsum Co. 7g/Na

primers—wood
Devoe & Raynolds Co., Inc. 7g/De
Monsanto Chemical Co. 7g/Mo
Valspar Corp. 7g/Va

resin emulsion
Devoe & Raynolds Co., Inc. 7g/De

roof
Devoe & Raynolds Co., Inc. 7g/De
Flintkote Co. 2b/FL

rubber base
Devoe & Raynolds Co., Inc. 7g/De
National Gypsum Co. 7g/Na

paint *cont.*

rust inhibitive
Devoe & Raynolds Co., Inc. 7g/De
Tennessee Fabricating Co. 1e/Te

panel heating

(see also heating controls; heating systems —specialties, pipe)
Thrush, H. A., & Co. 8d/Th
United States Rubber Co. 8c/Uni

panelboards or switchboards

electric
Adam, Frank, Electric Co. 8g/Ad

panels and boards—prefinished

access
see doors—access

acoustical
see acoustical materials—tile

asbestos-cement
Celotex Corp. 3b/Ce
Keasbey & Mattison Co. 2b/Ke
Ruberoid Co. 2b/Ru

fiber
see wallboard

glass
see glass—structural

hardboard
Barrett Div. 3b/Bar
Celotex Corp. 3b/Ce
Marsh Wall Products, Inc. 7e/Ma
Upson Co. 3d/Up

honeycomb
United States Plywood Corp. 1d/Un

plastic
Alsynite Co. of America 1f/AL
American Panal Inc. 1f/Ame
Marsh Wall Products, Inc. 7e/Ma
St. Regis Paper Co. 7e/Sa

plywood
Associated Plywood Mills, Inc. 1d/As
Douglas Fir Plywood Assn. 1d/Do
Harbor Plywood Corp. 1d/Ha
M & M Wood Working Co. 1d/Ma
Roddis Plywood Corp. 1d/Ro
Southwood Corp. 7e/So
United States Plywood Corp. 1d/Un
Upson Co. 3d/Up

veneered—wood
Roddis Plywood Corp. 4b/Ro
United States Plywood Corp. 1d/Un

wood-grain finish
Homasote Co. 3b/Ho
Marsh Wall Products, Inc. 7e/Ma

wood—natural
Roddis Plywood Corp. 4b/Ro

wood or wood fiber
Southwood Corp. 7e/So
Upson Co. 3d/Up

paper and felts

see roofing—fabric, felt or paper

partition systems

glass block
Pittsburgh Plate Glass Co. 1f/Pi

structural members and lath for plastering
Inland Steel Products Co. 3d/In
Pittsburgh Steel Products Co. 3d/Pi

partitions

folding, sliding or side rolling
Heinley Mastercraft Products 6b/He
Nova Sales Co. 3a/No
Warren Shade Co., Inc. 4c/Wa

glass or plastic—corrugated, flat, patterned, wire, etc.
Alsynite Co. of America 1f/AL
American Panal Inc. 1f/Ame
Mississippi Glass Co. 1f/Mi

storage unit
see cabinets; closets

wood shutter
Heinley Mastercraft Products 6b/He

perimeter insulation

Armstrong Cork Co. 3b/Ar
Celotex Corp. 3b/Ce
Owens-Corning Fiberglas Corp. 3b/Ow
Ruberoid Co. 2b/Ru

pipe

fittings
American Brass Co. 8a/Am
Mueller Brass Co. 8a/Mu
Robinson Clay Product Co. 8a/Ro
Revere Copper & Brass Inc. 8a/Re

piping and tubing

copper or copper alloy
American Brass Co. 8a/Am
Mueller Brass Co. 8a/Mu
Revere Coopper & Brass Inc. 8a/Re

drainage
American Brass Co. 8a/Am
Mueller Brass Co. 8a/Mu
Revere Coopper & Brass Inc. 8a/Re
Robinson Clay Product Co. 8a/Ro

underdrain
Robinson Clay Product Co. 8a/Ro

pitch or tar

Flintkote Co. 2b/FL

plaster

acoustical
see acoustical materials—plaster

base coat
Celotex Corp. 3b/Ce
Louisville Cement Co., Inc. 1c/Lo
Great Lakes Carbon Corp. 1c/Gr
Zonolite Co. 3d/Zo

bases
see lath; tile

board
see lath; wallboard

products

plaster cont.

bond for
Barrett Div. 2b/Ba
Celotex Corp. 3b/Ce

casting and moulding
Celotex Corp. 2c/Ce

cement
see stucco

finishing
Celotex Corp. 3b/Ce
Louisville Cement Co., Inc. 1c/Lo

gauging
Celotex Corp. 2c/Ce

gypsum
Celotex Corp. 3b/Ce

insulating
Great Lakes Carbon Corp. 1c/Gr
Zonolite Co. 3d/Zo

moulding
see plaster—casting and moulding

perlite
Great Lakes Carbon Corp. 1c/Gr

sand finish
see plaste—gypsum

vermiculite
Zonolite Co. 3d/Zo

plastic materials

corrugated or flat sheet
Alsynite Co. of America 1f/AL
American Panal Inc. 1f/Ame
St. Regis Paper Corp. 7e/Sa

laminated
American Panal Inc. 1f/Ame
Roddis Plywood Corp. 4b/Ro
St. Regis Paper Co. 7e/Sa

plates

floor
Robinson Clay Product Co. 8a/Ro

wall
Cleveland Steel Specialty Co., Inc. 1b/CL

plugs

for concrete, brick, etc.
Cleveland Steel Specialty Co., Inc. 1b/CL
Conver Steel & Wire Co., Inc. 1b/Co
Hohmann & Barnard, Inc. 1b/Ho

plumbing fittings, valves, etc.

Crane Co. 9b/Cr
Eljer Co. 9b/EL
Universal-Rundle Corp. 9a/Un

plywood

(see also siding—plywood)
Associated Plywood Mills, Inc. 1d/As
Atlas Plywood Corp. 3b/At
Douglas Fir Plywood Assn. 1d/Do
Harbor Plywood Corp. 1d/Ha
M & M Wood Working Co. 1d/Ma
Roddis Plywood Corp. 1d/Ro
St. Paul & Tacoma Lumber Co. 2a/Sa
United States Plywood Corp. 1d/Un

poles

clothes line
Hohmann & Barnard, Inc. 1b/Ho

polish

see cleaning and polishing equipment; wax

posts

building
see structural shapes

rail
see railings

preservatives

floor
see hardeners and densifiers

masonry
see masonry treatments; paint—masonry

shingle
see stains—shingle

wood
American Celcure Wood Preserving Corp. 1d/Am
Bruce, E. L., Co. 7d/Bru

primers

see paint; sealers; etc.

pulleys

sash
Grand Rapids Hardware Co. 6a/Gr

pumps

bilge or sump
Fairbanks, Morse & Co. 8b/Fa
Myers, F. E., & Bro. Co. 8b/My

centrifugal
Majestic Co. 8c/Ma
Myers, F. E., & Bro. Co. 8b/My

circulating
see heating systems—hot water—circulators for

deep well
Fairbanks, Morse & Co. 8b/Fa
Myers, F. E., & Bro. Co. 8b/My

shallow well
Crane Co. 9b/Cr
Fairbanks, Morse & Co. 8b/Fa
Myers, F. E., & Bro. Co. 8b/My

water supply
(see also water—supply systems)
Myers, F. E., & Bro. Co. 8b/My

r

racks

tie
Knape & Vogt Mfg. Co. 6a/Kn

towel
see bathroom accessories

radiant heating

(see also heating controls; heating systems—specialties; pipe)
American Brass Co. 8a/Am
Crane Co. 9b/Cr
Revere Copper & Brass Inc. 8a/Re
Thrush, H. A., & Co. 8d/Th
United States Rubber Co. 8c/Uni

radiators

baseboard type
Crane Co. 9b/Cr
Union Asbestos & Rubber Co. 8c/Un
Waterfilm Boilers, Inc. 8d/Wa

concealed—steam or hot water
see convectors; heaters

convector type
see convectors

valves for
see valves

raggle blocks

see flashings—blocks, forms and receivers for

railings

metal—fixed
McKinley Iron Works 1e/Mc
Tennessee Fabricating Co. 1e/Te

ranges—domestic

accessories for
Admiral Corp. 9a/Ad
Lindemann, A. J., & Hoverson Co. 9a/Li
Samuel Stamping & Enameling Co. 9a/Sa

electric
Admiral Corp. 9a/Ad
American Kitchens Div. 9a/Am
Crane Co. 9b/Cr
Crosley Div. 9a/Cr
General Electric Co. 9a/Ge
Hotpoint Co. 9a/Hot
Lindemann, A. J., & Hoverson Co. 9a/Li
Samuel Stamping & Enameling Co. ...9a/Sa

gas
American Kitchens Div. 9a/Am
Caloric Stove Corp. 9a/C
Samuel Stamping & Enameling Co. 9a/Sa

oven or burner units
American Kitchens Div. 9a/Am
Caloric Stove Corp. 9a/C
Hotpoint Co. 9a/Hot
Lindemann, A. J., & Hoverson Co. 9a/Li
Samuel Stamping & Enameling Co. 9a/Sa

receivers

milk bottle and package
Cleveland Steel Specialty Co., Inc. 1b/CL

refrigerators

(see also freezers)

domestic
Admiral Corp. 9a/Ad
Crosley Div. 9a/Cr
General Electric Co. 9a/Ge
Hotpoint Inc. 9a/Hot

refrigerators cont.

insulation for
see low temperature insulation

registers

adjustable
Crane Co. 9b/Cr

reglets

see flashings

regulators

see heating—controls

reinforcing

chairs
Conver Steel & Wire Co., Inc. 1b/Co
Hohmann & Barnard, Inc. 1b/Ho

clamps or clips
Conver Steel & Wire Co., Inc. 1b/Co
Hohmann & Barnard, Inc. 1b/Ho

rods and bars
Cedar Rapids Block Co. 1a/Ced
Hohmann & Barnard, Inc. 1b/Ho

separators or spacers
Conver Steel & Wire Co., Inc. 1b/Co
Hohmann & Barnard, Inc. 1b/Ho

wire mesh or expanded metal
Conver Steel & Wire Co., Inc. 1b/Co
Inland Steel Products Co.....3d/In
Keystone Steel & Wire Co. ..2b/Key; 3d/Ke
Pittsburgh Steel Products Co. ..1a/Pi; 3d/Pi

ridge rolls or strips

see roofing

rock wool

see building insulation

roof decking

concrete
Great Lakes Carbon Corp. 1c/Gr
Lith-I-Bar Co. 1a/Li
Zonolite Co. 3d/Zo

wood or wood fiber
Armstrong Cork Co.....3b/Ar
Homosote Co. 3b/Ho

roof decking—precast—planks and tiles

fiber—acoustic or insulating
Celotex Corp. 3b/Ce

roof insulation

American Sisalkraft Corp. 2c/Am
Barrett Div. 3b/Bar
Bird & Son, Inc. 3b/Bi
Carey, Philip, Mfg. Co.....2b/Ca
Celotex Corp. 3b/Ce
Flintkote Co. 2b/FL
Glas-Kraft, Inc. 2c/GL
Homasote Co. 3b/Ho
Owens-Corning Fiberglas Corp. 3b/Ow
Zonolite Co. 3d/Zo

roof ventilators

see ventilators—roof

roofing

aluminum
Reynolds Metals Co. 2b/Re

asbestos-cement
Flintkote Co. 2b/FL
National Gypsum Co. 2b/Na

built-up
Barrett Div. 2b/Ba
Flintkote Co. 2b/FL

built-up—cold process
Fintkote Co. 2b/FL

cant or closure strips for
National Gypsum Co. 2b/Na

cement and coatings for
Barrett Div. 2b/Ba
Certain-teed Products Corp. 2b/Ce
Crossfield Products Corp. 7c/Cr
Flintkote Co. 2b/FL

corrugated
American Zinc Institute, Inc. 2a/Am
Flintkote Co. 2b/FL
National Gypsum Co. 2b/Na

corrugated—plastic
Alsynite Co. of America 1f/AL

fabric, felt or paper
American Sisalkraft Corp. 2c/Am
Barrett Div. 2b/Ba
Certain-teed Products Corp. 2b/Ce
Flintkote Co. 2b/FL
Glas-Kraft, Inc. 2c/GL

maintenance materials
Flintkote Co. 2b/FL

paper
see roofing—fabric, felt or paper

reinforcing wire mesh for
Keystone Steel & Wire Co. 2b/Key
Pittsburgh Steel Products Co. 1a/Pi

repairing material
see roofing—cement and coatings for

roll—prepared
Barrett Div. 2b/Ba
Celotex Corp. 3b/Ce
Certain-teed Products Corp. 2b/Ce
Flintkote Co. 2b/FL

shingles
see shingles

staplers for
see staplers

tar and gravel
see roofing—built-up

tile—asphalt
see shingles

zinc
American Zinc Institute, Inc. 2a/Am
Chomes Co., Inc. 2a/Ch

S

saddles

see thresholds

sandstone—ashlar, facings, flagging, trim, etc.

Briar Hill Stone Co. 1c/Br
Finger Lakes Stone Co. 1c/Fi

sanitary systems

see sewage disposal systems

sash

(see also windows)

balances
Allmetal Weatherstrip Co. 6a/AL
Grand Rapids Hardware Co.....6a/Gr
Unique Balance Co., Inc. 6a/Un
Zegers, Inc. 6b/Ze

balances—weatherstrip combination
see weatherstrips

scaffolding

brackets for
Conver Steel & Wire Co., Inc. 1b/Co

screeds

base—metal
Inland Steel Products Co.....3d/In

screen cloth

Owens-Corning Fiberglas Corp. 3b/Ow

screens

door—storm sash combination
Adams Engineering Co., Inc. 5d/Ad
Alwintite Div. 5a/ALw
Hope's Windows, Inc. 5b/Ho
Self Storing Window Co., Inc. 5a/SeL
Union Machine Co. 5d/Un

fireplace
see fireplaces—accessories for

frameless
Columbia Mills, Inc. 6b/Co
New York Wire Cloth Co. 6b/Ne

insect—metal frame
Adams Engineering Co., Inc. 5d/Ad
Aluminum Products Co. 5a/ALm
Ceco Steel Products Corp. 5b/Ce
Cupples Products Corp. 5a/Cu
Flynn, Michael, Mfg. Co. 4a/FL
Kaufman Corp. 6b/Kau
Ludman Corp. 5c/Lu
Self Storing Window Co., Inc. 5a/SeL
Slide-View Steel Door & Window Co. 4a/SL
Truscon Steel Div. 5b/Tr
Valley Metal Products Co. 5a/Va
Vento Steel Products Co., Inc,.....5b/Ve
Woodco Corp. 5c/Wo

insect—projected in or out window
Flynn, Michael, Mfg. Co. 4a/FL
New York Wire Cloth Co. 6b/Ne
Truscon Steel Div. 5b/Tr

insect—rolling
Rolscreen Co. 5c/RoL
Self Storing Window Co., Inc. .....:5a/SeL

insect—wood frame
Andersen Corp. 4c/An
Self Storing Window Co., Inc. 5a/SeL

products

screens *cont.*

window
(see also windows—specific type of material)
Columbia Mills, Inc. 6b/Co

sealers, sealing compounds

(see also masonry treatments; paint; etc.)

masonry
Calbar Paint & Varnish Co. 3a/Ca
Devoe & Raynolds Co., Inc. 7g/De
Miracle Adhesives Corp. 1b/Mi
National Gypsum Co. 6g/Na
Nova Sales Co. 3a/No
Pecora Paint Co. 7f/Pe
Valspar Corp. 7g/Va

metal
Devoe & Raynolds Co., Inc. 7g/De
Nova Sales Co. 2b/No

plaster
Devoe & Raynolds Co., Inc. 7g/De
Pecora Paint Co. 7f/Pe

wood
Bruce, E. L., Co. 7d/Bru
Devoe & Raynolds Co., Inc. 7g/De
Monsanto Chemical Co. 7g/Mo
Pecora Paint Co. 7f/Pe

seals—sill, window, etc.

Celotex Corp. 3b/Ce

septic tanks

Kaustine Furnace & Tank Corp. 8b/Ka
Robinson Clay Product Co. 8a/Ro

sewage disposal systems

(see also ejectors)
Kaustine Furnace & Tank Corp. 8b/Ka
Robinson Clay Product Co. 8a/Ro

sheathing

(see also building insulation—block, board or panel; panels and boards—prefinished; roofing; siding)

asbestos
see insulation; siding

fiber
Armstrong Cork Co. 3b/Ar
Barrett Div. 3b/Bar
Celotex Corp. 2c/Ce
Flintkote Co. 2b/FL
Nova Sales Co. 3a/No
Upson Co. 3d/Up

gypsum
Celotex Corp. 3b/Ce

wood
see lumber

sheaves

sliding door
Knape & Vogt Mfg. Co. 6a/Kn

sheet, strip, plate

corrosion and rust resistant
see metal—corrosion and rust resistant

sheet, strip, plate *cont.*

zinc
American Zinc Institute, Inc. 2a/Am
Chomes Co., Inc. 2a/Ch

shelves—bathroom

Fairfacts Co., Inc. 9c/Fa

shields

metal—termite protective
Revere Copper & Brass Inc. 2a/Re

shingles

aluminum
Reynolds Metals Co. 2b/Re

asbestos-cement
Carey, Philip, Mfg. Co. 2b/Ca
Flintkote Co. 2b/FL
Keasbey & Mattison Co. 2b/Ke
National Gypsum Co. 2b/Na
Ruberoid Co. 2b/Ru

asphalt
Carey, Philip, Mfg. Co. 2b/Ca
Barrett Div. 2b/Ba
Bird & Son, inc. 2b/Bi
Celotex Corp. 3b/Ce
Certain-teed Products Corp. 2b/Ce
Flintkote Co. 2b/FL
Ruberoid Co. 2b/Ru

backer or undercourse
Armstrong Cork Co. 3b/Ar
Nova Sales Co. 3a/No

undercourse
Armstrong Cork Co. 2c/Ar

wood—natural
Colonial Hand Split Shingles, Inc. 2b/Co
Perma Products Co. 2b/Pe

wood—prestained
Creo-Dipt Co., Inc. 2b/Cr
Perma Products Co. 2b/Pe

shoe racks and cabinets

Knape & Vogt Mfg. Co. 6a/Kn

shores

Symons Clamp & Mfg. Co. 1a/Sy

shower

cabinets and enclosures
Crane Co. 9b/Cr
Shower Door Co. of America 9b/Sh

doors
Shower Door Co. of America 9b/Sh

fixtures
Crane Co. 9b/Cr
Eljer Co. 9b/EL
Universal-Rundle Corp. 9b/Un

shutters

(see also venetian blinds; windows—jalousie or louvered)

door
Heinley Mastercraft Products 6b/He
Rolscreen Co. 4c/Ro

shutters *cont.*

fan or blower—automatic
Berns Mfg. Corp. 8e/Be
Hunter Fan & Ventilating Co. 8e/Hu
Robbins & Myers, Inc. 8e/Ro

window
Heinley Mastercraft Products 6b/He
Rolscreen Co. 4c/Ro

siding

asbestos-cement
Carey, Philip, Mfg. Co. 2b/Ca
Flintkote Co. 2b/FL
Keasbey & Mattison Co. 2b/Ke
National Gypsum Co. 2b/Na
Ruberoid Co. 2b/Ru

brick, stone or shingle design panel—insulated
Barrett Div. 2b/Ba
Flintkote Co. 2b/FL

clapboard
see siding—plywood

corrugated
American Zinc Institute, Inc. 2a/Am
National Gypsum Co. 2b/Na

fiber
Armstrong Cork Co. 3b/Ar
Celotex Corp. 3b/Ce
Homasote Co. 3b/Ho
Nova Sales Co. 3a/No
Upson Co. 3d/Up

plywood
Associated Plywood Mills, Inc. 1d/As
Douglas Fir Plywood Assn. 1d/Do
Harbor Plywood Corp. 1d/Ha
M & M Wood Working Co. 1d/Ma
Roddis Plywood Corp. 4b/Ro
St. Paul & Tacoma Lumber Co. 2a/Sa
United States Plywood Corp. 1d/Un

reinforcing wire mesh for
Keystone Steel & Wire Co. 2b/Key

roll—prepared
Barrett Div. 2b/Ba
Certain-teed Products Corp. 2b/Ce
Flintkote Co. 2b/FL

sheet—insulated
Celotex Corp. 3b/Ce
Homasote Co. 3b/Ho
Nova Sales Co. 3a/No

shingles
see shingles

zinc
American Zinc Institute, Inc. 2a/Am

sills

door
see thresholds

sinks

bowls for
AllianceWare, Inc. 9b/AL
American Kitchens Div. 9a/Am
Briggs Mfg. Co. 9b/Bri
Eljer Co. 9b/EL
Universal-Rundle Corp. 9a/Un

sinks *cont.*

dishwasher combination
Crosley Div. 9a/Cr
General Electric Co. 9a/Ge
Hotpoint Inc. 9a/Hot

garbage disposal combination
see garbage—disposers

hopper or service
Eljer Co. 9b/EL

kitchen cabinet
AllianceWare, Inc. 9b/AL
American Kitchens Div. 9a/Am
Briggs Mfg. Co. 9b/Bri
Crane Co. 9b/Cr
Crosley Div. 9a/Cr
Eljer Co. 9b/EL
General Electric Co. 9a/Ge
Geneva Modern Kitchens ..9a/Gen; 9a/Gev
Hotpoint Inc. 9a/Hot
Universal-Rundle Corp. 9a/Un; 9b/Un

rims for
Briggs Mfg. Co. 9b/Bri

steel or stainless steel
American Kitchens Div. 9a/Am
Briggs Mfg. Co. 9b/Bri
Crane Co. 9b/Cr
Geneva Modern Kitchens ..9a/Gen; 9a/Gev
Universal-Rundle Corp. 9a/Un; 9b/Un

tops for
see tops—cabinet, counter, lavatory, sink or table

sizing
see sealers

skylights

plastic
American Panal Inc. 1f/Ame

sockets

ceiling
see inserts—concrete, brick, etc.

spandrels

flashings for
see flashings

spreaders
see forms—concrete—ties, clamps and spreaders for

stains

shingle
Creo-Dipt Co., Inc. 2b/Cr
Perma Products Co. 2b/Pe

wood
Creo-Dipt Co., Inc. 2b/Cr
Valspar Corp. 7g/Va

stair treads—wood
Harris Mfg. Co. 7d/Ha

stalls

shower bath
shower—cabinets and enclosures

staplers

hammer or tacker
Bostitch 3b/Bo

stone
see limestone; sandstone

storage

closets
see cabinets; closets

store front construction

sash
Pittsburgh Plate Glass Co. 1f/Pi

storm sash
see windows—specific type of material

strainers

sewer pipe
Cleveland Steel Specialty Co., Inc.....1b/CL

straps

joist
see anchors

structural shapes
(see also lath; plywood; wallboard; glass—structural)

concrete
Lith-I-Bar Co. 1a/Li

metal
Jones & Laughlin Steel Corp 1a/Jo

stucco

cement
Louisville Cement Co., Inc. 1c/Lo

reinforcing for
Keystone Steel & Wire Co. 2b/Key
Pittsburgh Steel Products Co. 3d/Pi

studding
see furring and studding

sump

pumps
see ejectors; pumps—bilge or sump

supports—sink, urinal, water closet, etc.
Eljer Co. 9b/EL

surfacing and paneling

laminated—plastic
American Panal Inc. 1f/Ame
Consoweld Corp. 7e/Co
St. Regis Paper Corp. 7e/Sa

mouldings and trim for—hardboard
Celotex Corp. 3b/Ce
Marsh Wall Products, Inc.....7e/Ma

surfacing and paneling *cont.*

mouldings and trim for—wood
Arkansas Soft Pine Bureau.....1d/Ar
Bradley Lumber Co. of Arkansas.....7d/Br
Upson Co. 3d/Up

plywood
Associated Plywood Mills, Inc. 1d/As
Douglas Fir Plywood Assn. 1d/Do
Harbor Plywood Corp. 1d/Ha
M & M Wood Working Co. 1d/Ma
Roddis Plywood Corp. 1d/Ro
Southwood Corp. 7e/So
Upson Co. 3d/Up

wood or wood fiber
Arkansas Soft Pine Bureau.....1d/Ar
Bradley Lumber Co. of Arkansas.....7d/Br
California Redwood Assn. 1d/Ca
Homasote Co. 3b/Ho
Southwood Corp. 7e/So
Upson Co. 3d/Up

switchboards
see panelboards or switchboards

t

tables

tops for
see tops—cabinet, counter, lavatory, sink or table

tanks

hot water storage
Bell & Gossett Co. 8d/Be
Rheem Mfg. Co. 8b/Rh
Thrush, H. A., & Co.....8d/Th

pressure
Bell & Gossett Co. 8d/Be
Thrush, H. A., & Co.....8d/Th

septic
see spectic tanks

telephone

installation data
Bell Telephone System 8i/Be

inter or intra-communicating systems and instruments
Bell Telephone System 8i/Be

service
Bell Telephone System 8i/Be

television distribution systems and equipment
Mosley Electronics, Inc. 8i/Mo

temperature controls
see heating—controls; thermostats

termite shields
(see also preservatives—wood)
American Zinc Institute, Inc. 2a/Am
Chomes Co., Inc. 2a/Ch

products

thermostats

Iron Fireman Mfg. Co. 8d/Ir

thresholds

metal
Accurate Metal Weather Strip Co., Inc. 6b/Ac
Barland Weatherstrip Material Co. ..6b/Ba

weatherstrip combination
Accurate Metal Weather Strip Co., Inc. 6b/Ac
Barland Weatherstrip Material Co. ..6b/Ba

ties

concrete form
see forms—concrete

wall—metal
see anchors—veneer wall

tile (or tile form)

acoustical
see acoustical materials—tile

board
see wallboard—tiled

ceramic
see tile—clay, facing

clay
Robinson Clay Product Co. 7a/Ro

drain
Natco Corp. 1c/Na
Robinson Clay Product Co. 8a/Ro

facing—glazed or unglazed
Natco Corp. 1c/Na

fiber
Armstrong Cork Co. 3b/Ar
Flintkote Co. 2b/FL
Upson Co. 3d/Up

floor—clay
see tile—clay

hollow glass
Pittsburgh Plate Glass Co. 1f/Pi

mastic composition
see flooring—asphalt

modular
Natco Corp. 1c/Na

non-sparking or static discharging
see flooring; floor coverings—non-sparking or static discharging

plastic
see floor coverings—plastic; wall coverings—plastic—sheet or tile

quarry or promenade
Robinson Clay Product Co. 8a/Ro

rubber
see floor coverings—rubber

sewage disposal—connectors for
Kaustine Furnace & Tank Corp.....8b/Ka

sheet
see wallboard—tiled

wall
see specific type of tile; wall coverings; wall board—tiled

timber connectors

Cleveland Steel Specialty Co., Inc.....1b/CL
Hohmann & Barnard, Inc. 1b/Ho

accessories for
Cleveland Steel Specialty Co., Inc.....1b/CL

toilet

paper and holders
see bathroom accessories

seats
Briggs Mfg. Co. 9b/Bri

systems—septic tank
see septic tanks

tools

hand
Cleveland Steel Specialty Co., Inc.....1b/CL
Conver Steel & Wire Co., Inc. 1b/Co

timber connector
Cleveland Steel Specialty Co., Inc.....1b/CL
Hohmann & Barnard, Inc. 1b/Ho

tops—cabinet, counter, lavatory, sink or table

American Kitchens Div. 9a/Am
Briggs Mfg. Co. 9b/Bri
Crosley Div. 9a/Cr
Geneva Modern Kitchens ..9a/Gen; 9a/Gev
Pomona Tile Mfg. Co. 7a/Po
Roddis Plywood Corp. 4b/Ro
St. Regis Paper Corp. 7e/Sa
Universal-Rundle Corp. 9a/Un

towels

paper and holders for
see bathroom accessories

track

cabinet door—sliding
Knape & Vogt Mfg. Co. 6a/Kn
Sterling Hardware Mfg. Co.....6a/Ste

door
(see also hangers—door, partition or gate)
Knape & Vogt Mfg. Co. 6a/Kn
Sterling Hardware Mfg. Co.....6a/Ste

traps

floor
Cleveland Steel Specialty Co., Inc.....1b/CL

trays

laundry
see sinks; tubs—laundry

treads

(see also flooring)

safety
Robbins Floor Products, Inc. 7c/Ro

trim

fiber
Marsh Wall Products, Inc.....7e/Ma
Upson Co. 3d/Up

trim *cont.*

hardware
see hardware

metal—for panels
Marsh Wall Products, Inc.....7e/Ma

metal or plastic
Ceco Steel Products Corp.....5b/Ce
Marsh Wall Products, Inc.....7e/Ma
Tile-Tex Div. 7c/Ti

wood
Bradley Lumber Co. of Arkansas.....7d/Br
Marsh Wall Products, Inc.....7e/Ma
Upson Co. 3d/Up

troughs

eave
see gutters, leaders and downspouts

tubing

(see also piping and tubing)
American Brass Co. 8a/Am
Mueller Brass Co. 8a/Mu
Revere Copper & Brass Inc.....8a/Re

fittings for
see pipe—fittings

tubs

bath
see bathtubs

laundry
(see also sinks)
Briggs Mfg. Co. 9b/Bri
Crane Co. 9b/Cr
Eljer Co. 9b/EL

U

unit

heaters
see heaters—unit

urinals

American Radiator & Standard Sanitary Corp. 8b/Am
Briggs Mfg. Co. 9b/Bri
Eljer Co. 9b/EL
Universal-Rundle Corp. 9b/Un

V

valves

air conditioning or heating—relief—pressure or temperature
Bell & Gossett Co. 8d/Be
Mueller Brass Co. 8a/Mu
Thrush, H. A., & Co.....8d/Th

pipe
Mueller Brass Co. 8a/Mu

plumbing
Eljer Co. 9b/EL
Mueller Brass Co. 8a/Mu

valves *cont.*

water supply and drainage
Mueller Brass Co. 8a/Mu

vapor barriers

Armstrong Cork Co. 3b/Ar
Celotex Corp. 3b/Ce
Glas-Kraft, Inc. 2c/GL
Ruberoid Co. 2b/Ru
Visking Corp. 3a/Vi

crawl space
Glas-Kraft, Inc. 2c/GL
Ruberoid Co. 2b/Ru

vapor seal

see building insulation

varnish

Monsanto Chemical Co. 7g/Mo

veneers

(see also panels)

adhesives for
see adhesives

wood
(see also plywood)
Roddis Plywood Corp. 4b/Ro
United States Plywood Corp. 1d/Un

wood—metal backed
United States Plywood Corp. 1d/Un

venetian blinds

brackets for
Hunter Douglas Corp. 6b/Hu

metal
Breneman-Hartshorn, Inc. 6b/Br
Clearview Louver Window Corp. 5d/CL
Hunter Douglas Corp. 6b/Hu

operating mechanisms for
Hunter Douglas Corp. 6b/Hu

slats for
Hunter Douglas Corp. 6b/Hu

tapes and cords for
Hunter Douglas Corp. 6b/Hu

ventilators

(see also blowers; fans)

attic or basement—fan or blower unit
Crane Co. 9b/Cr
Diehl Mfg. Co. 8e/Di
Fasco Industries, Inc. 8e/Fa
Hunter Fan & Ventilating Co. 8e/Hu
Robbins & Myers, Inc. 8e/Ro

blower-filter units
see blowers—ventilating or exhaust

caps for
Robinson Clay Product Co. 8a/Ro

ceiling
Fasco Industries, Inc. 8e/Fa
Pryne & Co., Inc. 8e/Pr
Trade-Wind Motorfans, Inc. 8e/Tr

fan or blower
see blowers—centrifugal or axial—ventilating or exhaust

ventilators *cont.*

foundation or basement
Bruce, E. L., Co. 7d/Bru
Cleveland Steel Specialty Co., Inc. ..1b/CL
Hohmann & Barnard, Inc. 1b/Ho

kitchen
see kitchen—fans and ventilators

roof—stationary
Cleveland Steel Specialty Co., Inc. ..1b/CL
Inland Steel Products Co. 3d/In

wall—brick or block sizes
Cleveland Steel Specialty Co., Inc. ..1b/CL
Hohmann & Barnard, Inc. 1b/Ho

wall—louver or grille
Cleveland Steel Specialty Co., Inc. ..1b/CL
Hohmann & Barnard, Inc. 1b/Ho
Hunter Fan & Ventilating Co. 8e/Hu
Inland Steel Products Co. 3d/In
Pryne & Co., Inc. 8e/Pr
Robbins & Myers, Inc. 8e/Ro

vermiculite

see concrete; insulation; plaster; etc.

W

wainscoting

see specific material as: glass—structural; panels—veneered—wood; veneers—wood; wallboard

wall construction

concrete—metal or wood forms for
Symons Clamp & Mfg. Co. 1a/Sy

wall coverings

asphalt tile
Kentile, Inc. 7c/Ke

clay tile—adhesives for
Minnesota Mining & Mfg. Co. 7a/Mi
Pecora Paint Co. 7f/Pe

clay tile—base, edgings, trim
National Tile & Mfg. Co. 7a/Na
Pomona Tile Mfg. Co. 7a/Po
Stylon Corp. 7a/St

clay tile—ceramic mosaic
National Tile & Mfg. Co. 7a/Na
Stylon Corp. 7a/St

clay tile—glazed
National Tile & Mfg. Co. 7a/Na
Pomona Tile Mfg. Co. 7a/Po
Stylon Corp. 7a/St

clay tile—unglazed
National Tile & Mfg. Co. 7a/Na
Stylon Corp. 7a/St

cork
Armstrong Cork Co. 7c/Ar
Kentile, Inc. 7c/Ke

fiberboard
see wallboard

glass
see glass—structural

wall coverings *cont.*

linoleum
Armstrong Cork Co. 7c/Ar

metal tile
Metal Tile Products, Inc. 7b/Me

metal tile—base, edgings, trim
Metal Tile Products, Inc. 7b/Me

plastic—sheet or tile
Armstrong Cork Co. 7c/Ar
Federal Leather Co. 7c/Fe
Kentile, Inc. 7c/Ke
Marsh Wall Products, Inc. 7e/Ma
Metal Tile Products, Inc. 7b/Me
Roddis Plywood Corp. 4b/Ro
St. Regis Paper Co. 7e/Sa
Tile-Tex Div. 7c/Ti

plywood
see plywood; wallboard

trim for
see trim

wood veneer
see panels—veneered—wood; veneers—wood; wallboard

wallboard

(see also insulation—building)

asbestos-cement
Flintkote Co. 2b/FL
National Gypsum Co. 2b/Na
Ruberoid Co. 2b/Ru

cement for
see cement—mastic—for application of flooring, wallboard, etc.

fasteners for
see fasteners

fiber
Armstrong Cork Co. 3b/Ar
Barrett Div. 3b/Bar
Celotex Corp. 3b/Ce
Flintkote Co. 2b/FL
Homasote Co. 3b/Ho
Upson Co. 3d/Up

gypsum
Celotex Corp. 3b/Ce

joint finishers
Armstrong Cork Co. 3b/Ar
Celotex Corp. 2c/Ce

mouldings
see trim

plywood
Associated Plywood Mills, Inc. 1d/As
M&M Wood Working Co. 1d/Ma
Roddis Plywood Corp. 4b/Ro
United States Plywood Corp. 1d/Un

plywood—wood veneer
Roddis Plywood Corp. 4b/Ro
United States Plywood Corp. 1d/Un

tiled
Armstrong Cork Co. 3b/Ar
Celotex Corp. 2c/Ce
Marsh Wall Products, Inc. 7e/Ma
Upson Co. 3d/Up

wallboard accessories

fasteners—clips, nails, etc.
Upson Co. 3d/Up

products

wallboard accessories *cont.*

joint fillers
Celotex Corp. 3b/Ce

trim
Celotex Corp. 3b/Ce
Upson Co. 3d/Up

walls

area
see area walls

storage unit
see cabinets—storage; closets

wardrobes

Carr, Adams & Collier Co. 9a/Ca

washers

clothes
General Electric Co. 9a/Ge
Hotpoint Inc. 9a/Hot

dish
see dishwashing machines

water

heaters
see heaters—water supply

softeners and treating equipment
Crane Co. 9b/Cr
Culligan Inc. 8b/Cu

supply systems
Fairbanks, Morse & Co. 8b/Fa

water closets

AllianceWare, Inc. 9b/AL
Briggs Mfg. Co. 9b/Bri
Crane Co. 9b/Cr
Eljer Co. 9b/EL
Universal-Rundle Corp. 9b/Un

waterproofing

membrane method—metal
see flashings

paper
see paper and felts

protective coatings
see masonry treatments—paint and compounds

spandrel
see flashings—sheet metal

wax

floor or wall
Bruce, E. L., Co. 7d/Bru
Kentile, Inc. 7c/Ke
Valspar Corp. 7g/Va

stain finish
Valspar Corp. 7g/Va

weatherstrips

adjustable astragals for
Accurate Metal Weather Strip Co., Inc. 6b/Ac

weatherstrips *cont.*

metal—extruded or formed
Accurate Metal Weather Strip Co., Inc. 6b/Ac
Allmetal Weatherstrip Co. 6a/AL
American Zinc Institute, Inc. 2a/Am
Barland Weatherstrip Material Co. ..6b/Ba
Zegers, Inc. 6b/Ze

sash balance combination
Allmetal Weatherstrip Co. 6a/AL
Zegers, Inc. 6b/Ze

sliding door or glass wall
Accurate Metal Weather Strip Co., Inc. 6b/Ac
Allmetal Weatherstrip Co. 6a/AL

threshold combination
Accurate Metal Weather Strip Co., Inc. 6b/Ac
Barland Weatherstrip Material Co. ..6b/Ba
Zegers, Inc. 5b/Ze

window cleaners' safety devices

Truscon Steel Div. 5b/Tr

window shades

cloth or fabric (for)
Breneman-Hartshorn, Inc. 6b/Br
du Pont de Nemours, E. I., & Co. (Inc.)6b/Du

flame and fire resistant
Breneman-Hartshorn, Inc. 6b/Br
du Pont de Nemours, E. I., & Co. (Inc.)6b/Du

lightproof or shadow-proof
Breneman-Hartshorn, Inc. 6b/Br
du Pont de Nemours, E. I., & Co. (Inc.)6b/Du

plastic
Breneman-Hartshorn, Inc. 6b/Br
du Pont de Nemours, E. I., & Co. (Inc.)6b/Du

wood slat
Heinley Mastercraft Products 6b/He

window sills and stools

Accurate Metal Weather Strip Co., Inc. 6b/Ac
Indiana Limestone Co., Inc. 1c/In
Natco Corp. 1c/Na
Pittsburgh Plate Glass Co. 1f/Pi
Truscon Steel Div. 5b/Tr

windows

blinds for
see blinds

classroom
Andersen Corp. 5c/An
Truscon Steel Div. 5b/Tr

for glass block construction
Tru-Seal Windows Div. 5a/Tru
Union Aluminum Co., Inc. 5a/Un
Valley Metal Products Co. 5a/Va

hopper vents for
Andersen Corp. 5c/An
Carr, Adams & Collier Co. 5c/Ca
Rolscreen Co. 5c/RoL

ranch
Fabrow Mfg., Inc. 5c/Fa
Truscon Steel Div. 5b/Tr

windows *cont.*

subframes or surrounds for
see casings

windows—aluminum

awning
Altex Engineering Co. 5a/Ae
Aluminum Window Mfrs. Assn. 5a/ALu
Alwintite Div. 5a/ALw
Arnold Products, Inc. 5a/Ar
Denison Corp. 5a/Den
Gate City Sash & Door Co. 5a/Ga
Ludman Corp. 5a/Lu
Miami Window Corp. 5a/Mi
National Window Corp. 5a/Na
Reynolds Metals Co. 5a/Re
Tru-Seal Windows Div. 5a/Tru
Truscon Steel Div. 5b/Tr
Union Aluminum Co., Inc. 5a/Un
Ware Laboratories, Inc. 5a/Wa
WindowMaster Corp. 5a/Win

awning—hopper vent
Altex Engineering Co. 5a/Ae
Alwintite Div. 5a/ALw
Denison Corp. 5a/Den
Ludman Corp. 5a/Lu
Miami Window Corp. 5a/Mi
Tru-Seal Windows Div. 5a/Tru
Union Aluminum Co., Inc. 5a/Un
Ware Laboratories, Inc. 5a/Wa

awning—knockdown
Denison Corp. 5a/Den

basement or utility
Cleveland Steel Specialty Co., Inc. 1b/CL
Reynolds Metals Co. 5a/Re
Union Aluminum Co., Inc. 5a/Un
Valley Metal Products Co. 5a/Va
Ware Laboratories, Inc. 5a/Wa
Windalume Corp. 5a/Wi

casement
Aluminum Home Products Co. 5a/AL
Aluminum Window Mfrs. Assn. 5a/ALu
Artex Corp. 5a/Art
Ceco Steel Products Corp. 5b/Ce
Cupples Products Corp. 5a/Cu
Reynolds Metals Co. 5a/Re
Truscon Steel Div. 5b/Tr
Union Aluminum Co., Inc. 5a/Un
Valley Metal Products Co. 5a/Va
Ware Laboratories, Inc. 5a/Wa

casement—hopper vent
Artex Corp. 5a/Art
Ceco Steel Products Corp. 5b/Ce
Reynolds Metals Co. 5a/Re
Union Aluminum Co., Inc. 5a/Un
Valley Metal Products Co. 5a/Va
Ware Laboratories, Inc. 5a/Wa

casing for
Kaufmann Corp. 6b/Kau

continuous
Altex Engineering Co. 5a/Ae
Aluminum Home Products Co. 5a/AL
Ludman Corp. 5a/Lu

custom-designed
Artex Corp. 5a/Art
Tru-Seal Windows Div. 5a/Tru

double glazed
Aluminum Home Products Co. 5a/AL
Aluminum Products Co. 5a/ALm

windows—aluminum *cont.*

double glazed *cont.*
Alwintite Div. 5a/ALw
Ceco Steel Products Corp.....5b/Ce
Clearview Louver Window Corp. 5d/CL
Cupples Products Corp. 5a/Cu
Gate City Sash & Door Co. 4c/Ga
Ludman Corp. 5a/Lu
Miami Window Corp. 5a/Mi
Premier Metal Products Corp. 5a/Pr
Reynolds Metals Co. 5a/Re
Tru-Seal Windows Div. 5a/Tru
Truscon Steel Div. 5b/Tr
Union Aluminum Co., Inc. 5a/Un
Valley Metal Products Co. 5a/Va
Ware Laboratories, Inc. 5a/Wa
WindowMaster Corp. 5a/Win

double hung
Altex Engineering Co. 5a/Ae
Aluminum Window Mfrs. Assn. 5a/ALu
Alwintite Div. 5a/ALw
Ceco Steel Products Corp.....5b/Ce
Cupples Products Corp. 5a/Cu
Kaufmann Corp. 6b/Kau
Per-Fit Products Corp. 5a/Pc
Premier Metal Products Corp. 5a/Pr
Reynolds Metals Co. 5a/Re
Self Storing Window Co., Inc. 5a/SeL
Union Aluminum Co., Inc. 5a/Un
Windalume Corp. 5a/Wi

fixed (picture)
Altex Engineering Co. 5a/Ae
Aluminum Home Products Co. 5a/AL
Aluminum Products Co. 5a/ALm
Alwintite Div. 5a/ALw
Artex Corp. 5a/Art
Ceco Steel Products Corp.....5b/Ce
Clearview Louver Window Corp. 5d/CL
Cupples Products Corp. 5a/Cu
Ludman Corp. 5a/Lu
National Window Corp. 5a/Na
Per-Fit Products Corp. 5a/Pc
Premier Metal Products Corp. 5a/Pr
Reynolds Metals Co. 5a/Re
Tru-Seal Windows Div. 5a/Tru
Truscon Steel Div. 5b/Tr
Union Aluminum Co., Inc. 5a/Un
Valley Metal Products Co. 5a/Va
Ware Laboratories, Inc. 5a/Wa
Windalume Corp. 5a/Wi
WindowMaster Corp. 5a/Win

fixed—louvered ventilator
Alwintite Div. 5a/ALw
Artex Corp. 5a/Art
Clearview Louver Window Corp. 5d/CL
Ludman Corp. 5a/Lu
Union Aluminum Co., Inc. 5a/Un

jalousie
Adams Engineering Co., Inc.....5d/Ad
Arnold Products, Inc. 5a/Ar
Denison Corp. 5d/De
Kaufmann Corp. 6b/Kau
Union Aluminum Co., Inc.....5a/Un
Union Machine Co. 5d/Un
Universal Fabricators 5d/Uni

jalousie—knockdown
Adams Engineering Co., Inc. 5d/Ad
Arnold Products, Inc. 5a/Ar
Clearview Louver Window Corp. 5d/CL
Denison Corp. 5d/De
Nova Sales Co. 3a/No

windows—aluminum *cont.*

jalousie—knockdown *cont.*
Union Aluminum Co., Inc. 5a/Un
Universal Fabricators 5d/Uni

pivoted
Artex Corp. 5a/Art
Union Aluminum Co., Inc. 5a/Un

projected
Aluminum Home Products Co. 5a/AL
Aluminum Window Mfrs. Assn. 5a/ALu
Alwintite Div. 5a/ALw
Artex Corp. 5a/Art
Ceco Steel Products Corp.....5b/Ce
Miami Window Corp. 5a/Mi
Reynolds Metals Co. 5a/Re
Union Aluminum Co., Inc. 5a/Un
Ware Laboratories, Inc. 5a/Wa

ranch
Union Aluminum Co., Inc. 5a/Un

screens and storm sash for
Adams Engineering Co., Inc. 5d/Ad
Altex Engineering Co. 5a/Ae
Aluminum Home Products Co. 5a/AL
Aluminum Products Co. 5a/ALm
Alwintite Div. 5a/ALw
Arnold Products, Inc. 5a/Ar
Ceco Steel Products Co.....5b/Ce
Clearview Louver Window Corp. 5d/CL
Cupples Products Corp. 5a/Cu
Denison Corp. 5a/Den; 5d/De
Gate City Sash & Door Co. 5a/Ga
Kaufmann Corp. 6b/Kau
Ludman Corp. 5a/Lu
Miami Window Corp. 5a/Mi
National Window Corp. 5a/Na
Panaview 5a/Pa
Per-Fit Products Corp. 5a/Pc
Premier Metal Products Corp. 5a/Pr
Reynolds Metals Co. 5a/Re
Self Storing Window Co., Inc. 5a/SeL
Tru-Seal Windows Div. 5a/Tru
Truscon Steel Div. 5b/Tr
Union Aluminum Co., Inc. 5a/Un
Union Machine Co. 5d/Un
Universal Fabricators 5d/Uni
Valley Metal Products Co. 5a/Va
Ware Laboratories, Inc. 5a/Wa
Windalume Corp. 5a/Wi

single hung
Aluminum Products Co. 5a/ALm

sliding—horizontal
Alwintite Div. 5a/ALw
Cupples Products Corp. 5a/Cu
National Window Corp. 5a/Na
Panaview 5a/Pa
Per-Fit Products Corp. 5a/Pc
Premier Metal Products Corp. 5a/Pr
Reynolds Metals Co. 5a/Re
Self Storing Window Co., Inc. 5a/SeL
Union Aluminum Co., Inc. 5a/Un

trim—exterior or interior
Aluminum Products Co. 5a/ALm
Alwintite Div. 5a/ALw
Ceco Steel Products Co.....5b/Ce
Cupples Products Corp. 5a/Cu
Ludman Corp. 5a/Lu
Premier Metal Products Corp. 5a/Pr
Reynolds Metals Co. 5a/Re
Valley Metal Products Co. 5a/Va
Windalume Corp. 5a/Wi

windows—stainless steel

awning
WindowMaster Corp. 5a/Win

double glazed
WindowMaster Corp. 5a/Win

fixed (picture)
WindowMaster Corp. 5a/Win

windows—steel

basement or utility
Ceco Steel Windows Corp.....5b/Ce
Cleveland Steel Specialty Co., Inc. ...1b/CL
Hope's Windows, Inc. 5b/Ho
Truscon Steel Div. 5b/Tr
Vento Steel Products Co., Inc.....5b/Ve

casement
Ceco Steel Products Corp. 5b/Ce
Hope's Windows, Inc. 5b/Ho
Truscon Steel Div. 5b/Tr
Vento Steel Products Co., Inc.....5b/Ve

casement—hopper vent
Ceco Steel Windows Corp. 5b/Ce
Truscon Steel Div. 5b/Tr

casing for
Hope's Windows, Inc. 5b/Ho
Russell, F. C., Co. 5b/Ru
Truscon Steel Div. 5b/Tr
Vento Steel Products Co., Inc.....5b/Ve

continuous
Russell, F. C., Co. 5b/Ru

double frame insulating system
Russell, F. C., Co. 5b/Ru

double glazed
Ceco Steel Windows Corp.....5b/Ce
Flynn, Michael, Mfg. Co. 4a/FL
Hope's Windows, Inc. 5b/Ho
Russell, F. C., Co. 5b/Ru
Slide-View Steel Door & Window Co. 4a/SL
Truscon Steel Div. 5b/Tr

double hung
Russell, F. C., Co. 5b/Ru
Self Storing Window Co., Inc. 5a/SeL
Truscon Steel Div. 5b/Tr

double hung—hopper vent
Truscon Steel Div. 5b/Tr

fixed (picture)
Hope's Windows, Inc. 5b/Ho
Russell, F. C., Co. 5b/Ru
Truscon Steel Div. 5b/Tr
Vento Steel Products Co., Inc.....5b/Ve

jalousie or louvered
Sun-Sash Co. 5d/Su
Truscon Steel Div. 5b/Tr

pivoted
Truscon Steel Div. .....5b/1.

projected
Ceco Steel Windows Corp.....5b/Ce
Truscon Steel Div. 5b/Tr

ranch
Hope's Windows, Inc. 5b/Ho
Truscon Steel Div. 5b/Tr

screens and storm sash for
Ceco Steel Windows Corp.....5b/Ce
Hope's Windows, Inc. 5b/Ho

products

window—steel *cont.*

screens and storm sash for *cont.*
Russell, F. C., Co. 5b/Ru
Self Storing Window Co., Inc. 5a/SeL
Truscon Steel Div. 5b/Tr
Vento Steel Products Co., Inc.....5b/Ve

security (burglar-proof)
Ceco Steel Windows Corp.....5b/Ce
Truscon Steel Div. 5b/Tr

sliding—horizontal
Russell, F. C., Co. 5b/Ru
Slide-View Steel Door & Window Co. 4a/SL

trim—exterior or interior
Ceco Steel Products Corp. 5b/Ce
Hope's Windows, Inc. 5b/Ho
Russell, F. C., Co. 5b/Ru
Truscon Steel Div. 5b/Tr

windows—wood

awning
Andersen Corp. 5c/An
Carr, Adams & Collier Co. 5c/Ca
Fabrow Mfg., Inc. 5c/Fa
Gate City Sash & Door Co. 5c/Ga
Ludman Corp. 5c/Lu
Malta Mfg. Co. 5c/Ma
R.O.W. Sales Co. 5c/R
Rolscreen Co. 5c/RoL
Woodco Corp. 5c/Wo

basement or utility
Andersen Corp. 5c/An
Rolscreen Co. 5c/RoL

casement
Andersen Corp. 5c/An
Carr, Adams & Collier Co. 5c/Ca
Malta Mfg. Co. 5c/Ma
Rolscreen Co. 5c/RoL

continuous
Andersen Corp. 5c/An
Carr, Adams & Collier Co. 5c/Ca
Fabrow Mfg., Inc. 5c/Fa
Malta Mfg. Co. 5c/Ma
Rolscreen Co. 5c/RoL

double glazed
Andersen Corp. 5c/An
Carr, Adams & Collier Co. 5c/Ca
Fabrow Mfg., Inc. 5c/Fa

windows—wood *cont.*

double glazed *cont.*
Gate City Sash & Door Co. 5c/Ga
Ludman Corp. 5a/Lu
Malta Mfg. Co. 5c/Ma
Rolscreen Co. 5c/RoL
Woodco Corp. 5c/Wo

double hung
Andersen Corp. 5c/An
Carr, Adams & Collier Co. 5c/Ca
Malta Mfg. Co. 5c/Ma
R. O. W. Sales Co.....5c/R
Reynolds Windows, Inc.....5c/Re
Self Storing Window Co., Inc. 5a/SeL

fixed
Andersen Corp. 5c/An
Carr, Adams & Collier Co. 5c/Ca
Fabrow Mfg., Inc. 5c/Fa
Ludman Corp. 5c/Lu
Malta Mfg. Co. 5c/Ma
Rolscreen Co. 5c/RoL

preservative treated
Andersen Corp. 5c/An
Carr, Adams & Collier Co. 5c/Ca
Fabrow Mfg., Inc. 5c/Fa
Gate City Sash & Door Co. 5c/Ga
Ludman Corp. 5c/Lu
Malta Mfg. Co. 5c/Ma
Reynolds Windows, Inc. 5c/Re
Rolscreen Co. 5c/RoL
Woodco Corp. 5c/Wo

projected
Fabrow Mfg., Inc. 5c/Fa
Malta Mfg. Co. 5c/Ma
Rolscreen Co. 5c/RoL

screens and storm sash for
Andersen Corp. 5c/An
Carr, Adams & Collier Co. 5c/Ca
Fabrow Mfg., Inc. 5c/Fa
Gate City Sash & Door Co. 5c/Ga
Ludman Corp. 5c/Lu
Malta Mfg. Co. 5c/Ma
Rolscreen Co. 5c/RoL
Self Storing Window Co., Inc. 5a/SeL
Woodco Corp. 5c/Wo

sliding—horizontal
Andersen Corp. 5c/An
Malta Mfg. Co. 5c/Ma

windows—wood *cont.*

sliding—horizontal *cont.*
R. O. W. Sales Co.....5c/R
Self Storing Window Co., Inc. 5a/SeL

wire

cloth or fabric
Keystone Steel & Wire Co. ..2b/Key; 3d/Ke

wiring—electric

boxes for
Adam, Frank, Electric Co. 8g/Ad

wood

(see also lumber; plywood; veneers)

preservatives
see preservatives—wood

wood frame construction accessories

bridging
Cleveland Steel Specialty Co., Inc.....1b/CL
Conver Steel & Wire Co., Inc. 1b/Co
Hohmann & Barnard, Inc. 1b/Ho

caps and bases—column or post
Cleveland Steel Specialty Co., Inc.....1b/CL

hangers, plates or boxes—beam, joist, wall, etc.
Cleveland Steel Specialty Co., Inc.....1b/CL
Conver Steel & Wire Co., Inc. 1b/Co
Hohmann & Barnard, Inc. 1b/Ho

woodwork

cabinet
Douglas Fir Plywood Assn. 1d/Do
United States Plywood Corp.....1d/Un

stock
Arkansas Soft Pine Bureau.....1d/Ar
Bradley Lumber Co. of Arkansas.....7d/Br
United States Plywood Corp.....1d/Un

wool

mineral or rock
see insulation—building

trade names

catalogs are indexed by section and alphabetic sequence

section number	1a
catalog letter	A

a

ABC (jalousies) 5d/Ad
ACCO (caulking compounds) 6b/Ac
APCO (aluminum windows) 5a/ALm
APMI (plywood) 1d/As
A.W.M.A. (aluminum windows) 5a/ALu
ACTIVATOR (washers) 9a/Ge
ADJUSTAFLO (controls) 8d/Th
ADJUSTAFLO (heating systems) 7d/Th
AEROFAN (electric ventilators) 8e/Pr
AIR KING (fans) 8e/Be
AIR MIST (condensing units).....8c/Co
AIR-WAY (combustion chambers) 8c/Ka
AIRLINER (ranges) 9a/Ge
AIRTEMP (air conditioners) 8c/Ch
AIRTROL (heating specialties) 8d/Be
AKLO (heat-absorbing glass) 1f/Li
ALBECORE (bathtubs) 9b/Cr
ALDURA (aluminum screening) 6b/Ne
ALFOL (building insulation).....3b/Re
ALGOMA (plywood) 1d/Un
ALL-AMERICAN (sinks) 9b/Cr
ALL-PURPOSE (floor tile) 7c/Ro
ALL STAR (hardware) 6a/Ru
ALL WEATHER (panels) 3d/Up
ALL-WEATHER (sliding glass doors)....4a/Lu
ALL-YEAR (air conditioners) 8c/Se
ALLIANCEWARE (bathtubs) 9b/Cr
ALLIANCEWARE (bathtubs, lavatories) 9b/AL
ALLMETAL (weatherstrips) 6a/AL
ALLWEATHER (balance strips) 6a/AL
ALWINTITE (aluminum windows) 5a/ALu
AMERPLY (prefinished panels).....7c/So
AMERWOOD (prefinished panels).....7c/So
AMTICO (rubber, plastic flooring)....7c/Am
ANCHOR-LOK (asphalt shingles).....2b/Ba
ANDES (water closets).....9b/EL
APAC (asbestos sheets).....2b/Ke
"THE ARCHITECT" (shingles).....2b/Bi
ARKANSAS SOFT PINE (lumber).....7d/Br
ARKANSAS SOFT PINE (woodwork)....1d/Ar
ARMORPLY (plywood) 1d/Un
ARTEX (aluminum windows).....5a/Art
ASBESTONE (roofing, wallboard)....2b/Na
ATTACHO (bathroom accessories) 9c/Fa
AUBURN (water closets).....9b/EL
AUSTIN (sinks) 9b/Un
AUTO-LOK (aluminum windows) 5a/Lu
AUTO-LOK (wood windows) 5c/Lu
AWN-WIN (awning windows) 5c/Ar

b

B & G (heating systems).....8d/Be
BAL-RITE (louvers) 6b/He
BANDLITE (glass) 1f/Mi
BANTAM (boiler-burners) 8d/AL
BAR-GRILLE (grate covers) 1b/Ho
BARON (water closets) 9b/Bri
BARRETT (asphalt shingles).....2b/Ba
BASMOR (gas fired boilers).....9b/Cr
BEACON (ranges) 8a/Ge
BEAUTYWARE (plumbing fixtures).....9b/Bri
BEDFORDSHIRE (urinals) 9b/EL
BENDIX (laundry equipment).....9a/Cr
BEST-VENT (aluminum windows).....5a/Pc
BEVELITE (glass) 1f/Mi
BILCO (hatchways) 4e/Bi
BILT-WELL (wood cabinets).....9a/Ca
BILT-WELL (wood windows).....5c/Ca
BLACK SHIELD (building paper) 2b/Ba
BLEND-AIR (air conditioners, furnaces) 8c/Co
BLEND-WAY (floor finish).....6d/Bru
BLENDWOOD (wood blocks).....7d/Bru
BLO-FAN (blowers, fans).....8e/Pr
BLOCKEDGE (roof surfacing).....2b/Ce
BLU-ARCH (gas burners) 8b/Co
BONNY MAID (plastic floor tile)....7c/Bon
BOSCO (concrete forms) 1b/Co
BOSTITCH (staplers) 3b/Bo
BOSTON (sinks) 9b/Bri
BRENLIN LITERPROOF (shades).....6b/Br
BRICK-TEX (roll sidings).....2b/Ce
BRISTOL (fountains) 9b/EL
BRITE 4 EVR (aluminum finish).....7g/Va
BRITE-LITE (area walls).....1e/Br
BRIXMENT (masonry cement).....1c/Lo
BROADLITE (glass) 1f/Mi
BRONX (sinks) 9b/EL
BROWNING (lavatories) 9b/Bri
BRUCE-WAY (floor finish).....7d/Bru
BURNS (lavatories) 9b/Bri

c

CRA (redwood) 1d/Ca
CALBAR (caulking compounds).....3a/Ca
CALDWELL (lavatories) 9b/Un
CALORIC (gas ranges) 9a/C
CALROD (heating units).....9a/Hot
CALROD (ranges) 9a/Ge
CALVIN (lavatories) 9b/EL
CAMARGO (shades) 6b/Br
CAMBRIDGE (toilet bowls).....9b/Un
CAMELON (toilet bowls) 9b/Un
CAMILLE (lavatories) 9b/Un
CANTON (toilet bowls).....9b/Un
CAPRI (bathtubs) 9b/EL
CARDINAL (water closets).....9b/Un
CARLTON (lavatories) 9b/Un
CARLTON (water closets) 9b/Bri
CARMEN (lavatories) 9b/Un
CARMEN (water closets) 9b/Bri
CARRARA (glass) 1f/Pi
CASE-O-MATIC (window screens) 6b/Co
CASTLE (water closets) 9b/Un
CATALINA (water closets).....9b/Un
CATHLEEN (lavatories) 9b/Un
CAULK-O-SEAL (caulking compounds) 3a/Ca
CAULK-PRIME (primers) 3a/Ca
CAXTON (toilet bowls).....9b/Un
CECO/STERLING (aluminum windows) 5b/Ce
CECONOMY (steel windows).....5b/Ce
CEDA' LINE (cedar closet lining) 7d/Bru
CEDRELA (plywood panels).....3b/Ro
CEIL-N-WALL (fans) 8e/Fa
CEIL-N-WALL (ventilators) 7e/Fa
CELCURE (wood preservatives).....1d/Am
CELLADOOR (service doors).....4e/Bi
CELO-ROK (lath, plaster, sheathing)...3b/Ce
CELO-SIDING (siding) 3b/Ce
CELOBRIC (insulating panels).....3b/Ce
CELOSTONE (insulating panels).....3b/Ce
CELOTEX (building products).....3b/Ce
CELTIC (urinals) 9b/Un
CEMESTO (insulating panels).....3b/Ce
CENTERSET (lavatory fittings) 9b/Un
CENTRI-THRIFT (pumps) 8b/My
CENTURY (asbestos shingles).....2b/Ke
CENTURY (water closets).....9b/Un
CERTAIN-TEED (roofing, siding).....2b/Ce
CERTIGRADE (shingles) 2b/Cr
CHAMPION (bathtubs) 9b/Cr
CHAMPION (overhead doors).....4d/At
CHAMPION (toilet bowls).....9b/Un
CHATEAU (lavatories) 9b/Un
CHEMICAL-SET (tile-setting cement)....7c/Ar
CHEVRON (water closets).....9b/Un
CHIPPENDALE (varnish) 7g/Va
CHROMA-TEX (siding, shingles).....2b/Na
CHRYSTEX (clay floor tile).....7a/Na
CINDERELLA (lavatories) 9b/Un
"CIRCULATING COLD" (freezers)....9a/Ad
CIRCULATOR (fireplaces) 8c/Ma; 8f/Ma
CIRO (bathtubs) 9b/Un
CIVILIAN (water closets).....9b/Un
CLEARVIEW (louvered doors, windows) 5d/CL
CLEO (lavatories) 9b/Un
CLIFTON (urinals) 9b/Bri
CLIFTONS (sinks) 9b/Un
CLIMAX (water closets).....9b/Un
CLINTON (toilet bowls) 9b/Un
CLIPPER (blowers) 8e/Tr
CLIPPER (water closets) 9b/Un
COL-PLY (cement) 2b/FL
COLBURN (urinals) 9b/Un
COLEMAN (air conditioners, furnaces) 7c/Co
COLEMAN (water heaters) 8b/Co
COLLEEN (lavatories) 9b/Un
COLONIAL (overhead doors).....4d/At
COLOR CLEAR (glass).....1f/Li
COLUMBIA-MATIC (frameless screens) 6b/Co
COMFORT-GRIP (drawer pulls).....6a/Wa
"COMFORTROL" (thermostat) 9a/Ad
COMO (water closets).....9b/Un
CONOMY (water closets).....9b/Un
CONQUEST (water closets).....9b/Un
CONSOWELD (plastic panels).....7e/Co
CONSTELLATION (ranges) 8a/Ge
CONTEMPO (sliding windows).....5a/SeL
CONVOY (lavatories) 9b/Un

trade names

COPPER-ARMORED SISALKRAFT (flashings, vapor barriers) 2c/Am
COPPERMATIC (water heaters).....8b/Rh
COQUETTE (lavatories) 9b/Un
CORDOVA (urinals) 9b/Un
CORKWALL (wall coverings) 7c/Ar
CORLON (plastics) 7c/Ar
CORNELL (lavatories) 9b/EL
CORNER-EX (lath) 3d/In
CORNETTE (lavatories) 9b/EL
CORONET (sinks) 9b/Un
CORRECTO (urinals) 9b/EL
CORROSION-MASTER (water coolers) 8c/Se
COTTAGE (lavatories) 9b/Un
COUNTER-FLO (furnaces) 9b/Cr
COUNTESS (lavatories) 9b/Cr
COUNTESS (sinks) 9b/Un
CRAFTCO (cement paint) 7g/Na
CRAFTITE (masonry treatment).....7g/Na
CRAFTLINE (linoleum) 7c/Ar
CRAFTONE (masonry paint).....7g/Na
CRAFTWALL (plywood panels).....1d/Ro
CRANE-LINE (boilers, cabinets).....9b/Cr
CRAWFORD (water closets).....9b/Un
CREO-DIPT (shingles, stains).....2b/Cr
CRESCENT (lavatories) 9b/Un
CRITERION (bathtubs, lavatories).....9b/Cr
CROSLEY (kitchen appliances).....9a/Cr
CROW'S FOOT (overhead type doors) 4d/Ro
CRYSTAL (fountains) 9b/EL
CUL-MATIC (water softeners).....8b/Cu
CUSHIONTONE (acoustical materials)..3b/Ar
CUSTOM (water heaters).....8b/Rh
CUSTOM-BILT (electric ovens, ranges)..9a/Li
CUSTOMLINE (kitchen appliances) ...9a/Hot

d

DAIRY-STOR (refrigerator-freezers) ...9a/Hot
DECOR MATIC (paint system) 7g/De
DEEPLIFT (pumps) 8b/My
DEFENDER (door locks).....6a/Co
DELTA (lavatories) 9b/EL
DENVER (sinks) 9b/Bri
DEVAC (glass walls).....5a/SeL
DEVOPAKE (paint) 7g/De
DEX-O-TEX (deck coverings).....7c/Cr
DEXOKOTE (floor coverings).....7c/Cr
DIAL-ESE (plumbing fittings).....9b/Cr
DIANA (lavatories) 9b/Cr
DIANA FYRBAN (shades).....6b/Br
DIFFUSEX (glass) 1f/Li
DIRECTIONAIR (blowers) 8c/Co
DISPOSALL (garbage disposers) 9a/Ge; 9a/Hot
DOORMASTER (garage doors).....4d/Cr
DOOZIT (floor treatments).....7d/Bru
DOUBLE ROLLAWAY (shower enclosures) 9b/Sh
DOUBLEX (glass) 1f/Li
DOVER (urinals) 9b/EL
DREXEL (lavatories) 9b/EL
DREXEL (water closets, lavatories).....8b/Cr
DRI-SPEEDWALL (facing tile).....1c/Na
DRYFOL (building insulation).....3b/Re
DUAL-FREEZE (freezers) 9a/Ad
DUAL-TEMP (refrigerators) 9a/Ad
DUALAY (asbestos shingles) 2b/Ke
DUBLECOTE (asphalt shingles).....2b/Ba
DUEL WALL (wall furnaces).....8c/Co
DUKE (water closets) 9b/Bri
DULUTH (fountains) 9b/EL
DUNCAN PHYFE (varnish).....7g/Va
DUO-LINE (sinks) 9b/EL
DUOMATIC (wash-dryers) 9a/Cr
DUPLEX (water closets).....9b/EL
DUR-O-WAL (masonry reinforcement) 1a/Ced
DURA-LOK (asphalt shingles).....2b/Ba
DURA-SEAL (sash balances, weatherstripping) 6b/Ze
DURA-SHIELD (shingle finish).....2b/FL
DURA-WOOD (block and strip flooring) 7d/Bru
DURAC (finish) 2b/Ru
DURALITE (aluminum windows) 5a/AL
DURALL (tension screens).....6b/Ne
DURAPLY (plywood) 1d/Un
DYNASEAL (door hardware).....4d/At

e

E-Z (dishwashers) 9a/Cr
EARL (water closets).....9b/Bri
EARLY AMERICAN BRAND (shingles, fences) 2b/Co
EASY-CURVE (panels) 3d/Up
EASY LIVING (kitchens).....9a/Un
ECON-O-WALL (windows) 5a/Wa
ECON-O-WARE (windows) 5a/Wa
EJECTO (pumps) 8b/My
ELASTIGUM (roofing cement, coating) 2b/Ba
ELECTROSAVER (freezer units).....9a/Cr
ELMIRA (lavatories) 9b/EL
ELVORTEX (water closets).....9b/EL
EMBASSY (plumbing fixtures).....9b/Cr
EMERSON (lavatories) 9b/Bri
EMPEROR (water closets).....9b/Bri
ERAYDO (zinc alloy).....2a/Ch
ERAYDO (zinc sheet).....1b/Ho
ETERNITE (bathroom accessories).....9c/Fa
EVEN-FLO (blowers) 7c/Co
EVEN-GLO (lighting fixtures).....8h/Pr
EVER-FAST (asphalt shingles).....2b/Ba
EVERBOND (mastic cement).....7d/Bru
EVERKLEER (shower heads).....9b/Bri
EVERLASTIC (roofing) 2b/Ba
EXCELON (plastic tile) 7c/Ar
EX-PAND-O (jalousies) 5d/Un
EXT-DEPA (plywood panels).....1d/Do
E-ZEE LOC (wood awning windows)...5c/Wo
EZ-WAY (disappearing stairs).....1d/Ez

f

FA (electrical equipment) 8g/Ad
F-C-R (steel windows) 5b/Ru
FEDERAN FEDWALL (plastic wall covering) 7c/Fe
FEDERAN K (plastic wall covering)....7c/Fe
FIBERGLAS (insulation) 3b/Ow
FIBREX (roofing cement).....2b/FL
FABRORAMA (windows) 5c/Fa
FINE-TEX (glass) 1f/Li
FIRZITE (plywood finishes) 1d/Un
FLEETWING (sinks) 9a/Un
FLEETWOOD (garage doors).....4d/Cr
FLEX-A-LITE (windows).....5a/Ae
FLEX-COVE (cove base).....7c/Ro
FLEXACHROME (plastic-asbestos flooring) 7c/Ti
FLEXALUM (venetian blinds).....6b/Hu
FLEXCELL (joint fillers).....3b/Ce
FLEXIVENT (wood windows) 5c/An
FLEXIVIEW (picture windows) 5c/An
FLINTKOTE (roofing, shingles).....2b/FL
FLINTLOCK (shingles) 2b/FL
FLO-CONTROL (control valves).....8d/Be
FLO-LINE (cabinet styling).....9a/Ki
FLOREX (glass) 1f/Li
FLORMASTIC (tile cement) 7c/Ar
FLORVECTOR (baseboard heating).....8c/Un
FLUFF-N-TUMBLE (dryers) 9a/Cr
FLUSH-FIT (wood block flooring) 7d/Hi
FLUTEX (glass) 1f/Li
FROST-AWAY (refrigerator-freezers) ..9a/Hot
FROST-LIMITOR (refrigerators) 9a/Ge
FYNAL-KOLOR (shingle coatings).....2b/Cr
FYNAL-KOTE (shingle coatings).....2b/Cr

g

G-E (kitchen equipment).....9a/Ge
GMK (steel kitchens).....9a/Gev
GENERAL GIBRALTAR (flush doors)....4b/Ge
GENUWOOD (wood veneers).....3b/Ro
GLAS-KRAFT (building papers).....2c/GL
GLENDALE (fountains) 9b/EL
GLIDE-ALL (sliding doors).....4b/Wo
GLIDAWAY (sliding door units).....4b/Un
GLOMASTER (wall heaters).....8e/Pr
GLORI-GLO (aluminum finish).....7g/Va
GLUMAC (shingles) 2b/Pe
GOLD BOND (paint).....7g/Na
GOLD BOND (roofing, siding).....2b/Na
GOLDEN TONE (sandstone).....1c/Br
GOTHAM (sinks) 9b/EL
GRANETTE (plastic tile) 7c/Ar
GRIP-TITE (framing connectors).....1b/Ho
GUARDIAN (door locks).....6a/Co
GUEST (lavatories) 9b/Bri
GULF-STREAM (boiler-burners) 8d/AL

h

H & M (cooling towers).....8c/Ha
H M S (movable shutters).....6b/He
HARBORITE (plastic faced plywood)..1d/Ha
HASTINGS ALUMI (awnings, canopies)7b/Me
HAZELWOOD (plywood panels).....1d/Un
HEAT-A-LITE (heaters) 8e/Nu
HEAT-PAK (boiler-burners) 8d/AL
HEATFORM (fireplace heating units)...8f/Su
HEATILATOR (basement door).....4e/He
HEATILATOR (fireplace heaters).....8f/He
HEATRIM (baseboard radiators).....7d/Am
HERCULITE (glass) 1f/Pi
HI-BOY (furnaces) 8c/Ch
HI-FORM (fireplace dampers) 8f/Su
HI-GLOSS (panel finish) 7e/Ma
HI-HEAD (circulators) 8d/Th
HI-LIFT (garage doors) 4d/Cr
HI-LUSTRE (cove base).....7c/Ro
HIDE-A-RACK (laundry racks) 9a/Ki
HIGH-LITE (sliding windows) 5c/R
HOHMANN (clothesline poles) 1b/Ho
"HOHMANN" (clothesline poles) 9a/Ho

HOL-MOR (tie racks) 6a/Kn
HOLFORD (casement windows).....5b/Ho
HOMASOTE (building products).....2c/Ho
HOMEGARD (locks, latches) 6a/Ru
HOMEMAKER (sinks) 9a/Cr
HOMESTEAD (overhead doors) 4d/At
HOTPOINT (kitchen, laundry appliances) 9a/Hot
HOUSEMART (wood doors).....4b/Ro
HYDRO-FLO (heating systems).....8d/Be
HYDRONON (water repellent coating).2b/Ba
HYDROTHERM (gas heating units).....8d/Hy
HYLITE (glass) 1f/Mi

i

ILCO (stone) 1c/In
IMPERIAL (water heaters) 8b/Rh
IN-A-WALL (shower cabinets).....8b/We
IN-SINK-ERATOR (garbage disposers)..9a/In
INDESTRUCTO (labeled doors).....4a/Wor
INDUSTREX (glass) 1f/Li
INSPIRATION-LIGHTING (lighting fixtures) 8h/Mo
INT-DFPA (plywood panels) 1d/Do
INVIZIBLE (sash balance) 6a/Gr
IRON FIREMAN (heating equipment)..8d/Ir
IRONETTE (ironing boards).....9a/Ki

J

J&L (structural shapes).....1a/Jo
J-C (furnaces) 7c/Ja
J-C (heating units).....8c/Ja
JACK FROST (sheathing felt).....2b/Ba
JAL-DOR (louvered doors).....5a/Ar
JASPE (linoleum) 7c/Ar
JEFFERSON (lavatories) 9b/EL
JERSEY (air conditioners) 8c/Ka
JOISTILE (concrete floor plank).....1a/Li
JUNIOR BEAM (structural shapes)....1a/Jo

k

K-D (picture windows).....5a/Tru
K&M (asbestos shingles).....2b/Ke
K-V (cabinet hardware) 6a/Kn
K-VENIENCE (closet fixtures) 6a/Kn
KAYDEE (lumber).....6d/Co
KEM-SET (adhesives) 7c/Ro
KEN-CLEANER (floor cleaner).....7c/Ke
KEN-KIT (floor laying tools).....7c/Ke
KENBASE (asphalt covebase) 7c/Ke
KENCORK (cork tile or wall).....7c/Ke
KENFLEX (vinyl floor, wall tile).....7c/Ke
KENGRIP (floor wax) 7c/Ke
KENRUBBER (rubber tile) 7c/Ke
KENSERT (tile inserts) 7c/Ke
KENTILE (floor tile) 7c/Ke
KENTUCKY COLONEL (flush doors)..4b/Ge
KENWAX (floor wax) 7c/Ke
KEYBEAD (wire mesh).....3d/Ke
KEYCORNER (wire mesh).....3d/Ke
KEYMESH (reinforcing wire mesh) 2b/Key; 3d/Ke
KEYWELD (reinforcing wire mesh)....2b/Key
KIFS (mechanical bond).....1b/Ho
KINGSTON (lavatories) 9b/EL
KIPLING (lavatories) 9b/Bri
KITCHEN GRAND (sinks).....9b/Un
KITCHEN MAID (kitchen cabinets)....9a/Ki
KITCHEN PRIDE (sinks) 9b/Cr
KITCHEN QUEEN (sinks) 9b/Cr
KITCHENETTE (sinks) 9b/Un
KLAYNE (lavatories) 9b/Cr
KNIGHT (water closets) 9b/Bri
KOOLING-KIT (package fans) 8e/La
KOOLSHADE (screens) 5b/Tr
KOPPER-KLAD (flashings) 2c/GL
KORELOCK (hollow core panels).....7e/Ma
KORINA (plywood) 1d/Un
KOVEN (water heaters) 8d/Wa
KUVER-KRAK (panels) 3d/Up
KWIK-SEMBLY (metal ducts) 8c/Co

L

L&H (electric ovens, ranges).....9a/Li
LNTP (panelboards) 8g/Ad
LAHOMA (bathtubs) 9b/Cr
LAKE FOREST (bathtubs).....9b/EL
LANIER (lavatories) 9b/Bri
LAP-LOK (copings) 8a/Ro
LA SALLE (bathtubs) 9b/Bri
LASALLE (lavatories) 9b/EL
LATONA (water closets).....9b/Un
LAUNDRETTE (laundry tubs) 9b/Cr
LAUNDUET (washers, dryers).....9a/Hot
LAVANETTE (lavatory, vanity) 9b/Cr
LAWTON (urinals) 9b/Bri
LAYTITE (wood flooring) 7d/Co
LAYTON (sinks) 9b/Un
LAYTON LEDGE (sinks).....9a/Un; 9b/Un
LEADER (ranges) 9a/Ge
LECTRO-HOST (electric ovens, ranges).9a/Li
LEDGBAK (sinks) 9b/EL
LEDGMASTER (lavatories) 9b/Un
LEGATION (bathtubs) 9b/EL
LENROC STONE (sandstone).....1c/Fi
LETH-R-GRAIN (wallboard) 2a/FL
LIBERATOR (ranges) 9a/Ge
LIBERTY (bronze screening).....6b/Ne
LIFETIME (aluminum shingles) 2b/Re
LIFETIME (clay tile).....7a/Na
LIFETIME (floor tile).....7c/Ro
LIFETIME (gutters, downspouts).....2a/Rey
LIGHTNING LIFT (door operators)....4d/At
LINABESTOS (asbestos sheets) 2b/Ke
LINEX (glass) 1f/Li
LINOGLOSS (floor wax) 7c/Ar
LINOSTRIP (linoleum) 7c/Ar
LINOTILE (floor coverings).....7c/Ar
LINOWALL (wall coverings) 7c/Ar
LITE-LINE CELOSTONE (panels, siding) 3b/Ce
LITH-I-BAR (concrete joists).....1a/Li
LO-BOY (furnaces) 8c/Ch
LO-K (cotton insulation).....3b/Lo
LOC-TITE (window operators).....5d/CL
LOF (glass) 1f/Li
LOK-BEVEL (wallboard joint finishers)..3b/Ar
LOK-TAB (asphalt shingles).....2b/Ru
LONGFELLOW (lavatories) 9b/Bri
LOUVREX (glass) 1f/Li
LUMINEX (glass) 1f/Li
LUXAIRE (air conditioning units).....8c/OL
LUXTROL (dimmer control) 8g/Su
LUXURY-TRIM (lavatory fittings).....9b/Un
LYNDON (lavatories) 9b/EL

m

M & M (plywoods).....1d/Ma
MAGI-COTE (garage doors) 4d/Cr
MAGIC CIRCLE (hot water heaters)...9a/Hot
MAGIC HEATER (water heaters).....9a/Cr
MAGNABOND (bonding compounds)...7c/Cr
MAGNALITE (glass) 1f/Mi
MAINLINER (ranges) 9a/Ge
MAJESTIC (fireplaces, incinerators) ...8f/Ma
MAJESTIC (heating, air conditioning..8c/Ma
MAJESTIC (incinerators) 9b/Cr
MALT-A-GLIDE (sliding windows).....5c/Ma
MALT-A-MASTER (wood windows)....5c/Ma
MALT-A-MATIC (wood windows).....5c/Ma
MALT-A-VENT (wood windows).....5c/Ma
MALTA SUPREME (wood windows)...5c/Ma
MARBELLE (linoleum) 7c/Ar
MARCIA (lavatories) 9b/Cr
MARINEWOOD (plywood) 4b/Ro
MARLITE (panels) 7e/Ma
MARQUETTE (bathtubs) 9b/Bri
MARTHA WASHINGTON (lavatories)..9b/EL
MARVAIR (air conditioners) 8c/Mu
MARVEL-LIFT (garage doors) 4d/Cr
MASTER (water heaters) 8b/Co
MASTER-BILT (asphalt shingles).....2b/Bi
MASTER MEADOW (bathtubs) 9b/Un
MEADOW (bathtubs) 9b/Un
MENGEL (flush doors) 4b/Un
MEREDITH (lavatories) 9b/Bri
MET-CRO (bridging) 1b/Ho
MET-CRO (steel bridging).....1b/Co
MIAMI (lavatories) 9b/EL
MIAMI (sinks) 9b/Bri
MIDGET (louvers) 1b/Ho
MILADY (sinks) 9b/Un
MILCOR (lath) 3d/In
MILLSON (fountains) 9b/EL
MILTON (lavatories) 9b/Bri
MINI-CUBE (refrigerators) 9a/Ge
MIRA (adhesives) 6f/Mir
MIRACLE WEDGE (overhead doors)...4d/Ov
MIRROPANE (mirrors) 1f/Li
MIRROPULL (drawer pulls).....6a/Wa
MISCO (glass) 1f/Mi
MODERN CLASSIC (bathroom accessories) 9c/Fa
MOEDAPTERS (lighting fixtures) 8h/Mo
MOELIGHT (lighting fixtures) 8h/Mo
MONCRIEF (air conditioning units)....8c/He
MONOFLO (fittings) 8d/Be
MONOTOP (plastic tops) 4b/Ro
MONOWALL (fiber panelboards).....3b/Ar
MONTICELLO (shingles) 2b/FL
MOORE (lavatories) 9b/Bri
MULTI-SHINGLE (asphalt shingles)....2b/Ba
MURA-TEX (plastic wall tile).....7c/Ti
MURALEX (glass) 1f/Li
MYERS (pumps) 8b/My

n

NATCO (brick, tile) 1c/Na
NEOTEX (flooring) 7c/Cr
NEU-SANIX (water closets) 9b/Cr
NEUDAY (bats, closets, lavatories)....9b/Cr
NEUVOGUE (bathtubs) 9b/Cr
NEWARK (sink cabinets) 9b/Bri
NITE VENT (awning windows).....5c/Lu

trade names

NITEAIR (attic fans).....8e/La
NOFMA (wood flooring).....7d/Na
NORMAN (fountains) 9b/EL
NOVACRETE (masonry paint).....3a/No
NOVAFILL (masonry treatments).....3a/No
NOVALASTIC (joint fillers).....3a/No
NOVAMIX (admixtures) 3a/No
NOVAPRIME (caulking compounds)...3a/No
NOVAPROOFING (masonry treatments)3a/No
NOVOPLY (plywood) 1d/Un
NOVOPLY (sliding doors).....4b/Men
NOX-EM-ALL (sheathing paper).....2b/Ba
NU GRAIN (asbestos shingles).....2b/Ke
NU-STATIC (asphalt) 2b/FL
NUTONE (fans, door chimes).....8e/Nu

o

OAKWELD (parquet flooring).....7d/Ha
OHIO (bathtubs) 9b/Cr
OILITE (bearings) 6b/Ac
OPAL (galvanized screening).....6b/Ne
OXFORD (closets, lavatories).....9b/Cr

p

PC (glass) 1f/Pi
PGS (heating coils) 8a/Am
PACEMAKER (overhead doors).....4d/At
PALM SPRINGS (lavatories).....9b/EL
PANAL (laminated plastic) 1f/Ame
PANAMOID (roll roofing).....2b/Ba
PANAVIEW (aluminum doors).....4a/Pa
PANAVIEW (sliding windows).....5a/Pa
PANAWALL (plywood panels) 4b/Ro
PANELSTONE (asbestos panels).....2b/Ru
PANELYTE (plastic panels).....7e/Sa
PAPR-LOK (cavity wall cover).....1b/Ho
PARK (sinks) 9b/Un
PARK LEDGE (sinks) 9a/Un; 9b/Un
PARQUETWALL (plywood panels).....1d/Ro
PEBBLEX (glass) 1f/Li
PED-RA-GAL (paint and coating).....1b/Mi
PEERLESS (cabinet hardware) 6a/Kn
PELLA (folding doors) 4c/Ro
PELLA (wood windows) 5c/RoL
PENNTON (urinals) 9b/Bri
PENNVERNON (glass) 1f/Pi
"PENNY PINCHER" (freezer power units) 9a/Ad
PENTECOR (glass) 1f/Mi
PER-FIT (aluminum windows) 5a/Pc
PERM-O-SEAL (sink rims) 9b/Bri
PERMA-CLAD (nails) 2b/Pe
PERMA-GLAZE (glazed tile).....7a/Po
PERMA-STAIN (shingles) 2b/Pe
PERMA-TREATED (wood windows).....5c/Ga
PERMABOARD (wallboard) 2b/Na
PERMALIFE (plastic flooring).....7c/Am
PERMALITE-ALEXITE (perlite aggregates) 1c/Gr
PERMALITE (perlite aggregates) 1c/Gr
PERMALUME (shower doors, enclosures) 9b/Sh
PILGRIM (shingles) 2b/Cr
PINEHURST (lavatories) 9b/EL
PIONEER (kitchen equipment).....9a/Am
PITTCO (glass) 1f/Pi
PLANKWELD (plywood) 1d/Un
PLANKTEX (plywood) 1d/Un
PLASTA-MAID (counter tops).....9a/Ki
PLASTEX (flooring) 7c/Am
PLASTISHADE (shades) 6b/Br
PLIABOARD (wallboard) 2b/Na
PLURALITE (glass) 1f/Mi
PLYALOY (plywood siding).....2a/Sa
PLYBASE (plywood backing).....1d/Un
PLYBASE (plywood panels) 1d/Do
PLYCOR (wood doors) 4b/Ro
PLYFORM (plywood panels) 4b/Ro
PLYFORM (plywood forms).....1d/Do
PLYPANEL (plywood panels) 4b/Ro
PLYPANEL (plywood) 1d/Do
PLYRON (plywood panels).....1d/Do
PLYSCORD (plywood sheathing) 1d/Un; 4b/Ro
PLYSCORD (plywood panels).....1d/Do
PLYSHIELD (plywood panels) ..1d/Do; 4b/Ro
PLYSHIELD (plywood siding) 1d/Un
PLYWEAVE (plywood panels) 4b/Ro
PLYWEAVE (plywoods) 1d/Ma
POINTEX (glass) 1f/Li
PONTIAC (shades) 6b/Br
POOL-A-RAMA (paint and coating)....1b/Mi
POWERAIRE (furnaces) 7c/Ja
POWERAIRE (heating units).....8c/Ja
POWERATED (furnaces) 7c/Ja
POWERATED (heating units) 8c/Ja
PRECIPITRON (air cleaner).....7J/We
PREMIER (aluminum windows) 5a/Pr
PRESCOLITE (lighting fixtures) 8h/Pr
PRESEAL (roof insulation) 3b/Ce
PRESSURE-SEAL (double-hung windows) 5c/An
PRINCE (water closets) 9b/Bri
PRINCESS (sink cabinets) 9b/Bri
PRINCESS (toilet bowls) 9b/Un
PRINCETON (lavatories) 9b/EL
PRISCILLA (lavatories) 9b/EL
PROTEKINSUL (protective coatings)....1b/Mi
PROTEX (fire resistant doors) 4b/Ro
PROVINCETOWN (lavatories) 9b/EL
PRY-LITE (lighting fixtures) 8e/Pr
PRY-LITE (lighting fixtures) 8h/Pry
PRYME-SHAKES (shingles) 2b/Cr
PULFUZSWITCH (electric switches) ...8g/Ad
PULL-TITE (door closers) 6a/Ste
PULVERATOR (garbage disposers) 9a/Giv

q

QUAKERTEX (wall coverings) 7c/Ar
QUICKLAG (panelboards) 8g/Ad
QUIETA (water closets) 9b/EL
QUIETEEZ (door operators) 4d/At
QUIKHETER (electric heaters) 8g/Ad
QUIKONECT (dishwashers) 9a/Hot
QUIKLAG (panelboards) 7g/Ad

r

R. O. W. (wood windows).....5c/Ro
R&M (fans, louvers) 8e/Ro
R-MIR-DEK (adhesives) 6f/Mir
R-MIR-DEK (paint and coating).....1b/Mi
RZU JUNIOR (boilers) 7d/Fi
RAJAH (water closets).....9b/Bri
RANCHER (attic fans) 8e/La
RANCHER (water pump) 9b/Cr
RANCHOME (overhead doors) 4d/At
RAYBAR (reflective insulation).....2c/GL
RAYBELLE (linoleum) 7c/Ar
RAYNOR-ETTE (garage doors) 4d/Ra
REDI-CUBE (refrigerators) 9a/Ge
REGAL (sinks) 9a/Un; 9b/Un
REGLEX (glass) 1f/Li
RELAMP-A-LITE (lighting fixtures) 8h/Pr
RELIANCE (roofing) 2b/FL
REX (roofing felt) 2b/FL
REXALT (roof coating) 2b/FL
REZ (wood sealers) 7g/Mo
REZO (wood doors) 4b/Pa
RHEEMGLAS (water heaters) 8b/Rh
RHINO (adhesives) 7f/Pe
RHODILE (lavatories) 9b/Cr
RIBAC (plank flooring) 7d/Ha
"RITE-ANGLE" (column clamps).....9a/Ho
RIVIERA (bathtubs) 9b/EL
RO-WAY (doors, operators) 4d/Ro
ROCK-FAST (wall ties) 1b/Co
RODDISCRAFT (plywood doors) 4b/Ro
RODDISCRAFT (plywood panels) 1d/Ro
ROL-TOP (overhead type doors) 4d/Ki
ROLL-AWAY (washers) 9a/Cr
ROLSCREEN (screens, windows) 5c/RoL
ROOF-THRU (television distribution)...8i/Mo
ROTBAR (vapor barriers) 2c/GL
ROTO-COLD (refrigerators) 9a/Ge
ROTO-TRAY (dishwashers) 9a/Am
ROTO-VENTILATORS (windows) 5c/Fa
ROYELLE (linoleum) 7c/Ar
RUBEROID (shingles, siding) 2b/Ru
RUSCO (steel windows) 5b/Ru
RUSSWIN (door hardware) 6a/Ru
RUSTICWOOD (plywoods) 1d/Ma

s

S.I.S. (roofing cement) 2b/Ba
SW (gas, oil heaters) 8c/St
SAF-AIRE (gas heaters) 8c/St
SAF-T-LOK (shingles) 2b/Ce
SAFETY-SEALED (gas heaters) 8c/St
SAHARA (closet tanks) 9b/Cr
SALT SPRAY (steel doors and track) ...4d/Ov
SAMPSON (clothesline poles) 1b/Ho
"SAMPSON" (clothesline poles) 9a/Ho
SANUS (water closets) 9b/EL
SATIN-LIKE (wood trim) 7d/Br
SATINE (enamel) 7g/Va
SATINLAC (plywood finishes) 1d/Un
SATINOL (glass) 1f/Li
SAVOY (lavatories) 9b/EL
SCOTT (lavatories) 9b/Bri
SCREW-SEAL (corrosion-proof pipe) ..8a/Ro
SEA SWIRL (plywood) 1d/As
SECURIT (glass) 1f/Li
SELECT-A-TEMP (unit heaters).....8c/Be
SELECT-A-VENT (awning windows) 5a/Un
SELECTEMP (heating system) 8d/Ir
SELECTRIC (water heaters) 9b/Cr
SELECTROL (thermostatic controls)....8c/Se
SERV-CART (cabinet accessories) 9a/Am
SERVEL (air conditioners) 8c/Se
SERVICE-WAY (basement door) 4e/He
SHAD-O-LINE (mouldings) 3d/Up
SHADO-TEX (strip shingles) 2b/FL
SHADOWGRAIN (siding panels) 3b/Ce
SHADOWLAP (siding panels) 3b/Ce
SHADOWOOD (plywoods) 1d/Ma
SHADOWPOINT (roofing) 2b/FL
SHAKE-BACKER (insulating board) 3b/Ar

SHAKERTOWN (shakes) 2b/Pe
SHARONSTEEL (building products) 1e/Br
SHEETFLEXTOS (asbestos sheets) 2b/Ke
SHELVADOR (freezers, refrigerators) 8a/Cr; 9a/Cr
SHINGLE-BACKER (insulating board) ..3b/Ar
SHINGLSTIK (cement) 2b/Ru
SHODOCO (shower stalls) 9b/Sh
SHURLOK (shingles) 2b/FL
SI-VEL (sash balances) 6b/Ze
SILVER-DOOR (jalousie doors) 5d/Un
SILVER LINE (jalousies) 5d/Un
SILVERCOTE (reflective insulation) 3b/Ce
SIMP-L-ON (furring system) 1b/Co
SIMPLEX (casement windows) 5b/Tr
SIMWIC (window screens) 6b/Co
SISALATION (insulation) 2c/Am
SISALKRAFT (building paper) 2c/Am
SKIP-PIPE (clay pipe) 8a/Ro
SKYTEX (glass) 1f/Li
SLIDE VIEW (sliding doors, windows)..4a/SL
SMALMESH (lath) 3d/In
SMOOTH ROUGH (glass) 1f/Mi
SOFTENALL (water softener) 9b/Cr
SONOAIRDUCT (fiber ducts) 8c/So
SOTE (asbestos-cement board) 2c/Ho
SPACEMAKER (refrigerators, ranges)...9a/Ge
SPACE-RITE (clay tile) 7a/Po
SPACE-SAVER (wood closets).....4b/Meg
SPARTAN (urinals) 9b/Bri
SPECIALMESH (lath) 3d/In
SPECIFICATION (built-up roofs) 2b/Ba
SPEEDSTER (ranges) 9a/Ge
SPOTLITE (knobs, plates) 6a/Wa
SPRING-FLO (plumbing fixtures) 8a/Ame
STA-LOCK (shingles) 3b/Ce
STALWART (roofing, sheathing) 2b/FL
STAMINITE (clay pipe) 8a/Ro
STANFLAME (gas-conversion burners) 7d/Am
STAPLE-LOX (shingles) 2b/FL
STATIC (asphalt emulsion) 2b/FL
STATIC-PROOF (floor tile) 7c/Ro
STAY-RIB (lath) 3d/In
STAY-STRATE (flush doors) 4b/Un
STEEL-STRONG (building posts) 1e/Br
STEELTEX (floor lath) 1a/Pi
STEELTEX (lath) 3d/Pi
STERLEX (glass) 1f/Li
STERLING (hardware) 6a/Ste
STEWARDESS (ranges) 9a/Ge
STEWARDESS (sinks) 9b/Cr; 9b/Un
STILEMANOR (locks, latches) 6a/Ru
STONEWALL (asbestos wallboard) 2b/Ru
STORM-WIN (storm windows) 5a/Ar
STRAIGHT-LINE (strip flooring) 7d/Br
STRAITUBE (water heaters) 8d/Th
STRATO-RAY (lighting glass) 8h/Pry
STRATOLINER (ranges) 9a/Ge
STREAMLINE (copper tube and fittings) 8a/Mu
STRI COLOR (asbestos-cement siding) 2b/FL
STRONG-BILT (panels) 2d/Up
STRONGMAN (clothesline poles) 1b/Ho
"STRONGMAN" (clothesline poles) ..9a/Ho
STRUCTURALITE (glass) 1f/Mi
STUDIO (ranges) 8a/Ge
SUBURBAN (overhead doors) 4d/At
SUN-SASH (jalousies) 5d/Su
SUNNYCREST (sinks) 9b/Cr
SUNNYDAY (sinks, boilers) 9b/Cr
SUPER CLIPPER (kitchen blowers).....8e/Tr
SUPER HARBORD (plywood).....1d/Ha
SUPER-SEPTIC (septic tanks).....8b/Ka
SUPERIOR (sash hardware) 6a/Gr
SUPERRIB (weatherstrips) 6b/Ba
SUPER-SEAL (channels, thresholds)....6b/Ba
SUPERMETIC (refrigeration units).....8c/Se
SURE BOND (wall ties).....1b/Co
SURE-LOK (awning windows) 5c/Ro
SURE-SPACE (tile edger).....7a/St
SURFWOOD (plywood panels).....1d/Un
SYLENTA (water closets) 9b/EL
SYNCHRO-ACTUATOR (window operating devices) 5a/Lu

t

TACAMO (water closets).....9b/EL
TAMPA (lavatories) 9b/EL
TANKHEATER (boilers) 7d/Fi
TANKSAVER (boilers) 7d/Fi
TAPERTEX (asbestos-cement siding).....2b/FL
TEL-A-COOK (ranges) 9a/Ge
TEL-A-WASH (dishwashers) 9a/Ge
TEL-O-POST (adjustable reinforcing posts) 1b/CL
TELEX (garbage disposers) 9a/In
TEMBOARD (hardboard) 3b/Ar
TEMLOK (insulating board, lath, etc.) 3b/Ar
TEMPERATOR (refrigerators) 9a/Ge
TEMPLE (plumbing fixtures) 9b/Cr
TEMWOOD (hardboard) 3b/Ar
TENNYSON (lavatories) 9b/Bri
TERMINIX (termite control) 7d/Bru
TERRA-TILE (floor tile).....7c/Ro
TERRY (lavatories) 9b/EL
TEX DRI-WALL (brick, tile).....1c/Na
TEXAS (water closets).....9b/EL
TEXCEN (plywood doors).....4b/At
TEXTOLITE (plastic surfacing) 4b/Ro
TEXTONE (shades) 6b/Br
TEXTURE-ONE-ELEVEN (plywood panels) 1d/Do
THEMETILE (decorative tile) 7c/Ke
THERMASOTE (sheathing) 2c/Ho
THERMO-BASE (warm air baseboards)..9b/Cr
THERMOLOK (closure frames) 5b/Ru
THERMOPANE (insulating glass).....1f/Li
THIKBUT (strip shingles).....2b/FL
3M (adhesives) 7a/Mi
THREE V (varnish) 7g/Va
THRIFTEX (wallboard) 2b/FL
THRIFTMASTER (freezer units).....9a/Hot
THRU-WALL (brick vents).....1b/Ho
THULMAN (chimneys, fireplaces) 8c/Ma; 8f/Ma
TILE-TEX (asphalt floor tile).....7c/Ti
TILT-STOR (freezers) 9a/Ge
TITE-JOINT (wood fasteners) 4b/Ro
TITE-ON (asbestos shingles).....2b/Ru
TOILETTE (urinals) 9b/EL
TONTINE (shade cloth).....6b/Du
TOP-SET (cove base) 7c/Ar
TORONTO (water closets) 9b/EL
TORQUE-BAR (aluminum windows) 5a/Lu
TOWNE (masonry paint).....7g/Na
TOXIK (wood preservative) 7d/Bru
TRADE-WIND (blowers) 8e/Tr
TRAILER (water closets).....9b/EL
TREE LIFE (plywood).....2a/Sa
TRI-SAN (water closets) 9b/EL
TRIMRAD (baseboard radiators) 8d/Wa
TRIP-L-GRIP (joist hangers) 1b/CL
TRIPL-OVEN (ranges) 8a/Ge
TROY (sinks) 8b/Un
TRU-SEAL (windows) 5a/Tru
TRUART (bathroom fittings) 9b/Bri
TUF-FLEX (glass) 1f/Li
TUF-LUSTRE (wax) 7d/Bru
TUFF-TEX (greaseproof flooring).....7c/Ti
TWINDOW (glass) 1f/Pi
TWINSUL (double glazed windows)..5a/Un
TYFRAME (concrete accessories).....1b/Ho
TYHANGER (concrete accessories)....1b/Ho
TYHOLDER (concrete accessories).....1b/Ho
TYSCRU (concrete accessories).....1b/Ho

u

U-R (kitchen equipment) 9a/Un
U-R (plumbing fixtures) 9b/Un
UALCO (aluminum windows).....5a/Un
UNARCO (heating, cooling).....8c/Un
UNIQUE (sash balances).....6a/Un
UNITAIRE (air conditioner) 8c/We
UNIVERSAL (concrete inserts).....1b/Ho
UNIVERSAL (jalousies) 5d/Uni
UNIWALL (facing tile).....1c/Na
UP-SIDE-DOWN (refrigerators) 9a/Ad
USKON (electric radiant heating panel) 8c/Un

v

VB (batt wool) 2b/Ba
VAL-LOG (wood finish).....7g/Va
VAL-OIL (varnish) 7g/Va
VAL-SOLV (thinner) 7g/Va
VAL-SPEED (sealer) 7g/Va
VALASTIC (masonry coating).....7g/Va
VALSPAR (paints, varnishes, enamels) 7g/Va
VAMPCO (aluminum windows).....5a/Va
VANITEE (lavatories) 9b/Un
VELVET (enamel) 7g/Va
VELVET (paint) 7g/Na
VELVET-GLIDE (door locks).....6a/Co
VELVEX (glass) 1f/Li
VEN-TROL-GEAR (vent panel hardware) 6a/Gr
VEN-TROL-HINGE (sash hinges) 6a/Gr
VENKO (boilers) 8d/Wa
VENTAIR (ventilation windows).....5c/Wo
VENTLOCK (window operator locks) ..5a/Na
VENTO (windows) 5b/Ve
VENTO CHAMPION (basement windows) 5b/Ve
VIEWALL (window walls).....5a/ALw
"VIEWMASTER" (combination storm and screen doors) 6b/Kau
VILLA (overhead doors).....4d/At
VISKALT (roofing felt).....2b/FL
VISQUEEN (vapor barriers).....3a/Vi
VISTA-WALL (aluminum windows) ...5a/AL
VIT-ROCK (water heaters) 8b/Co
VITACHROME (greaseproof flooring)...7c/Ti
VITRITILE (glazed tile).....1c/Na
VITROLITE (structural glass).....1f/Li
VOLITE (enamel) 7g/De

w

WACO (water closets).....9b/EL
WAKELY (lavatories) 9b/Un
WALKOVER (roll roofing).....2b/Ba

trade names

WALL-FEED (television distribution)...8i/Mo
WALLHIDE (glass) 1f/Pi
WALVORTEX (water closets).....9b/EL
WARETITE (jalousie windows, doors)..5a/Wa
WARRIOR (water heaters).....8b/Rh
WASHINGTON LINE (cabinet hardware) 6a/Wa
WASTE KING (garbage disposers) 9a/Giv; 9b/Cr
WATERFILM (boilers) 8d/Wa
WATERMIXER (water mixers).....7d/Be
WAVELINE (asbestos-cement siding)...2b/FL
WAYNE (lavatories) 9b/Un
WEATHERMAKER (air conditioners) ...8c/Ca
WEATHERMAN (louvers) 1b/Ho
WEATHERWEAR (flooring) 7c/Cr
WELD-ON (roofing cement).....2b/FL
WELDBOARD (plywood) 1d/Un
WELDTEX (plywood) 1d/Un
WELDWOOD (fire doors) 4b/Un
WELDWOOD (plywood) 1d/Un
WESTCHESTER (bathtubs) 9b/EL
WESTLAND (lavatories) 9b/Cr
WHITE 4 EVR (paint).....7g/Va
WHITMAN (lavatories) 9b/Bri
WHITTIER (lavatories) 9b/Bri
WIDELITE (garage doors).....4d/At
WILSON (lavatories) 9b/EL
WIND-O-LUME (metal awnings).....7b/Me
WINDALUME (aluminum windows) ..5a/Win
WINDOWALL (wood windows) 5c/An
WINDOWMASTER (awning windows) 5a/Win
WONDER-I-COAT (house paint).....7g/De
WONDERAIR (air conditioners).....8c/Se
WOOD-GLU (adhesives) 6f/Mir
WOODPANEL (panels) 7e/Ma
WOODTEX (shingles) 2b/Ce

y

YEARS AHEAD (air conditioning units) 8c/He
YORKER (sinks) 9b/Bri
YORKSHIRE (lavatories) 9b/Cr
YORKTOWN (shingles) 2b/Cr

z

ZEPHAIR (fans) 8e/Hu
ZEPHYR (overhead doors).....4d/At
ZEPHYR (shingles) 2b/Cr
ZONOLITE (lightweight aggregates) ..3d/Zo
ZONOLITE (vermiculite aggregate)...2c/Zo

structural systems and materials

section 1

structural systems a

building specialties b

masonry c

wood and wood treatments d

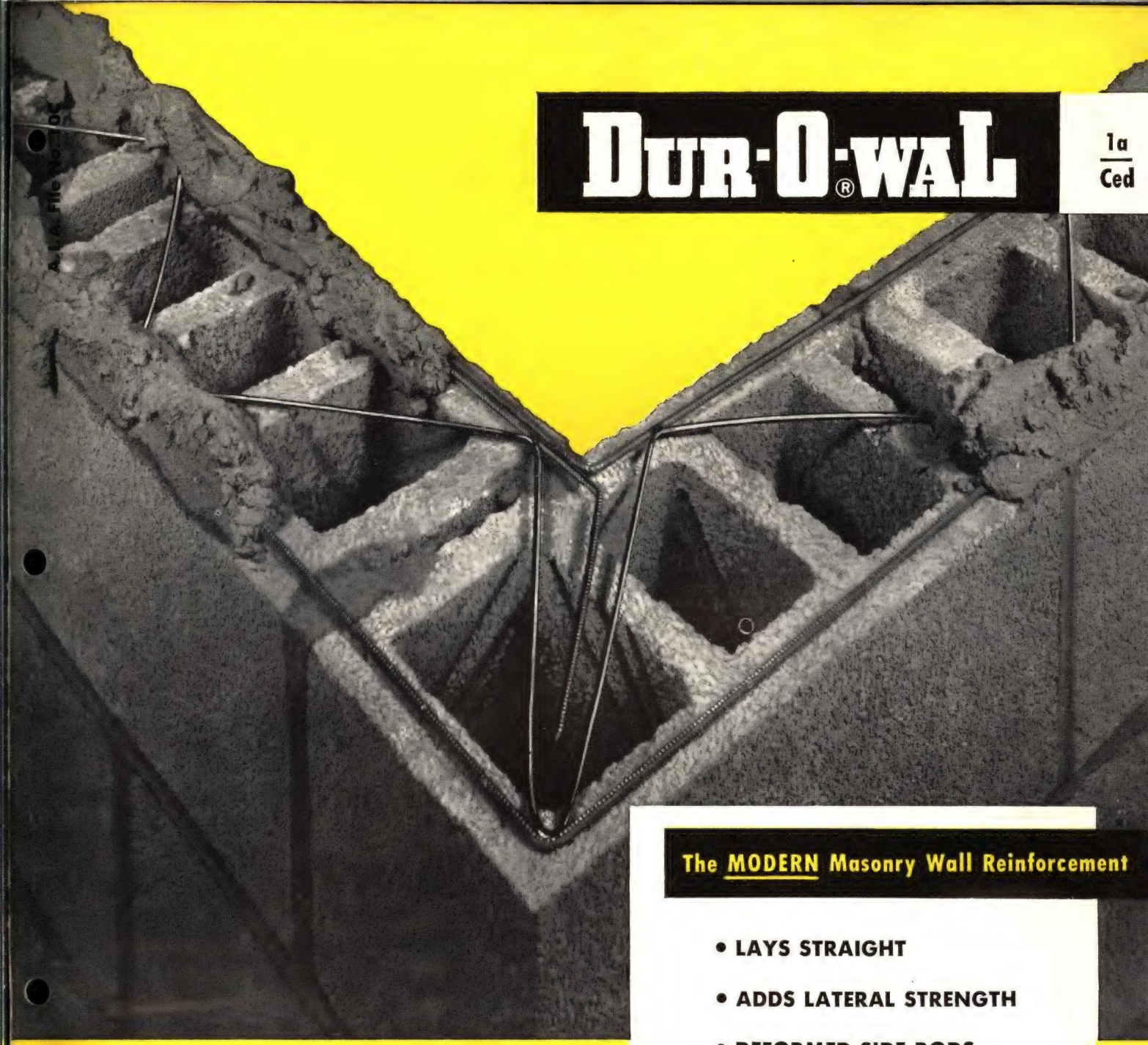
metals e

glass and plastics f

LC

DUR-O-WAL®

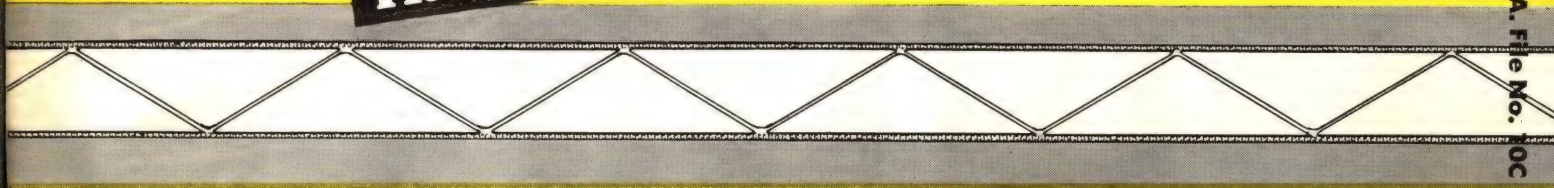
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The MODERN Masonry Wall Reinforcement

- LAYS STRAIGHT
- ADDS LATERAL STRENGTH
- DEFORMED SIDE RODS
- PREVENTS CRACKS

Butt Weld
TRUSSED DESIGN



A.I.A. File No. 10C

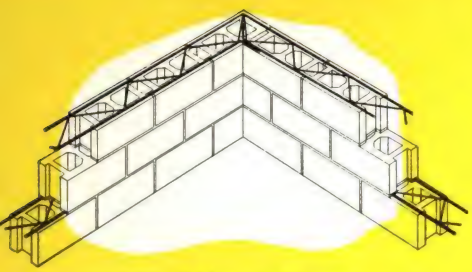
FEATURES
SPECIFICATIONS
TECHNICAL DATA

Butt Weld **DUR-O-WAL** WITH **TRUSSED** *Design*

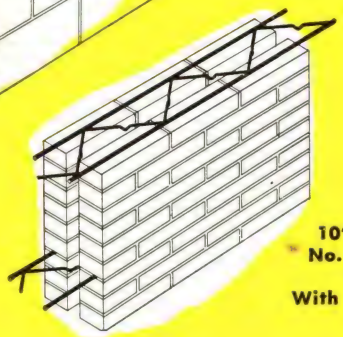
. . . The Backbone of Steel



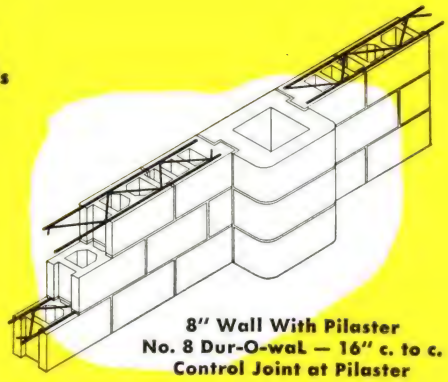
10" Cavity Wall
No. 10 Dur-O-waL
16" c. to c.
With Drip Cross Rods



8" Wall Showing Corner
No. 8 Dur-O-waL
16" c. to c.

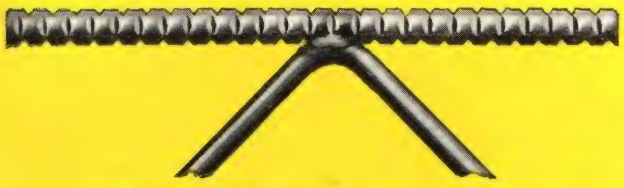


10" Cavity Wall
No. 10 Dur-O-waL
16" c. to c.
With Drip Cross Rods



8" Wall With Pilaster
No. 8 Dur-O-waL — 16" c. to c.
Control Joint at Pilaster

DUR-O-WAL FEATURES and SPECIFICATIONS

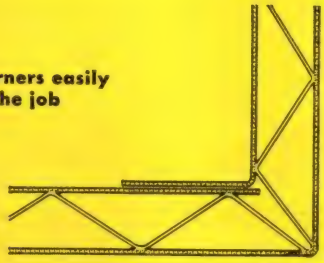


● **Actual size Extra Heavy Dur-O-waL section illustrating deformed side rod with electric butt weld.**



Exclusive Trussed Design for maximum lateral strength.

Fast, strong corners easily fabricated on the job





Full 6 inch lap at the splices maintains reinforcing continuity.



Drip-Section Dur-O-waL for cavity wall construction.

DUR-O-WAL Butt Weld Trussed Design reinforcement is the patented steel reinforcing member designed to give greatest possible lateral strength to masonry walls and prevent the development of costly, unsightly cracks.

It is manufactured from high tensile steel rod, deformed and electric butt welded on modern automatic machinery to assure a uniform quality product.

Its low cost, practical design, and proved performance combined with nation-wide distribution have resulted in DUR-O-WAL being specified by architects and builders for all types of masonry wall construction.

PROVED ADVANTAGES

- **Mechanical bond every 8 inches of wall**
- **Two mortar locks at each weld**
- **Deformed side rods lay straight and flat**
- **Electric butt welds place all rods on a single plane**
- **Trussed design causes side rods to work together**
- **High tensile steel 100,000 p.s.i.**
- **10 foot lengths for easy handling**
- **6 inch lap at splices maintains reinforcing strength**
- **Deformed side rods for maximum bond strength**
- **Makes possible the maintenance of uniform mortar joints**

DUR-O-WAL DESCRIPTION

Extra Heavy DUR-O-WAL is manufactured with 3/16 inch (.1875) Side Rods and No. 9 (.1483) Cross Rods.
Standard DUR-O-WAL is manufactured with No. 9 (.1483) Side Rods and No. 9 (.1483) Cross Rods.

SELECTION TABLE

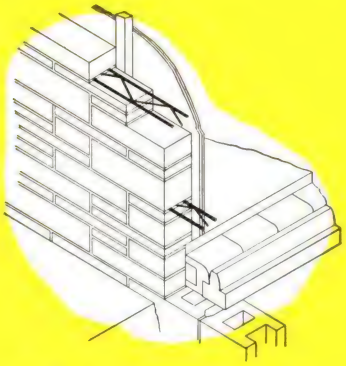
Wall thickness	4 in.	6 in.	8 in.	10 in.	12 in.	13 in.
Extra Heavy Dur-O-waL	4-EH	6-EH	8-EH	10-EH	12-EH	13-EH
Wt. per 1000 lin. ft.	252#	255#	262#	271#	282#	288#
Standard Dur-O-waL	4-S	6-S	8-S	10-S	12-S	13-S
Wt. per 1000 lin. ft.	181#	184#	192#	201#	212#	218#

Also furnished in galvanized steel (galvanized rods or galvanizing after forming).
All Dur-O-waL reinforcements are manufactured in 10 foot lengths and packaged in bundles containing 500 lineal feet.
Specify Drip Section Dur-O-waL for Cavity Walls.

for Every Masonry Wall

DUR-O-®WAL

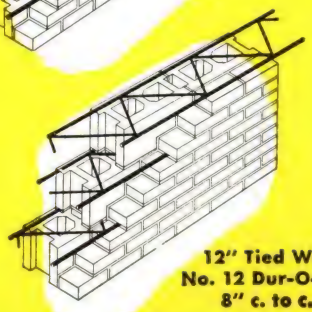
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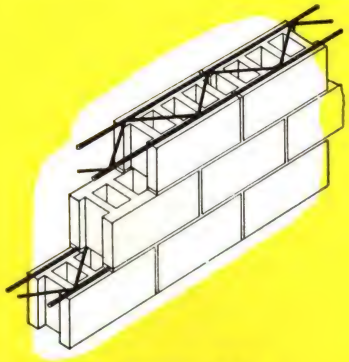
6" Coursed Masonry Wall
No. 6 Dur-O-waL — 16" c. to c.



12" Bonded Wall
No. 12 Dur-O-waL
16" c. to c.



12" Tied Wall
No. 12 Dur-O-waL
8" c. to c.



8" Masonry Wall
No. 8 Dur-O-waL
16" c. to c.



12" Wall
Stacked Coursing
No. 12 Dur-O-waL
8" c. to c.

TECHNICAL DATA

● From Research Studies on Dur-O-waL—By A. R. Livingston, Ass't Professor School of Engineering—Iowa State College—Ames, Iowa.

Bonding Values for High Tensile Wire Used in Dur-O-waL with Class A and B Mortars. All Specimens were embedded in 3" x 12" mortar cylinders and cast vertically.

CLASS A MORTAR—1:¼:3 A.S.T.M. SPECIFICATION—2500 p.s.i.
Average strength for all test specimens—3750 p.s.i.

Type Wire	Ultimate Load #s	Bond Stress p.s.i.	Tensile Stress p.s.i.
Galvanized*	1370	197	49,500
Plain*	1600	230	58,000
Knurled**	2850	420	103,000

*Failure when first slip recorded at unloaded end.
**All rods broke before bond capacity was completely developed.

CLASS B MORTAR—1:1:6 A.S.T.M. SPECIFICATION—750 p.s.i.
Average strength for all test speciments—1040 p.s.i.

Type Wire	Ultimate Load #s	Bond Stress p.s.i.	Tensile Stress p.s.i.
Galvanized*	1120	160	40,500
Plain*	880	126	32,000
Knurled*	1580	227	57,000

*Failure when first slip recorded at unloaded end.

DUR-O-WAL designed double mortar lock, welded connection when incorporated in pull test specimens developed a tensile stress of 68,000 p.s.i. for Class A Mortar and 32,500 p.s.i. for Class B Mortar. In above test, bond on side rod was broken by a heavy coat of grease leaving mortar lock to take all of applied load.

NOTE—These values, together with tensile stress values in table above, will aid in arriving at proper lap at splices for reinforcing continuity.

High tensile wire used in above test was taken from manufactures stock and had a tensile strength of 103,000 p.s.i. actual test.

RESEARCH ON DUR-O-WAL AND ITS USES IS CONTINUOUS
WRITE FOR CURRENT INFORMATION.

COMPARATIVE STRENGTH

DUR-O-WAL is stronger than ordinary reinforcing bars. It is made of high tensile steel conforming to ASTM A82-34. The trussed design and deformed side rods provide an additional mechanical bond. DUR-O-WAL is engineered to develop maximum strength within a 3/8 inch mortar joint.

	Area	*Tensile Strength*
Two 1/4 in. round bars, 55,000 lb. steel	.0982	5401 lb.
Standard DUR-O-WAL: 3 No. 9 Rods, 100,000 lb. steel	.0518	5181 lb.
Extra Heavy DUR-O-WAL: Two 3/16 in. Rods and One No. 9 Rod, 100,000 lb. steel	.0724	7247 lb.

CAVITY WALL TIES

Codes generally call for a minimum of one 3/16 in. tie for each 3 sq. ft. of wall. DUR-O-WAL exceeds this requirement and provides maximum anchorage with positive and uniform spacing of ties.

COMPARISON TABLE VARIOUS TYPE TIES

Type	*Spacing*	*Cross Section Ties per sq. ft. wall*
Z-Bars	1 for each 3 sq. ft.	.009 sq. inches
Rectangular	1 for each 3 sq. ft.	.0184 sq. inches
U-Bars	1 for each 3 sq. ft.	.0184 sq. inches
DUR-O-WAL	Spaced 16 in. o.c. vertically	.0207 sq. inches

DUR-O-WAL for Cavity Walls is furnished with steel side rods and galvanized cross rods, or with all steel completely galvanized.

SUGGESTED JOINT REINFORCEMENT SPECIFICATIONS

1. Joint reinforcement shall be Dur-O-waL or equal and snall conform with all material requirements and physical characteristics of the current ASTM Standards: These Standards are:

Standard Specifications for Cold-drawn Steel Wire for Concrete Reinforcement ASTM Designation: A82-34.

Minimum Requirements for the Deformations of Deformed Steel Bars for Concrete Reinforcement ASTM Designation: A305-50T.

2. Joint reinforcement (Dur-O-waL) shall be manufactured and furnished in strict accordance with the following:

A—Side rods shall be deformed and shall conform in general with Minimum Requirements for the Deformation of Deformed Steel Bars ASTM A305-50T, more specifically described as follows:

a—Deformations shall be spaced along the bar at substantially uniform distances. The deformations on opposite sides of the bar shall be similar in size and shape.

b—The perimeter of the bar shall be marked with four distinct deformations. The overall length of deformations shall be such that the summation of gaps between ends of the deformations shall not exceed 25% of the nominal perimeter.

c—The average spacing between each set of deformations shall be approximately .7 of the nominal diameter of the bar, or not less than eight sets per inch; thus forming 32 separate and distinct deformations per inch.

d—The height, and/or depth, of deformations shall be .031 inches for 3/16" rods and .024 inches for No. 9 rods.

B—Joint reinforcement shall be of truss design with side and center rods electrically butt welded so as to place all rods in a singie plane.

C—Center rod shall be continuous throughout, alternating from side to side, forming a double mortar lock at each weld at eight inch centers along the assembly. Note — the center rod thus spaced will serve not only as a spacer between side rods, but will act as a third tensile member of the assembly.

D—Joint reinforcement shall be delivered to the job in 10 ft. lengths and packaged in bundles of 500 lineal feet. All bundles shall be properly tagged and clearly display the manufacturer's label. No substitute material shall be allowed without complete evidence that said material will comply with all of the requirements as noted and set forth in these specifications.

DUR-O-WAL Suggested General Specifications for Joint Reinforcement in Masonry Walls

EXTERIOR WALL BEARING CONSTRUCTION AND NON-BEARING ENCLOSURE WALLS OF MASONRY shall be reinforced with *Standard* or *Extra Heavy* weight deformed DUR-O-WAL.

NOTE — In determining whether to specify *Standard* weight or *Extra Heavy* weight DUR-O-WAL, comparisons in following table should be properly evaluated:

	Weight lbs. tensile steel per lin. ft.	*Surface bond area-sq. in. per lin. ft.*	*Number of mortar locks per lin. ft.*
Standard weight DUR-O-WAL	0.19	11.18	3
Extra Heavy DUR-O-WAL	0.26	14.14	3

Joint reinforcement — DUR-O-WAL — shall be placed in first and second bed joints (8" centers) immediately below window sills and first and second bed joints (8" centers) above window lintels and every second bed joint (16" c to c) throughout remainder of building. Joint reinforcement shall be wide enough to bridge air space and shall be 2 inches less in width than the nominal thickness of the wall. Minimum mortar coverage on exterior exposed face of wall shall be not less than 3/4". Reinforcement shall be lapped sufficiently at splices to insure continuity and corners shall be cut and bent as shown in details.

Where control joints are incorporated in design of exterior walls, the spacing and location of joint reinforcement will vary depending on the spacing of control joints. Where control joints are more than 15 feet apart, the spacing requirements of general specifications above, shall apply. Where control joints are less than 15 feet apart, reinforcement shall be placed in first and second bed joints below window sill and in first bed joint above window lintel. In all cases reinforcement shall extend to control joint.

EXTERIOR FILLER WALLS IN CONCRETE FRAME CONSTRUCTION, where spandrel beams between columns serve as lintels over openings, shall be reinforced with Standard or Extra Heavy Deformed DUR-O-WAL in first and second bed joints (8" c to c) immediately below window sill and every second course (16" c to c) throughout remainder of masonry area.

MASONRY WALLS OF STACKED COURSING OF THROUGH WALL UNITS OR STACKED COURSING OF BRICK NOT BONDED TO BACKUP — shall be reinforced with Standard or Extra Heavy Deformed DUR-O-WAL placed in every course (8" c to c) and shall be wide enough to extend to within one inch of both exterior and interior faces of wall.

CAVITY WALLS shall be reinforced in same manner as for Exterior walls of wall bearing construction (above), except that diagonal rods that serve as ties shall be formed with a drip and shall be of non-corrosive metal (galvanized).

INTERIOR PARTITIONS AND NON-LOAD BEARING WALLS shall be reinforced with Standard or Extra Heavy Deformed DUR-O-WAL placed in alternate bed joints 16" c to c.

NATION-WIDE DISTRIBUTION FROM PRINCIPAL CITIES FROM COAST TO COAST

No Waste No Tangle



DUR-O-WAL is manufactured in 10 foot lengths and shipped in easy to handle bundles containing 500 lineal feet.

Factories at . . .

CEDAR RAPIDS, IOWA
DUR-O-WAL Division, Dept. 650
Cedar Rapids Block Co.
Cedar Rapids, Iowa

SYRACUSE, NEW YORK
DUR-O-WAL Products, Inc.
P.O. Box 628
Syracuse 1, New York

PHOENIX, ARIZONA
DUR-O-WAL Division
Frontier Manufacturing Co.
Phoenix, Arizona

BIRMINGHAM, ALABAMA
DUR-O-WAL Products of Ala., Inc.
P.O. Box 5446
Birmingham 7, Alabama

TOLEDO, OHIO
DUR-O-WAL Products
P.O. Box 277, Sta. "A"
Toledo 5, Ohio

Butt Weld
DUR-O-WAL
with TRUSSED design

The Backbone of Steel for Every Masonry Wall

PRINTED IN U.S.A.



SKYSCRAPER

construction for every building

with

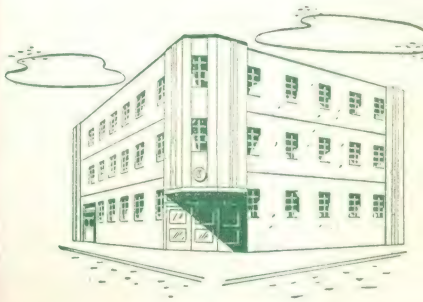
J&L junior beams

the lightest hot rolled steel structural . . . .





SCHOOLS



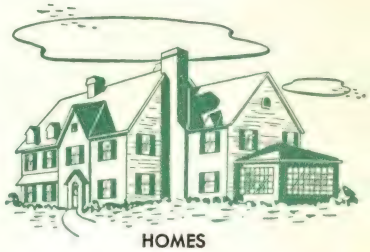
OFFICE BUILDINGS



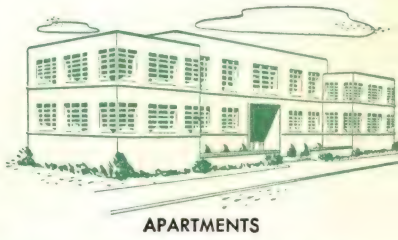
INDUSTRIAL BUILDINGS



HOSPITALS



HOMES



APARTMENTS

JONES & LAUGHLIN STEEL CORPORATION

PITTSBURGH 30, PA.

J&L STEEL

FOR PERMANENCE

in building construction — J&L junior beams.....



Junior Beam floor joists in this large apartment project in Pittsburgh, Pa. are easily, rapidly, and accurately positioned.

Here's what Junior Beams mean...

to the owner

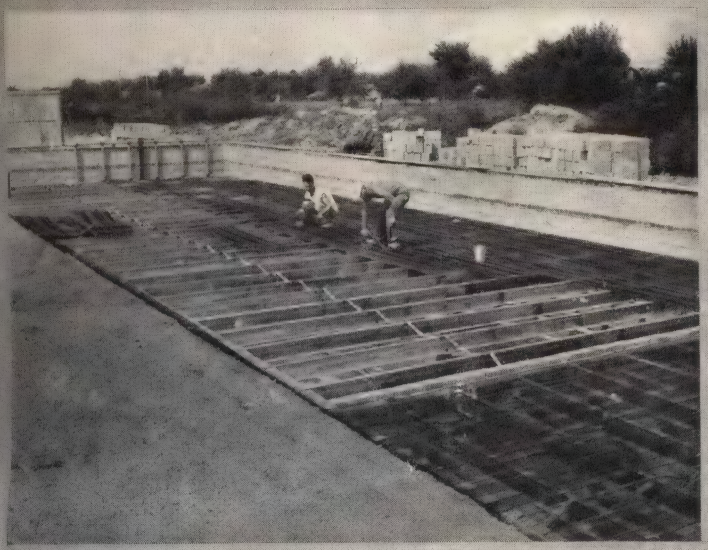
Junior Beams mean exceedingly strong floors and roofs requiring minimum maintenance and repair, effective protection against fire, termites and vermin—a long lasting and sound investment.

to the architect

Junior Beams can be easily adapted in fabrication to meet varying conditions, alleviating standardization and providing more flexible design features.

to the contractor

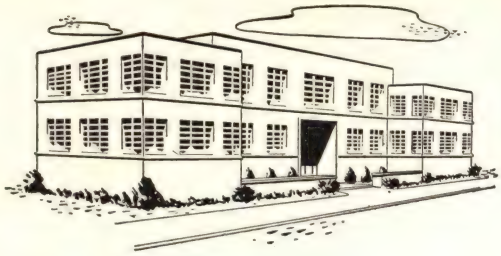
Junior Beams mean low construction costs and fast steel erection, since they are light and easy to handle. And because Junior Beams are readily available from warehouse stocks, delays commonly associated with obtaining made-to-order structural members are eliminated.



Junior Beam joists in this Cleveland, Ohio, school building were quickly erected, top lath placed as shown here, and concrete slab poured. No complicated form work was necessary.



After Junior Beams are positioned they are held rigid in a vertical position by light gauge steel bridging. The bridging is made in variable lengths adjustable to required spacing. This is a school building under construction at Brunswick, Ohio.

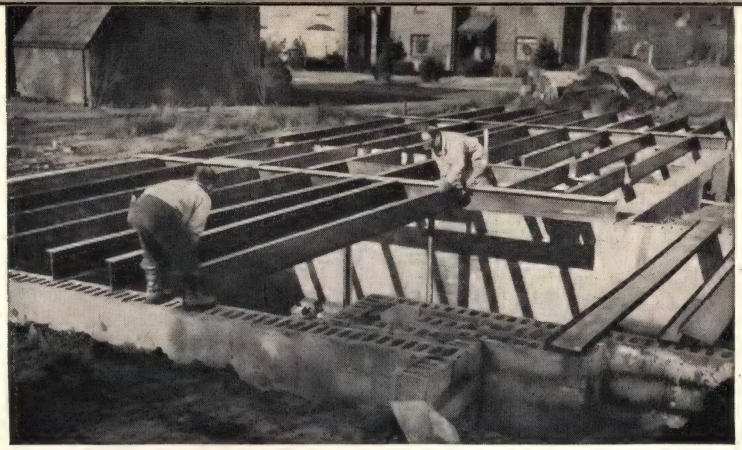


The acceptance of Junior Beams and structural material is reflected in widespread specifications by architects, builders and structural engineers throughout the country.

Junior Beams are the lightest weight hot rolled beams manufactured. Their dimensions fully comply with the minimum thickness specifications of the American Institute of Steel Construction, Section 18, dated June 1949. These specifications are adopted in whole or in part by practically all building codes in the country.

Junior Beams play a vital role in the modern trend toward wider use of light steel sections for greater serviceability and permanence in building construction.

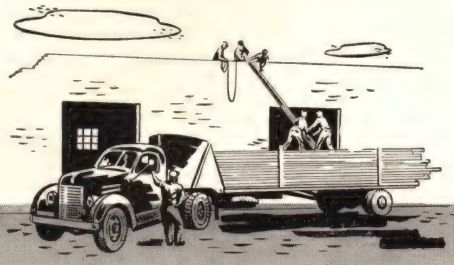
Table of spacing is on following page.



Because of their light weight, Junior Beams are easy to place in position with ends resting on the foundation walls and on the main carrying member. Flat flange beams eliminate need for end fabrication and make spacing convenient.



This modern school building uses Junior Beam roof purlins. Placing and bolting spacers between the Junior Beams gives the roof greater rigidity. Because of their light weight Junior Beams are easily handled.





Junior Beam purlins support the roof of this industrial building in Warren, Ohio. Their light weight facilitates handling during fabrication and erection. One 10" purlin, 16' long weighs less than 150 lbs. The safe load uniformly distributed for this beam is over 3 tons, laterally supported.



Junior Beam purlins can be bolted into final position as part of a continually progressing system of erection. No secondary positioning and welding operations were required in erection of above building.

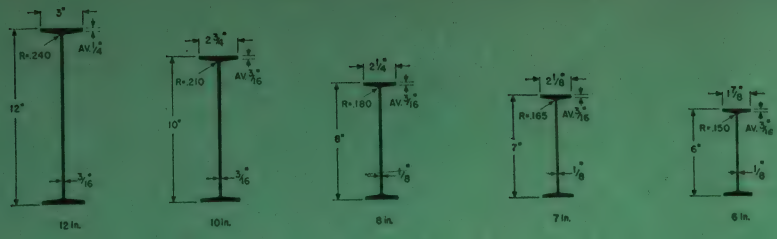


table of spacings *

TOTAL SAFE LOADS FOR J & L JUNIOR BEAMS

FIBER STRESS—20,000 POUNDS PER SQUARE INCH

span of beam	depth of beam	total safe uniform load on beam pounds	TOTAL LOAD PER SQUARE FOOT AND SPACING OF JUNIOR BEAMS IN INCHES															coefficient of deflection
			50 lb.	60 lb.	70 lb.	80 lb.	85 lb.	90 lb.	95 lb.	100 lb.	105 lb.	110 lb.	115 lb.	120 lb.	130 lb.	140 lb.	150 lb.	160 lb.	
26'-0"	12"	6158	56½	47	40½	35½	33	31½	30	28	27	25½	24	23	21½	20	19	17½	13.99
25'-0"	12"	6404	61	51	44	38½	36	33½	32	30½	29	27½	26½	25½	23	21½	20½	19	12.94
24'-0"	12"	6671	66½	55½	47½	41½	39½	37	35	33	31½	30	29	27½	25½	23½	22	20½	11.93
23'-0"	12"	6961	72	60½	51½	45½	43	40½	37½	36	34½	32½	31½	30	27½	25½	24	22½	10.95
22'-0"	12" 10"	7277 4716	79 51	66 42½	56½ 36½	49½ 32	46½ 30	43½ 28	41½ 27	39½ 25½	37½ 24	36 23	34 22	32½ 21	30½ 20	28 18	26 17	25 16	10.02
21'-0"	12" 10"	7623 4940	87 56½	72½ 47	62 40½	54½ 35½	51 33	48 31	46 29	43 28	41½ 26½	39½ 25½	37½ 24	36 23	33 21½	31½ 20	29 19	27 18	9.13
20'-0"	12" 10"	8004 5186	96 62	80 51½	68 44½	60 39	56½ 36½	53 34½	50½ 32½	47½ 31	46 29	43 28	41½ 26½	40 25½	36½ 24	34 22	32 20½	30 19	8.28
19'-0"	12" 10"	8426 5459	106½ 69	89 57	76 49½	66½ 42½	62½ 40	59 38	56 36	53 34½	50½ 32½	48 31	46 30	44 29	41 26½	38 24	35½ 22½	33 21½	7.47
18'-0"	12" 10" 8"	8894 5763 3445	118½ 76½ 46	99 63½ 38	84 55 32½	74 47½ 29	70 45 27	66 42½ 25½	62½ 40½ 24	59 38 22½	56½ 36½ 21½	53½ 35 20½	51½ 33 20	49½ 32 19	45½ 30 17½	42 27 16	39 25½ 15½	37 24 14	6.71
17'-0"	12" 10" 8"	9417 6102 3647	133 86 51½	111 71½ 42½	95 61½ 36½	83 54 32	78 50½ 30	73½ 47½ 28	70 45½ 27	66½ 43 25½	63 41 24	60 38½ 23	57½ 37 22	55½ 35½ 21½	51 33 20	47 30½ 18	44 29 17	41½ 26½ 16	5.98
16'-0"	10" 8" 7"	6484 3876 2876	97 58 43	81 48 35½	69½ 41 30½	60½ 36½ 26½	57 34½ 25½	53½ 32 23½	51 30½ 22½	49 29 21½	46 27½ 20½	44 26½ 19	42 25 19	40½ 23½ 17½	37 22 16½	34 20½ 15½	32 19 14	30 18 13	5.30
15'-0"	10" 8" 7"	6916 4134 3068	111 66 49	92 55 41	79 47 35	69½ 41 30½	65 39 29	61½ 36½ 27	58 35 25½	55½ 33 24	52½ 31½ 23	50 30 22	48 29 21	46 27½ 20½	42½ 25½ 19	39 23 17	36½ 22 16	34 20½ 15	4.66
14'-0"	10" 8" 7" 6"	7409 4429 3287 2307	126½ 76 56½ 39½	105½ 63 46½ 32½	90½ 54½ 40½ 28	79½ 47 35½ 24½	74 44½ 33 23	70 42 31 22	66½ 40 29 20½	63 37½ 28 20	60½ 36 26½ 19	57½ 34½ 25½ 17½	55 32½ 24 17	52½ 31½ 23 16	48½ 29 21½ 15	45½ 27 20 14	42 25 18½ 13	39 23½ 17½ 12	4.06
13'-0"	10" 8" 7" 6"	7979 4771 3541 2484	146½ 88 65½ 46	122 73 54 38	105½ 62½ 46½ 33	92 55 41 27½	86½ 51½ 38 26½	82 49 36 25½	77½ 46 34½ 23½	73 43½ 32½ 22½	70 42 31 21½	66½ 40 29 20½	64 38 28 20	61 36½ 27 19	56½ 34 25 17½	52½ 31 23 16	49 29 21½ 15	46 27 20½ 14	3.50
12'-0"	8" 7" 6"	5167 3835 2692	103 76½ 54	86 63½ 45	74 54½ 38	64½ 47½ 33	61 45 31½	57 42½ 30	54½ 40 28	51½ 38 26½	49 36½ 25½	46½ 35 24	45 33 23	43 31½ 22	40 29 20½	36½ 27 19	34 25½ 17½	32 23½ 16½	2.98
11'-0"	8" 7" 6"	5637 4184 2936	123 91 64	102 76 53	87½ 65½ 45½	76½ 56½ 40	72½ 54 37½	68 50½ 35½	65 48 34	61½ 45½ 32	58 43 30½	55½ 41 29	53 39 28	51 36 26½	47 35 24	43½ 32½ 22½	41 30 21	38 28 20	2.51
10'-0"	8" 7" 6"	6202 4603 3229	148½ 110 77	123 91½ 64	106½ 78½ 55½	93 69 48	87½ 64½ 45½	82½ 61 43	76 58 40½	74 55 39	71 52 36½	67½ 50 35	64 48 34	62 46 32	57 42 30	53 39½ 27½	50 36½ 25½	46½ 34 23½	2.07
9'-0"	7" 6"	5114 3588	136½ 95½	113 79	97 68	85 59	80 56	75½ 53	71½ 50	68 48	65 45½	62 43	59 41½	56½ 40	52 36½	49 34	45½ 32	42 30	1.67
8'-0"	7" 6"	5753 4037	172½ 121	144 101	123 86½	107½ 75½	102 71	96 67	91 64	86 60	82½ 57½	78 55	74 52½	71½ 50½	66 46½	61½ 43	57 40	53½ 37½	1.33

* In designing Junior Beam Floors, bear in mind that the use of the deepest Junior Beam at the widest spacing will provide a floor having the least amount of steel per square foot.

Loads given above are for beams braced against lateral deflection.

To find the vertical deflection for loads given above divide the Coefficient of Deflection by the depth of beam.

Deflections for loads less than shown in table are directly proportional to the load.

Where plastered ceilings are used, the deflection should not be greater than 1/360 of the span based on live load only.

Dead loads will average 40 lbs. per sq. ft. for a 2" slab including 10 lbs. for a plastered ceiling. If a heavier slab is used, add 12 lbs. per inch of concrete.

JONES & LAUGHLIN STEEL CORPORATION
PITTSBURGH 30, PA.



Readily Transported



Easily Handled



For Single or Multi-Story Construction

LITH-I-BAR JOIST

GIVES YOU ALL THE ADVANTAGES OF CONCRETE IN ITS MOST USABLE FORM

A SCHOOL IN WASHINGTON



Architects: Jones & Bindon, Seattle
Engineers: M. O. Sylliasen & Assoc., Seattle
Gen'l Contractor: Ralph Chisholm, Bellingham
Joists by: Olympian Stone Co., Seattle

A MICHIGAN WAREHOUSE



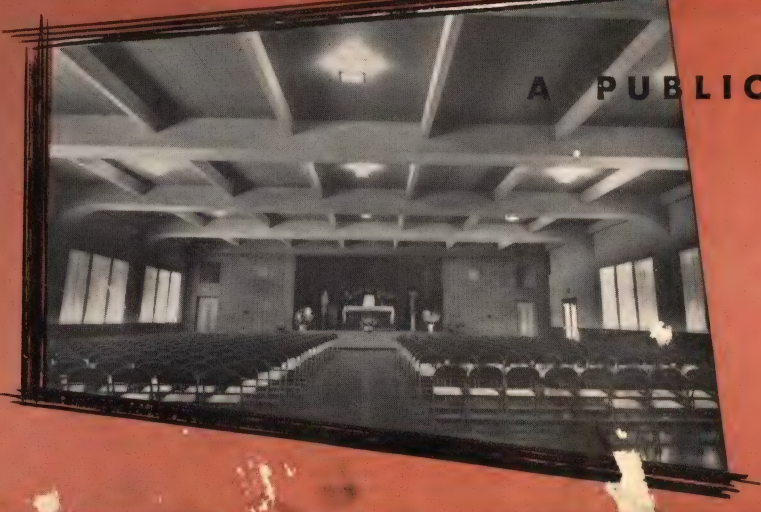
Architects: Frantz & Spence, Detroit
Gen'l Contractor: Arthur Vollmer Constr. Co., Detroit
Joists by: Precast Industries, Kalamazoo

THE NEWEST INDIANAPOLIS SCHOOL



Architect: Edward D. James, Indianapolis
Gen'l Contractor: Berling & Sons, Indianapolis
Joists by: General Dredging Co., Inc., Fort Wayne

A PUBLIC AUDITORIUM



Architects: Johnson & Boutin, Washington
Engineer: Bernard F. Locraft, Washington
Gen'l Contractor: Joseph F. Nebel Co., Washington
Joists by: Formigli Corporation, Philadelphia

LITH-I-BAR FLEXIBILITY ALLOWS FOR UNLIMITED APPLICATION

UNPARALLELED SPEED IN CONSTRUCTION

Machine made to exact dimensions, Lith-I-Bar Joist is delivered to the job-site ready for erection. Special end sections are designed for your particular application and allow for either welded or monolithic joining to the rest of the structure. Thus, a three or four man crew, using a light crane can rapidly place the Joist without shoring or forming.

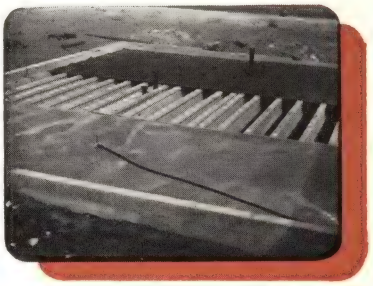


LOW COST AND LASTING ECONOMY

Economical, fireproof floors and roofs become an actuality when you specify Lith-I-Bar Joist. Widely used in conjuction with either precast slabs or poured concrete*, Lith-I-Bar has been furnished on projects for as little as $.09 per square foot.

Since Lith-I-Bar is truly lightweight, averaging between 33 and 40 pounds per square foot, it also offers economies through a reduction in the required size of footings, columns and beams . . . an especially important factor in multi-story construction.

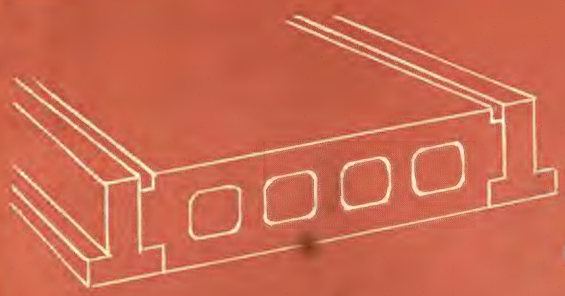
*Lith-I-Bar Joist permits the use of a thin slab (2″ to 2½″) and the joist will also carry either the forming or the fibre-backed steel mesh used when poured concrete is used. This greatly reduces the volume of concrete to be handled in the field and, by eliminating the usual forest of shoring, allows the other building trades to continue their work while floors or roofs are being completed.



MORE SIMPLE CONSTRUCTION AND EASIER MAINTENANCE

By eliminating the need for plastered ceilings, Lith-I-Bar Joist greatly simplifies the design and construction of fireproof buildings. By painting the smooth, machined surfaces of the joist, you accomplish a bright finished interior that is durable and requires a minimum of maintenance throughout the life of the building.



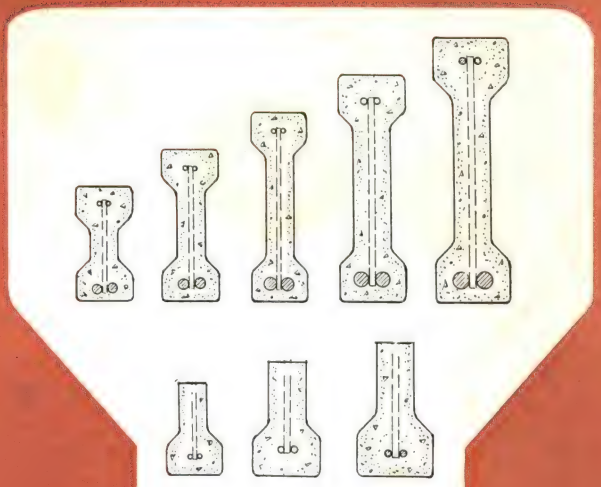


LITH-I-BAR JOISTILE SYSTEM

For fast, low-cost, all-weather construction, Joistile offers utmost simplicity and economy. These lightweight components are designed for use in spans up to 16′ and produce a finished floor, including a 2½″ poured slab, having a total thickness of 8″, fitting standard module concrete masonry construction. The lower surface is designed to provide a level surface for plaster or may be left exposed and painted. Hollow cores are adaptable to forced air radiant heating and the surface slab will readily accept conduit and pipe for service connections.

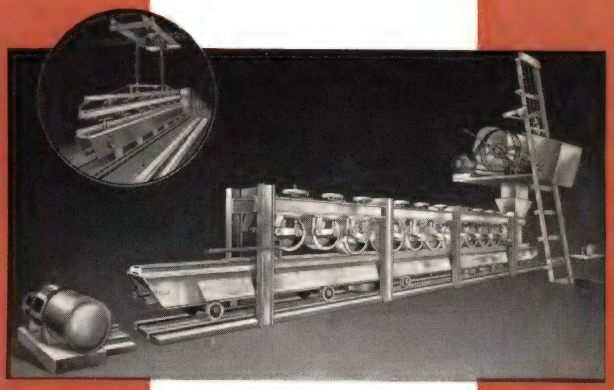
A COMPLETE RANGE OF SIZES

Available in standard sizes from 6″ to 14″, and in lengths up to 40′, Lith-I-Bar Joist gives the designer almost unlimited range. Long, clear span construction is easily accomplished for auditoriums, stores, schools and a wide variety of commercial and institutional buildings where uninterrupted floor space is highly desirable.



MACHINE-MADE FOR PRECISION UNIFORMITY AND QUALITY

Lith-I-Bar Joists are made under working pressures of 2,000 pounds per square inch to insure uniform, dense concrete that is thoroughly bonded to the reinforcing members which are electrically welded into carefully engineered truss sections. The finished joist is then steam cured and air dried before delivery to the building site.



BACKED BY A COMPLETE ENGINEERING AND DETAILING SERVICE

To aid you in planning, your nearby Lith-I-Bar Producer will supply construction details, typical loading tables and other specific engineering data. Each Lith-I-Bar Producer maintains a staff of engineers and draftsmen whose expert assistance can be utilized to solve your particular problems. Shop drawings are prepared and submitted for your approval prior to fabrication. We urge you to take advantage of this complete service in all phases of precast construction.



• • • • • •

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CONCRETE JOIST & PRODUCTS, INC.
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Chicago Heights, Illinois

DEXTONE COMPANY
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ECONOMY CAST STONE CO.
Box 3-P Richmond 7, Va.

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Box 15008 Houston, Texas

Pittsburgh Steeltex Floor Lath

welded wire reinforcing with backing attached for

concrete floors and roofs on steel or concrete joist construction



Reinforced Concrete Slabs With Steeltex Floor Lath

The waterproofed backing of Floor Lath, which is strong enough to support the concrete pouring operation, acts as a form for the slab and aids in the proper curing of the concrete by maintaining the water cement ratio in the mix. The backing also eliminates loss of material and subsequent clean-up expense.

Proper reinforcement of the concrete slab is assured because as the mix is poured, the backing settles to the depth allowed by the stitch wires and the exposed mesh of 12 gauge, electrically welded, galvanized wire becomes automatically embedded.

Pittsburgh Steel Products Company

A Subsidiary of Pittsburgh Steel Company

Grant Building Pittsburgh 30, Pennsylvania

Specifications for Applying Steeltex Floor Lath

General

STEEL JOISTS

Before applying Steeltex Floor Lath, joists shall be installed according to the Steel Joist Institute Standard Specifications and the Manufacturer's Recommendations. Particular attention should be paid to Span, Spacing, Erection and Bridging.

CONCRETE JOISTS

Before applying Steeltex Floor Lath, concrete joists shall be rigidly bridged and ends of joists securely anchored in accordance with the Concrete Joist Manufacturer's Specifications.

Concrete Joists shall be manufactured with steel pins, ¼ inch minimum diameter, protruding approximately 2 inches above the top flange of the joists. These pins shall be on 12 inch centers.

Material

Lath shall be Steeltex Floor Lath—3″ x 4″ mesh of 12 gauge, electrically welded, cold drawn, galvanized steel wire with waterproofed backing attached—manufactured by the Pittsburgh Steel Products Company.

Applications

STEELTEX OVER STEEL JOISTS

Temporary Bracing shall be installed according to the instructions furnished with Steeltex Floor Lath and shall remain in place until after the concrete is poured and set.

Steeltex Floor Lath shall be unrolled across the joists from the outer or bearing walls of the structure. The Floor Lath shall be fastened every 12 inches on the first three joists of the anchor end by means of clips furnished with the lath.

The lath shall be then tightened across the joists by a tightener and clipped securely to the last three joists in the same manner as on the anchor end.

Two clips per width of lath shall be installed on each intermediate joist with each clip facing in the opposite direction of the clip adjacent to it.

When end splices are necessary, Steeltex shall be lapped at least 12 inches directly over a joist, but with no adjacent splices across the same joist. On side laps, the backing shall be lapped not less than two inches with the selvage edge on top.

STEELTEX OVER CONCRETE JOISTS

Temporary Bracing Where rigid bridging is not used, temporary wood braces shall be placed between the first four joists at both ends of the section to be lathed. Braces shall be on not less than four foot centers and shall remain in place until after concrete is poured and set.

Steeltex Floor Lath shall be unrolled across the joists from the outer or bearing walls of the structure. To permit unrolling of the material, 2 x 4 lumber shall be placed on edge diagonally across the top of the joists and between the rows of projecting pins.

The Floor Lath shall be fastened to the first three joists of the anchor end, either by bending every pin over a transverse wire of the reinforcing mesh, or by fastening the lath clips to the pins and through the mesh. Clips are furnished with the lath.

The lath shall then be tightened across the joists by a tightener and fastened securely to the last three joists in the same manner as on the anchor end.

Fastening of the lath to the intermediate joists shall be accomplished by either bending two pins per joist per width of Floor Lath over a wire of the reinforcing mesh, or clipping every third joist with two clips per width of Floor Lath with each clip facing in the opposite direction of the clip adjacent to it.

When end splices are necessary, Steeltex shall be lapped at least 12 inches directly over a joist, but with no adjacent splices across the same joist. On side laps, the backing shall be lapped not less than two inches with the selvage edge on top.

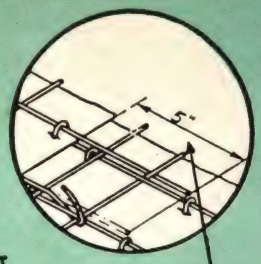
For more detailed information write for Booklet DS 133.

Safe Loads for Concrete Floor Slabs Using Steeltex Floor Lath

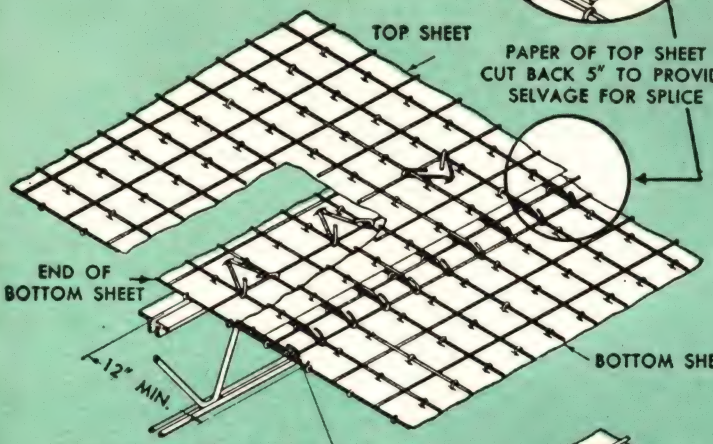
Span of slab in inches	2″ slab (25 lb., sq. ft.)	2½″ slab (31 lb., sq. ft.)	3″ slab (38 lb., sq. ft.)	3½″ slab (44 lb., sq. ft.)
18	436	586	736	886
20	353	475	597	718
22	292	392	494	594
24	245	330	415	499
26	209	281	353	426
28	180	242	305	366
30	157	211	266	319
32	139	186	234	281
34	123	165	207	248
36	109	146	184	222



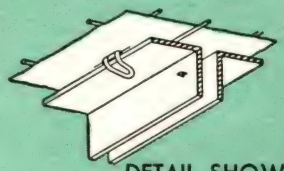
Steel Joists



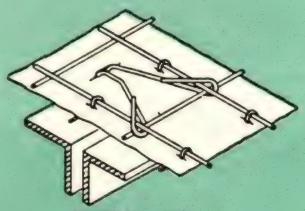
PAPER OF TOP SHEET CUT BACK 5" TO PROVIDE SELVAGE FOR SPLICE



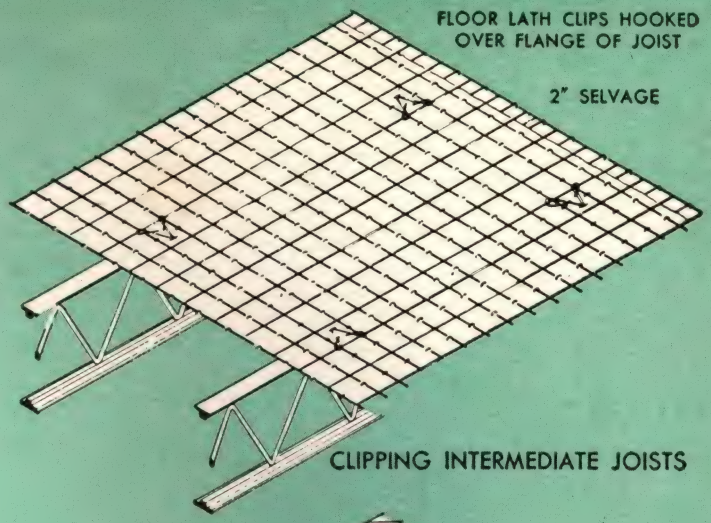
FABRIC OF TOP SHEET CUT SO THAT LONGITUDINAL WIRE ENDS CAN BE SECURED TO FABRIC OF BOTTOM SHEET



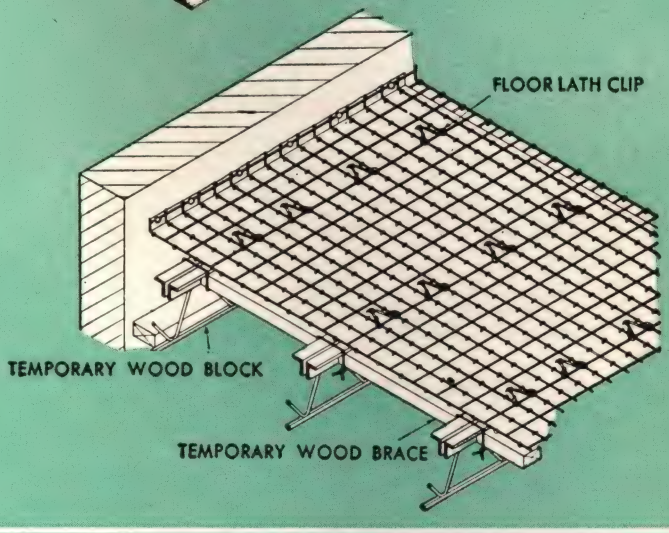
DETAIL SHOWING HOOK OF CLIP UNDER JOIST FLANGE



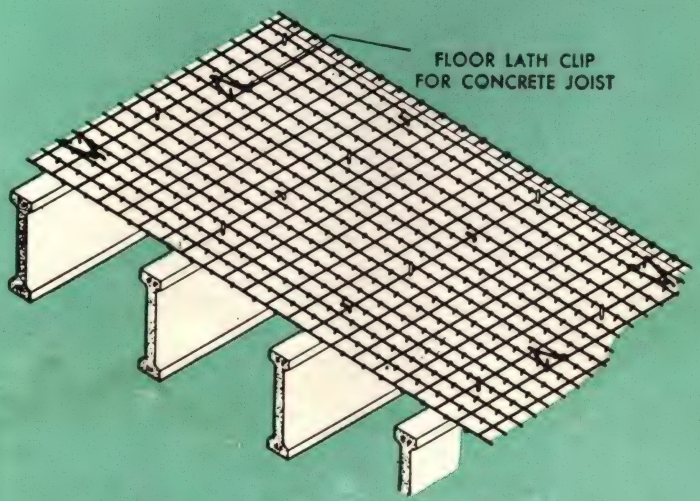
DETAIL OF FLOOR LATH CLIP IN PLACE

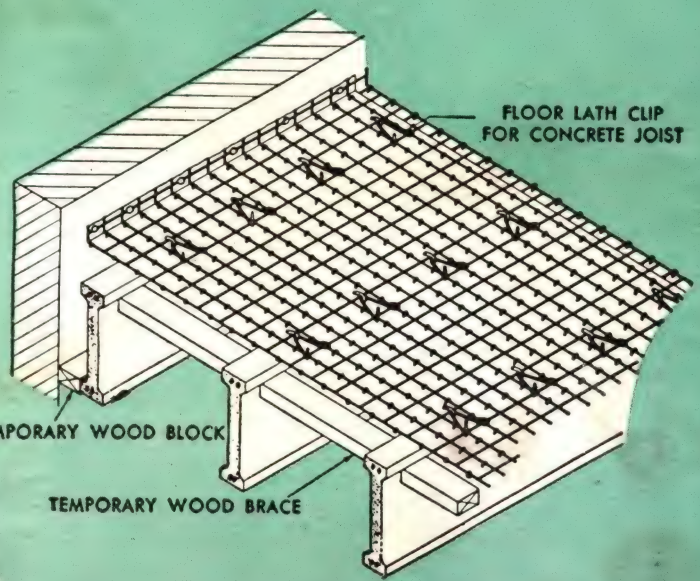


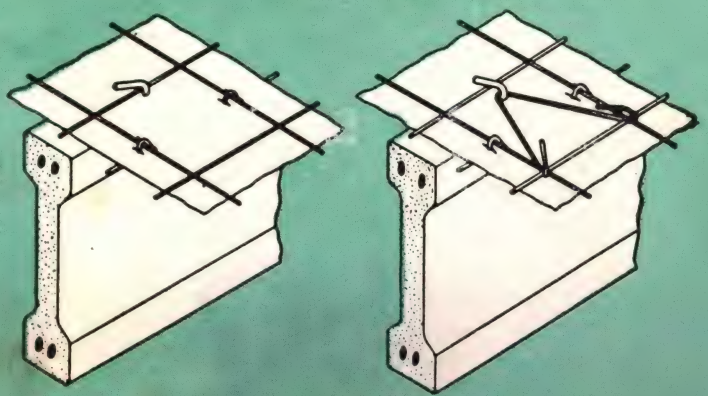
CLIPPING INTERMEDIATE JOISTS

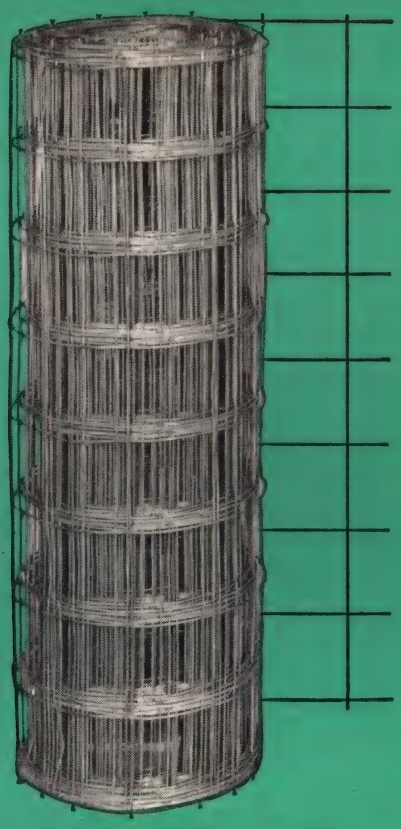


Concrete Joists



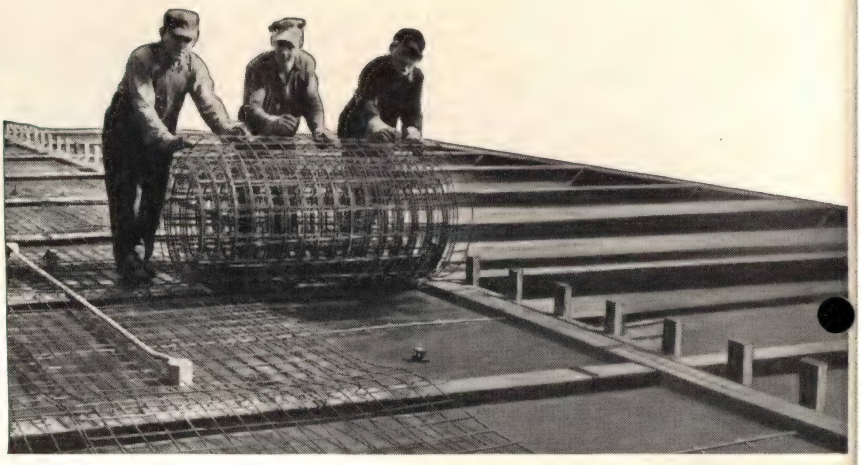






Pittsburgh
Welded Wire Reinforcement

★ High Strength Steel
★ Positive Spacing of Members
★ Electrically Welded
★ Styles for All Jobs



Installation expense is minimized with this ready-made reinforcing which can be shaped, bent or cut on the job.



Accuracy in spacing and width makes this reinforcement ideal for prefabricated members. Popular styles are carried in stock in rolls of standard length and width. Roll length and width may be specified on orders not shipped from stock.

Dimensions, Areas and Weights

SUITABLE USES	Style	Spacing		Gauge of Wire		Sec. Area Sq. In. per Lin. Ft.		Weight per 100 Sq. Ft.
		Long.	Tran.	Long.	Tran.	Long.	Tran.	
Gunite, Composition Flooring, Fireproofing, Etc.	AA 1414	2"	2"	14	14	.030	.030	21
	AA 1212	2"	2"	12	12	.052	.052	37
	TT 1414	3"	3"	14	14	.020	.020	14
	TT 1212	3"	3"	12	12	.035	.035	25
	TT 1010	3"	3"	10	10	.057	.057	41
	BB 1414	4"	4"	14	14	.015	.015	11
	BB 1313	4"	4"	13	13	.020	.020	14
	BB 1212	4"	4"	12	12	.026	.026	19
	BB 1010	4"	4"	10	10	.043	.043	31
Gunite, Canal Lining, Etc.	BB 88	4"	4"	8	8	.062	.062	44
	BB 66	4"	4"	6	6	.087	.087	62
	BB 44	4"	4"	4	4	.120	.120	85
Sidewalks, Temperature Reinforcing, Ground Floors, Etc.	CC 1212	6"	6"	12	12	.017	.017	13
	CC 1010	6"	6"	10	10	.029	.029	21
	CC 99	6"	6"	9	9	.035	.035	25
	CC 88	6"	6"	8	8	.049	.049	30
	CC 77	6"	6"	7	7	.049	.049	36
	CC 66	6"	6"	6	6	.058	.058	42
Slab Reinforcing, Etc. (One direction only)	AH 711	2"	16"	7	11	.144	.008	55
	AH 610	2"	16"	6	10	.178	.011	65
	AH 510	2"	16"	5	10	.202	.011	75
	AH 49	2"	16"	4	9	.239	.013	89
	AH 38	2"	16"	3	8	.280	.015	104
	TH 711	3"	16"	7	11	.098	.009	38
	TH 610	3"	16"	6	10	.116	.011	45
	TH 510	3"	16"	5	10	.135	.011	52
	TH 49	3"	16"	4	9	.160	.013	61
	TH 38	3"	16"	3	8	.187	.015	72
	TH 28	3"	16"	2	8	.217	.015	83
	TH 17	3"	16"	1	7	.252	.018	96
	TH 06	3"	16"	0	6	.295	.022	113
	BH 711	4"	16"	7	11	.074	.008	30
	BH 610	4"	16"	6	10	.087	.011	35
	BH 510	4"	16"	5	10	.101	.011	40
	BH 49	4"	16"	4	9	.120	.013	48
	BH 38	4"	16"	3	8	.140	.015	56
	BH 28	4"	16"	2	8	.162	.015	64
Beam Wrapping, Fireproofing, Etc.	BD 1313	4"	8"	13	13	.020	.010	11
	BD 1214	4"	8"	12	14	.026	.008	12
	BD 1212	4"	8"	12	12	.026	.013	14
	BD 1112	4"	8"	11	12	.034	.013	17
	BD 1012	4"	8"	10	12	.043	.013	20
	BD 912	4"	8"	9	12	.052	.013	23
	BD 812	4"	8"	8	12	.062	.013	27
	BD 711	4"	8"	7	11	.074	.017	33
Slab Reinforcing, Driveways, Etc.	BF 1012	4"	12"	10	12	.043	.009	19
	BF 912	4"	12"	9	12	.052	.009	22
	BF 812	4"	12"	8	12	.062	.009	25
	BF 711	4"	12"	7	11	.074	.011	31
	BF 610	4"	12"	6	10	.087	.014	37
	BF 510	4"	12"	5	10	.101	.014	42
	BF 49	4"	12"	4	9	.120	.017	50

Pittsburgh Steel Products Company

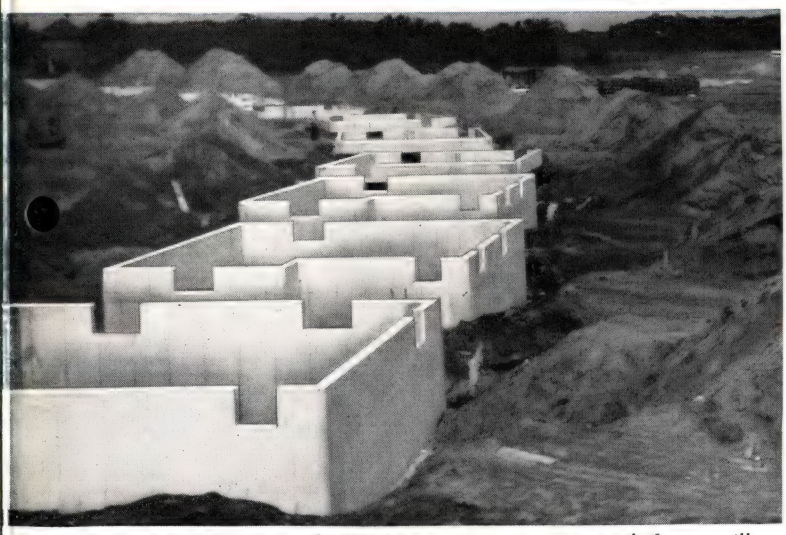
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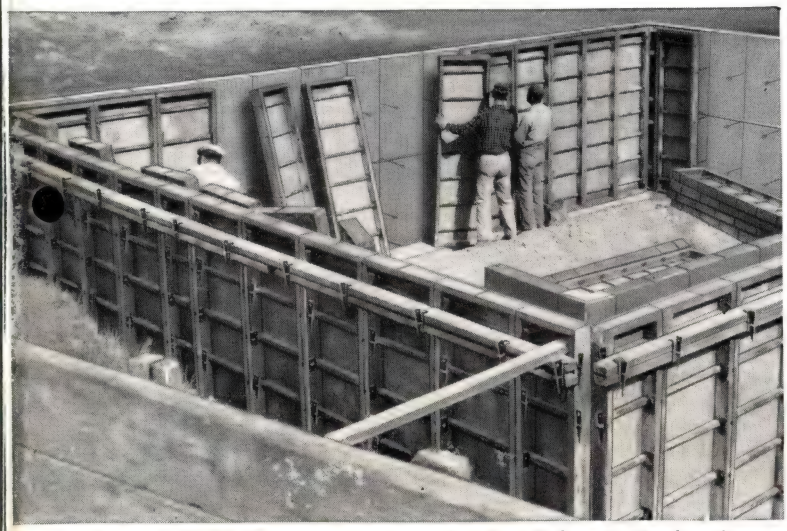
Branch Offices: Atlanta, Chicago, Columbus, Dallas, Detroit, Los Angeles, New York, Philadelphia, San Francisco

SYMONS FORMING SYSTEM

RESIDENTIAL • COMMERCIAL



One set of forms used 120 times on one project with forms still good for many more uses, Reed Const. Co., Mishawaka, Ind.



Special 7′-2″ forms made to order for Colpaert Realty Co., South Bend, Indiana. Concrete screeded at top of forms.



Inside corner set-up showing "high strength" 2′ x 4′ panels attached. Simplicity of forms, hardware and ties makes for speed in erection and stripping.

SYMONS CLAMP & MFG. CO.

CHICAGO 39, ILLINOIS

SCOPE OF THIS CATALOG

The builder engaged in home construction will obtain special help from the Symons Forming System. In these pages you will find the types of forms, hardware, and supplementary equipment which we have always in stock, ready to fill your needs promptly and efficiently. You can rely on Symons service.

SCOPE OF SERVICE

Symons service is on the job from start to finish. Our engineering staff will help you solve your forming problems. Our salesmen are trained and eager to offer excellent advice on form erection, pouring, and stripping methods. We furnish form layouts and job sheets on request and without charge or obligation. Symons Forms can be purchased outright or rented with purchase option, rental to apply on the purchase price.

advantages of SYMONS FORMING SYSTEM

overall service Symons Forming System offers you prompt service and a real saving in time, labor, and material. We carry a complete stock of forms, hardware, and ties, in a variety which makes the Symons system suitable for any type construction job. Symons standardized panels with rugged Symons fittings make possible simple, easy erection and removal which produce true, smooth walls at minimum cost in time and labor.

erecting Symons Forms are joined, tied, and spread by a simple, sturdy device in a single operation. They locate on any side, permitting their use for any wall height. Loop-end ties hold both ways without washers or walers. Walers are optional for alignment. The beam action design safely withstands heavy concrete pressure.

stripping You need no pries or bars to remove the wedges from Symons Forms. Because ties go between the forms, panels pull away easily. The tiny holes left by the small diameter ties are easily filled. A mere twist of the loop breaks the tie.

life of form The Symons Forming System assures less wear on the forms, and the forms can be used for as many as one hundred or more construction jobs. The ease with which the forms are stripped from the concrete adds to their life and their usability.

How Symons Forms Have Helped Home Builders Cut Foundation Costs

the mass producer of homes

In a $14,000,000 building program Symons Forms were used to aid in meeting a schedule of ten houses per day. They can be erected and stripped quickly, are safe, require a minimum amount of waling and bracing, and produce smooth, good-looking walls.

In constructing a house with a full basement, the basement slab was poured before the house walls were erected, allowing cleaner and more efficient handling of materials during construction.

There is a considerable saving in time when the concrete is poured to the full height of the forms, and a better looking and more level wall is achieved. Symons has available standard size forms of 4, 6, and 8 feet height; panel widths are 2 feet. Special height forms can be built to meet requirements. For the project pictured at right, special 7 foot forms were built.

In this same project each crew used two sets of forms per day. A set was erected one day, and the foundation was poured on the following day while the other set of forms was being stripped and erected. After stripping, exposed ties are broken back, exterior walls asphalt covered below grade and back-fill placed around the walls.

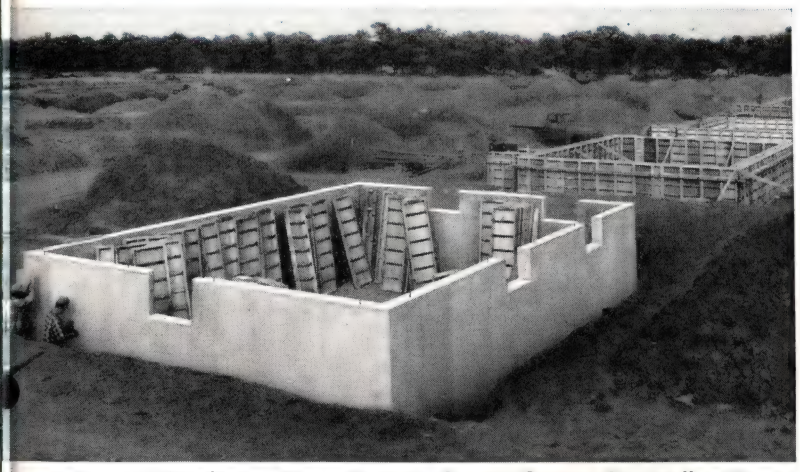
Our engineering staff furnishes complete form layouts and job cost sheets on form work at no charge to the contractor. Our field men give on-the-job service with recommendation of forms and hardware needed, also instruction on the most efficient method of setting up forms; and arrangement for special deliveries when last minute problems arise.

the custom builder of homes

While an experienced crew is faster and more efficient, just one man can set-up Symons forms. They are light and easily handled. The hardware is easy to adjust. The Two-Way Form Tie holds the forms securely to the required wall thickness without washers, spreaders or walers. The slotted Connecting bolt, passes through the edges of adjacent forms and tie loop. The Tightening Wedge is inserted through the slot in the connecting bolt, pulling the form sides tightly together.

In stripping, the forms are removed without the aid of prys or bars. The panels may be removed without obstruction as the ties go between the forms. Small, easily-filled holes are left by the ¼" diameter ties. The uniform, lightweight forms stack well.

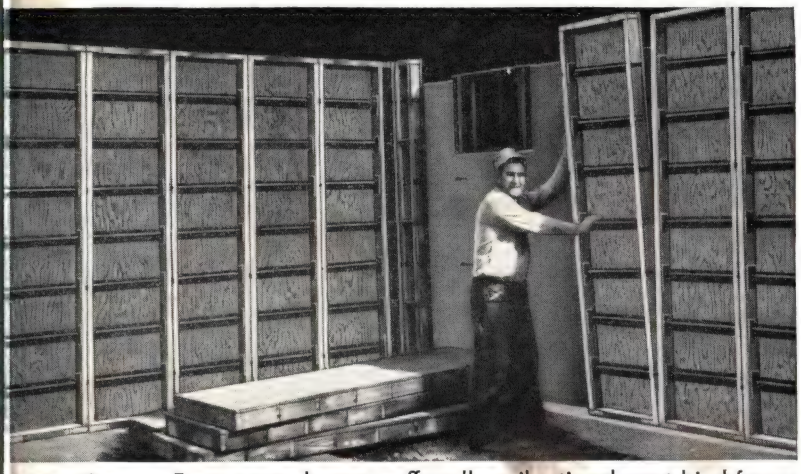
POUR CONCRETE WITH SYMONS FORMS



Waukegan Home Project, Centex Constr. Co., Dallas, Texas.



Setting up Symons Forms showing use of window buck.



ripping Symons Forms, panels come off wall easily, ties do not bind forms.

types of form panels

Symons Forms are available in three general types:

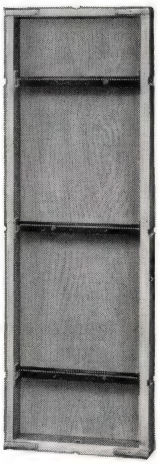
Wood frame forms have cross members of wood or steel. For greatest strength, steel cross members are placed 12 inches apart, but for house foundations a 24-inch spacing provides ample strength. For this purpose ordinary 2 x 4's with steel straps have also proved very satisfactory as cross members. Symons will provide free directions for building up any of these wood frame forms.

Steel frame forms have a welded steel frame which is easily attached to or detached from the plywood face.

Light weight makes magnesium frame forms a favorite with workmen. They enclose the plywood face with a sturdy frame which protects the plywood edges and assures a fine looking wall. Both steel and magnesium frame forms are only 2½ in. thick. They need only half the truck or storage space required for wood frame forms.



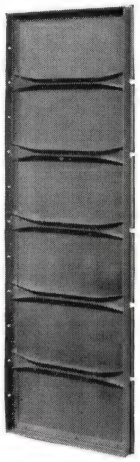
All Wood Panel, minimum of hardware.



Light Construction Panel, with steel ribs 24" O. C.



Magnesium Frame, lightest form on market.



All Steel Frame, plywood riveted to frame.

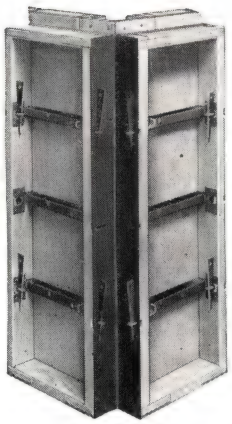
accessories

Drop hooks and level hooks make the construction of a runway for pouring a simple process. A splash board with steel handle and guide rails slides freely along the top of forms.

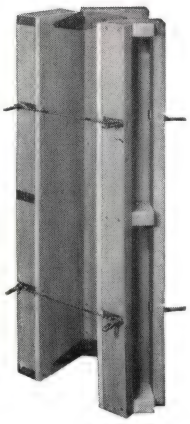
DETAILS OF CONSTRUCTION



INSIDE CORNER



OUTSIDE CORNER



BAY CORNER



PILASTER

CORNERS

All corners require inside and outside corner pieces. Outside corners are steel angles that lock adjoining forms together to make a 90° angle. Inside corners are 8 x 8 in. The forms adjacent to the outside corner are equal in width to the wall thickness plus 8 in. For example the corner forms for a 10 in. wall would be 18 in. fillers. To set-up the inside corner attach two panels to the inside corner piece passing the connecting bolts through the loops in the ties. Erection is continued toward the center of the wall. If a waler is installed, waler ties are put over the connecting bolts as the bolts are placed. The waler is not put up until one side is erected.

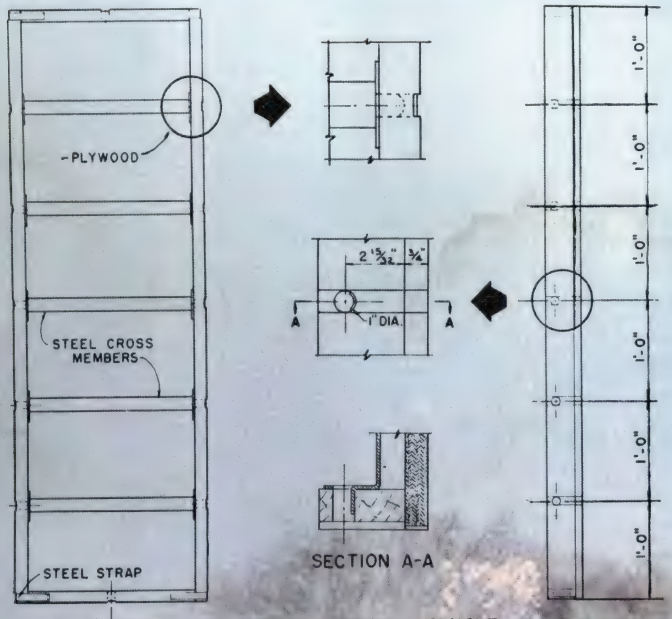
PILASTERS

The illustration above right shows a pilaster 20 in. wide, projecting 8 in. from the wall surface. Two each inside and outside corner pieces were used, the inside piece making the 8 in. depth, and two 2 in. fillers and one 16 in. filler making the 20 in. width. To erect a pilaster 18 in. wide, projecting less than 8 in. from the wall, 1 in. pilaster boards are used. They are nailed to the adjacent wall panels and secured to the 1 in. and 16 in. fillers by connecting bolts which pass through all three (see detail below). When ordering ties for the pilaster, give wall thickness and amount of projection. Ties are placed between the 16 in. and 1 in. fillers, leaving ties embedded in concrete 1 in. from the sides of the pilaster.

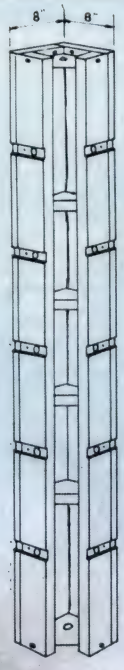
FILLERS

To make fillers not more than 12 in. wide, drill holes in two 2 x 4's to correspond with connecting bolt holes in panel forms. To the shoulder provided by the 2 x 4's nail ¾-in. plywood or a 1 in. board of suitable width. One-inch and 2 in. fillers are made from 1 in. and 2 in. boards 4¾ in. wide. Use long connecting bolts with 1 in. and 2 in. fillers.

No matter how many pilasters or corners you have, or how much the wall is cut up, a saw will not be needed. Fillers are provided in 1, 2, 6, 8, 12, 16, 18, and 20 in. sizes with the panels. Fillers should be distributed between the panels.



NOTE: THE SPACING OF GROOVES AND HOLES FOR 4' AND 8' CORNERS AND FILLERS IS SIMILAR TO ABOVE.



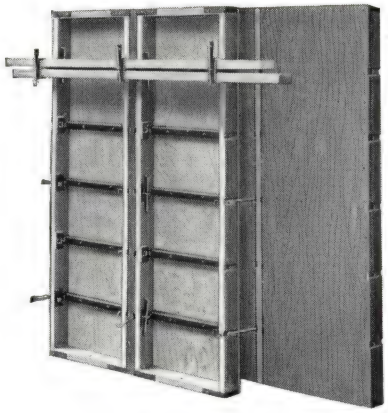
INSIDE CORNER



OUTSIDE CORNER (STEEL)



1" & 2" FILLERS



WALER



BRACING AND SCAFFOLDING

WALERS

Double 2 x 4 walers are used on one side at the top for alignment. As a safety measure on heavy pressure jobs, walers should also be placed on both sides of the forms at the bottom tie joint. Where forms are set above each other as for a 16 ft. wall, walers should also be placed at joint to insure neat alignment. The waler tie is threaded on the connecting bolt, and forms are forced into perfect alignment by driving a wedge through the opposite eye.

The waler plate holds the two 2 x 4 waler members, eliminating need for a pre-assembled waler. This plate also provides a hard surface against the drive of the wedge.

Waler ties are put over the connecting bolts as the bolts are placed. The waler is not put up, however, until one side is erected. See details on page 6.

CURVES

Symons Forms are readily adaptable for use on circular tanks and curved walls. Standard panels are used with V-shaped fillers at each joint. Long Connecting Bolts secure the fillers and panels together and also hold the ties in place.

Our engineering department will make a detailed layout of your job showing the exact sizes of fillers and quantities of materials required.

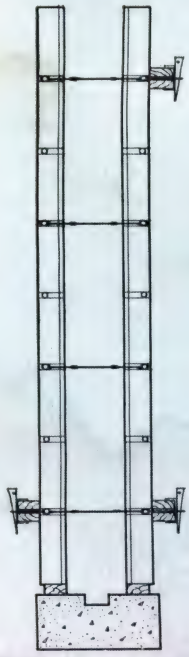
There are several different methods of aligning curved walls: plates, templates, bracing, curved walers or flat boards. Our engineers will suggest the type or combination that best suits your job.

BRACING and SCAFFOLDING

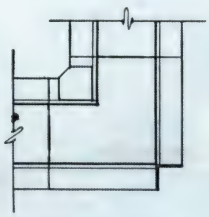
Two by four braces may be secured to the forms by means of a brace plate bolted to the frame and secured by a wedge through the connecting bolts. (See below.) Bracing can also be nailed where needed.

A scaffold for pouring concrete is constructed with runway beams which hook over the forms and clamp onto the studs. A scaffold clamp eliminates nails and saves lumber. Drop hooks bring the runway 3 in. below the top of the forms, allowing a buggy or wheelbarrow to bunt against the forms in pouring. Level hooks are used at the corners with drop hook runway beams.

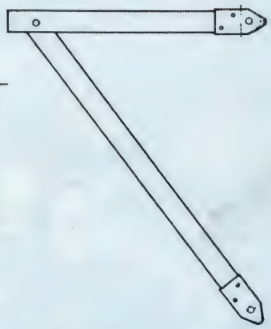
A splash board, with a steel handle and guide rails, slides freely along the top of forms.



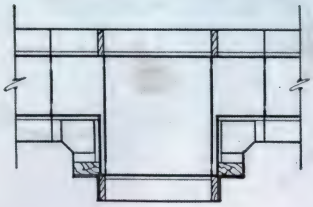
SECTION OF 8' WALL



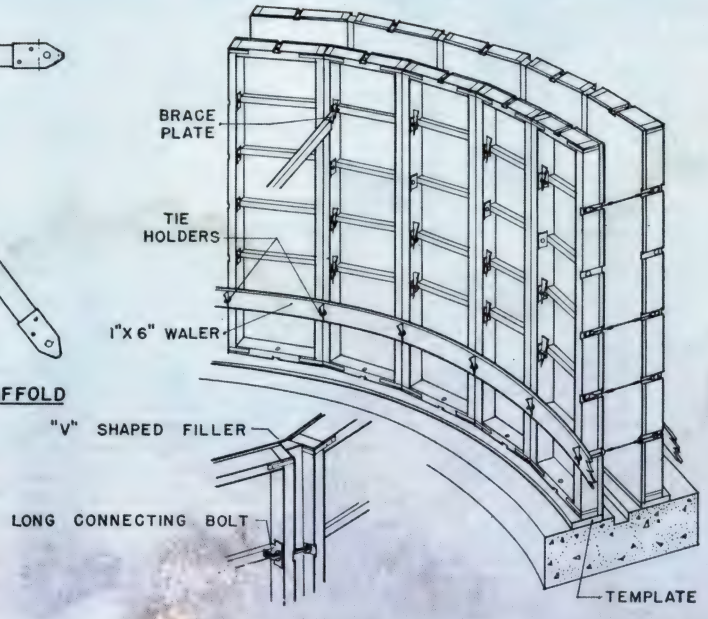
CORNER DETAIL



JACK-KNIFE SCAFFOLD



PILASTER DETAIL



CURVED WALL DETAILS

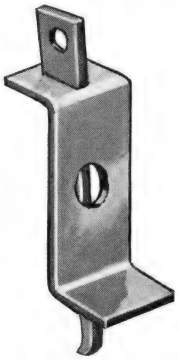
BASIC FORM HARDWARE



Tightening Wedge



Waler Plate

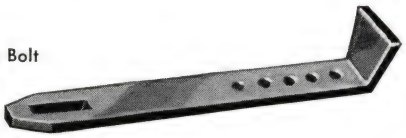


Wedge Plate
for Washer Ties



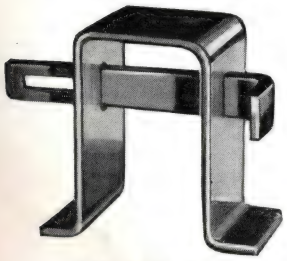
Short Connecting Bolt

Long Connecting Bolt

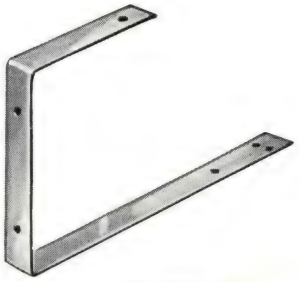




Liner or Wale Tie



U Tie Holder in
Panels wider than 2'



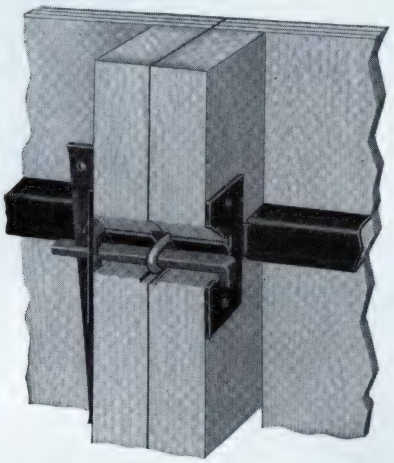
Steel Strap



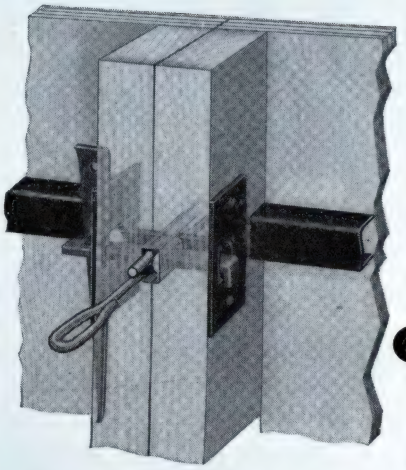
Steel Cross Member



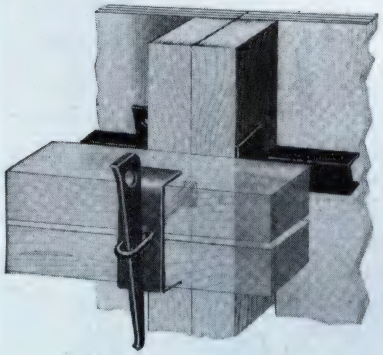
application of form hardware



Cutaway Section of Two Adjoining Forms. Connecting bolt for panels also act as anchorage for tie rods. This bolt has a slight taper making it easy to remove.

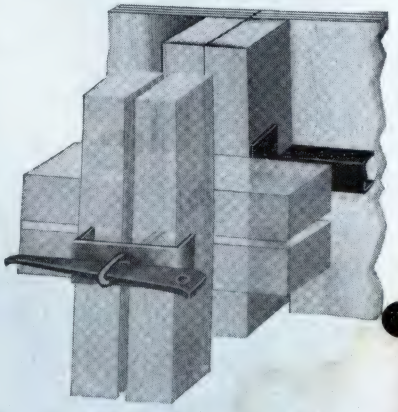


Waler tie. Protruding wire is for liner if required. Waler or liner ties operate independently of form ties and may be used an indefinite number of times.

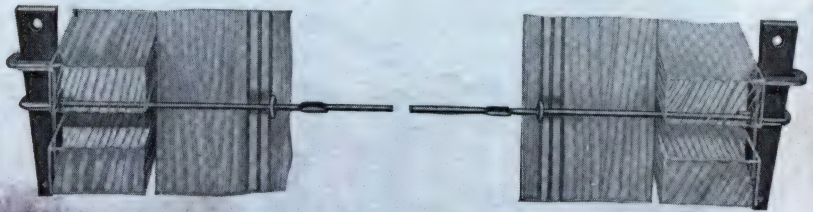


Waler Assembly. Tie, Waler plate and wedge.

½" steel cones, 1" or 1½" wood cones are available for Symons panel ties or washer ties.

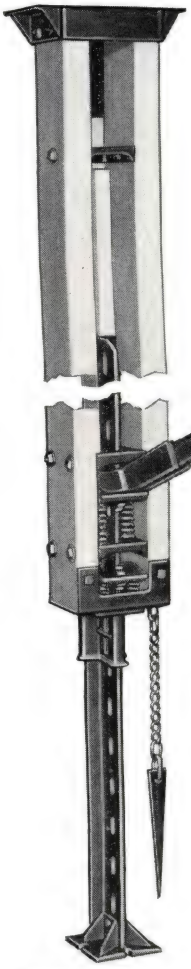


Strongbacks. On high walls or walls where ties cannot be used, double 2 x 4 strongbacks can be used for vertical alignment and for better bracing. Strongbacks are secured to the forms with strongback ties. These ties are 3⅝ in. longer than waler ties and are secured in similar manner.

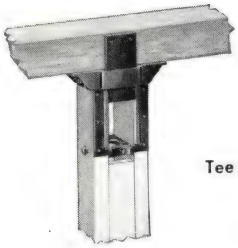


Washer spreader tie with 1 in. breakback. This tie has welded loop ends; and washer spacer that turns freely on tie allowing easy and accurate breakback, leaving no protruding ties to interfere with stripping.

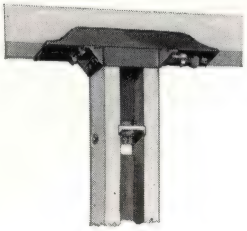
SUPPLEMENTARY EQUIPMENT



Symons Lifting Jack



Tee Head



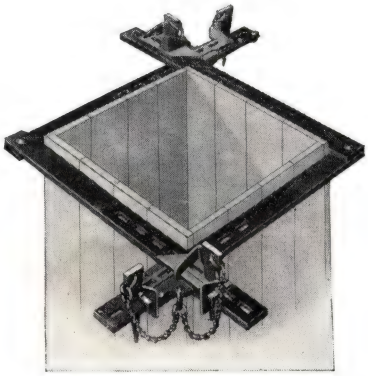
Metal Scab



Extension



Bar Tie



Symons Ever Square Column Clamp
With One-Piece Bracket



Tie Chair

SAFETY SHORES

advantages The Symons Safety Shore is a powerful jack working on a steel T iron firmly secured within a built-up wood channel. Although very light it has a load capacity which allows one man to lift 1,500 pounds. Positive action operated by a simple bar, the jack is micro-adjustable and has a safety wedge for positive lock. Each shore has an extensible metal scab in the head which may be raised for nailing to stringer.

extensions Extensions for the Symons Safety Shore are stocked in 2 ft, 4 ft, 6 ft and 8 ft lengths. The extension consists of a piece of 4 x 4 in one end of which is inserted a piece of 1¼ in. pipe securely bolted in place. Easily attached "T" heads and "L" heads are available.

standard size shores

Shore Length	Length Telescoped	Length Extended	Weight
4 ft	4 ft 6 in.	7 ft 6 in.	40 lb
6 ft	6 ft 6 in.	11 ft 6 in.	48 lb
7 ft	7 ft 6 in.	13 ft	54 lb
8 ft	8 ft 6 in.	15 ft	60 lb

Ask for Clamp and Shore Catalog.

column clamps Symons Column Clamps are quickest to apply and to remove. They automatically square the column, the malleable brackets being set at 90° angles. Driving home the wedges, which are chained to the brackets, pulls the clamp tight and forces the bars to form right angles. A rivet prevents the bracket from slipping off.

The bars of Symons Column Clamps are of high strength chrome manganese steel with sharp, clean-cut, punched holes. Continuous adjustment is provided by having wedge slots in the bracket closer together than the slots in the bars.

No tools other than a hammer are required to apply Symons Column Clamps. There are no detachable parts on the two units, which are exactly alike.

Standard size Column Clamps are 36 in., 48 in. and 60 in. Special sizes up to 84 in. are reinforced for extra strength.

bar ties and tie chairs The Symons Bar Tie quickly ties reinforcing bars together for wall construction. Bar ties come in four sizes, according to the combined diameter of the two intersecting bars. The Symons Tie Chair, made of high carbon spring wire, locks the bars rigidly together, an inch above the slab. It is applied at about one fourth the labor cost of the ordinary method of tying with pliers. One size tie is suitable for from six to ten different combinations of bar sizes.

SYMONS FORMING SYSTEM

ERECTING FORMS

1. All forms should be clean and have a coating of oil.
2. Set corner forms in place, plumb and brace. Set the balance of the forms on one side of the wall, placing and securing panel ties as each form is erected. Waler ties are secured at the same time.
3. Double 2 x 4 walers are secured to the forms after the first side is erected. Forms are then plumbed and braced.
4. Any reinforcing rods, frames, boxes, bucks, sleeves, etc., are installed before erecting second side.
5. Secure walers to second side as required.

ASK FOR FORM ERECTION FOLDER

CARE OF FORMS

1. Clean and oil forms after every use. This will increase their life 50%; will decrease stripping time; and will improve appearance of job. Paraffin oil is recommended. It is effective, clean, available everywhere and reasonable in price.
2. Exercise care in handling, trucking and stripping. Careful handling will prevent abuse to the plywood edges. Forms should be piled face to face and back to back in trucking. Do not dump forms.
3. When not in use forms should be piled carefully to minimize weathering and to prevent rotting. Pile should have slight pitch for run off. Place old forms on top to protect from sun and rain. Place strips between forms to allow evaporation.

REMOVING FORM PLYWOOD

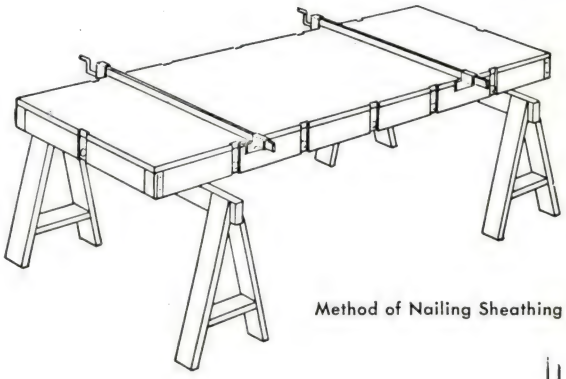
1. Remove split rivets from backside of forms with claw hammer.
2. Drive masons chisel between plywood and frame where nailed. Use 3 lb. sledge to hammer chisel. Chisel will cut through easily, providing nail is high carbon and has rings along shank similar to screw.
3. Insert wooden wedge between plywood and frame to speed operation.
4. Stripping plywood off frame or nailing plywood face to frame should take approximately 3 to 5 minutes.
5. Figure 3 nails per square foot or 1 lb. of nails per 26 square feet. Drive nails every 6" along frame.
6. Drive split rivets last. Rivets are driven against steel plate so that ends will curl.
7. Steel plate can be placed along old form supported by saw horses. Hardware, nails, split rivets, chisels, pony clamps can be secured from Symons Clamp & Mfg. Company. 2 x 4 parts of frame drilled, dadoed and cut to length also available. Also plywood cut to size and dadoed.

ASK FOR FORM MAINTENANCE FOLDER

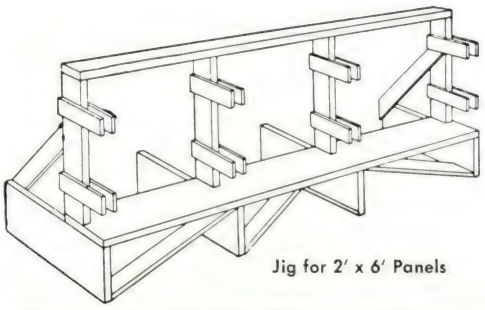
HOW TO ASSEMBLE YOUR OWN FORMS

1. Place short cross members in cleat.
2. Set side member on top of cross members and nail with 10d nails. (See sketch.)
3. Drill holes in side member using steel straps as guides.
4. Nail steel straps with 2-20d nails per strap. (See sketch.)
5. Reverse frame in jig and repeat operations 2, 3, and 4.
6. Remove frame from jig and nail straps securely with 6d nails.
7. Clamp sheating to frame with bar or pony clamps and nail with 8d coated ring shanked nails. (See sketch.)
8. Dado sheathing. A power hand saw may be used for this purpose.
9. Secure stop plates by hammering in drive screws.

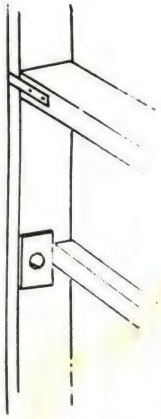
ASK FOR CONSTRUCTION DETAILS



Method of Nailing Sheathing



Jig for 2' x 6' Panels



Frame Joint

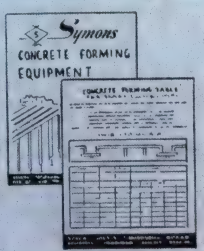
SYMONS CLAMP & MFG. CO.

4249 DIVERSEY AVENUE

CHICAGO 39, ILLINOIS

phone: DICKENS 2-5141

complete factual and technical catalogs on request



Catalog No. F-10, "Symons Concrete Forming Equipment," 40 pages, describes the Symons Forming System, Safety Shores and Column Clamps in detail. Construction details are given, and Symons installations are illustrated. Also available is a 4 page brochure on Concrete Forming Tables for Slabs, Columns and Beams.

1b
CL

CLEVELAND
BUILDING SPECIALTIES

CATALOG "G" for 1955

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Post Caps, and Bases 4
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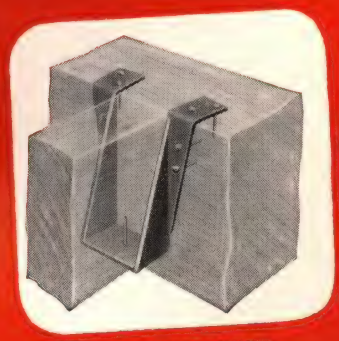
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Laundry 7

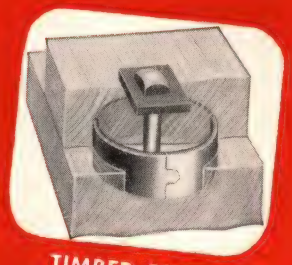
Ventilators

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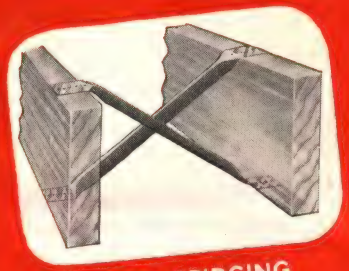
CLEVELAND Top-Quality Metal Building Specialties Sold Nation-wide Through Dealers Since 1924



JOIST HANGER



TIMBER RING



CROSS BRIDGING

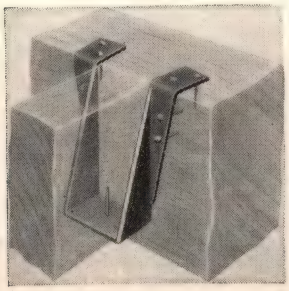
CLEVELAND STEEL SPECIALTY COMPANY, INC.

Established 1924

3775 East 91st Street, Cleveland 5, Ohio

CLEVELAND JOIST HANGERS

Standard Joist Hanger No. 1



Used for framing joists to girders, headers to joists, around stair wells, chimneys, hearths, ducts and other floor openings.

Cleveland joist hangers lay flat against both joist and girder, no interference with furring.

EXTRA SAFE—Cleveland joist hangers are made of heavy steel bars to safely carry greatest load allowable on corresponding size joist. They are designed so the maximum shear and tensile stresses in the steel are well within the limits prescribed by building codes.

They are also designed to provide sufficient bearing area in the seat and under the overhanging arms to eliminate crushing the wood at these points.

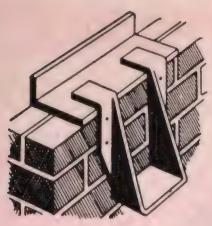
Made in following sizes to fit dressed timbers. 2" and 3" wide sizes, 10 per bundle. Larger sizes 5 per bundle. Painted. (Hangers for full size timbers and laminated beams available to order).

Specifications for Joist Hangers

size joist in.	size steel in.	weight lbs.	size joist in.	size steel in.	weight lbs.
2 x 6	2 x 1/8	1.0	6 x 6	2 1/4 x 3/16	2.8
2 x 8	2 x 1/8	1.6	6 x 8	2 1/2 x 3/16	3.8
2 x 10	2 x 1/8	1.9	6 x 10	3 x 3/16	5.2
2 x 12	2 x 5/32	2.8	6 x 12	3 x 3/16	6.0
2 x 14	2 x 3/16	3.7	6 x 14	3 x 1/4	8.8
2 x 16	2 1/2 x 3/16	5.5	6 x 16	3 x 5/16	12.0
3 x 6	2 x 1/8	1.5			
3 x 8	2 x 5/32	2.2	8 x 8	3 x 3/16	5.0
3 x 10	2 x 5/32	2.6	8 x 10	3 x 1/4	7.5
3 x 12	2 1/2 x 3/16	4.3	8 x 12	3 x 5/16	10.3
3 x 14	3 x 3/16	6.2	8 x 14	3 x 5/16	11.3
			8 x 16	3 1/2 x 5/16	15.0
4 x 6	2 x 1/8	1.5			
4 x 8	2 x 5/32	2.2			
4 x 10	2 x 5/32	2.6	10 x 12	3 1/2 x 3/8	20.0
4 x 12	2 1/2 x 3/16	4.4	10 x 14	3 1/2 x 3/8	22.0
4 x 14	3 x 3/16	6.2	10 x 16	4 x 3/8	25.0
4 x 16	3 x 1/4	9.0	10 x 18	4 x 7/16	33.0

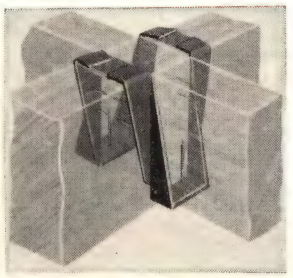
Actual Dimensions—Depth 1/2" less than full size. Width 1/4" under full size for hangers under 6" wide. 3/8" under full size for hangers 6" wide or wider.

Wall Joist Hanger No. 5



Used where timbers frame into cement block or brick walls. Eliminates dry rot which often occurs when timbers are set into masonry. Made with plate welded to standard No. 1 hanger.

Saddle Style Hanger No. 2

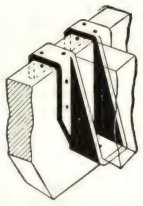


Used where joists frame opposite each other to wood girder or I-Beam. Made with two No. 1 standard hangers welded together with connector straps.

Saddle style hangers are made to order only and not returnable. Painted.

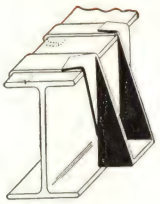
When ordering, furnish size of joists and exact width of wood girder or I-Beam flange.

Hook-Over Hanger No. 3



Wood Girder

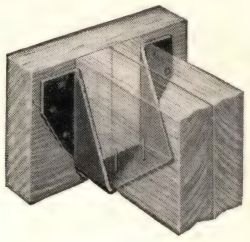
Used where wood joists frame into one side of wood girder or I-Beam. Made by welding hooked extension straps to arms of standard No. 1 single hanger. Painted.



I-Beam

When ordering furnish size of joist and exact width of wood girder or I-Beam flange. *Not returnable.*

Flush-Top Hanger No. 4

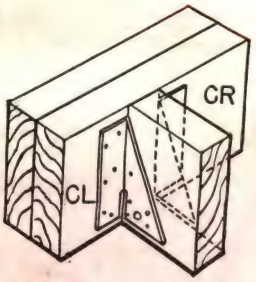


Used for remodeling work, such as inserting additional joists under existing floors, and strengthening existing joists that are checked or split at ends. Used for framing tail beams, and where finished flooring is applied directly to joists. Made in all standard sizes.

Trip-L-Grip Hanger Style C

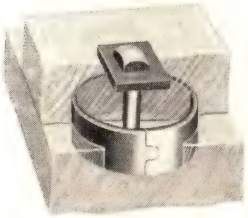
For ceiling joists and light floor loads. Safe load each hanger 450 lbs. Made of zinc coated steel 4 7/8" high. Rectangular flange 1 5/8" wide. Triangle base 2 3/8" wide.

Made left hand No. CL and right hand No. CR. Packed 100 CL or 100 CR per carton, including special nails 8d by 1 1/4" long. Weight 25 lbs. per 100 pcs.



CLEVELAND TIMBER RINGS

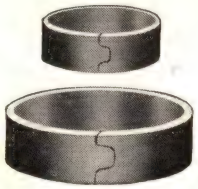
Cleveland Timber Rings are used for making stronger joints in wood truss construction, and in wood arches, bridges and towers. These rings are set into timbers in grooves pre-cut with Cleveland Grooving Tool, so that half of each ring is embedded in each timber at their point of contact. The joint is completed with bolt and washer. The rings are split, with tongue and groove joint, insuring tight contact with the wood. This reduces joint slippage and reduces stresses in the wood, permitting the use of smaller timbers for equal strength. The use of Cleveland Timber Rings has made possible the economical and widespread use of light trusses for small home construction. Such trusses for spans up to 30 feet, are made with 2 x 6 rafters with 2 x 4 ceiling joists across bottom. Generally spaced on 24" centers, these trusses carry all the roof load and permit closing in the house before partitions are set. Preassembled on the ground, or by a wood fabricator these light trusses materially reduce construction costs, and reduce weather shut-downs.



Specifications for Cleveland Timber Rings

inside diameter	size steel	pieces per bag	weight per 100 pieces
2½"	¾" x 5/32"	200	30 lbs.
4"	1" x 3/16"	100	70 lbs.

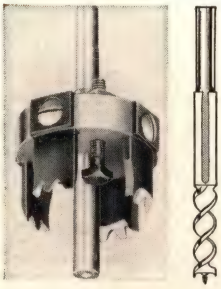
Correct Size of Ring



The 2½" ring is used in lumber not less than 1⅝" thick if grooved on both sides, or 1" thick if grooved one side only. The lumber must be 3⅝" wide or wider. Use 2" x 2" x ⅛" square washers and ½" diameter bolts with 2½" rings.

The 4" ring is used in lumber 1⅝" thick or thicker if grooved both sides or one side. The lumber must be 5½" wide or wider. Use 3" x 3" x 3/16" square washers and ¾" diameter bolt with 4" rings.

Cleveland Grooving Tool and Drill Bit



Holder—made of solid steel to which cutter blades and depth gauge are securely attached.
Pilot—with shank to fit drill chuck, locks into holder. Used where holes are drilled first.
Drill Bit—with shank to fit drill chuck, locks into holder for drilling hole and cutting groove at same time. Used when holes are located on work table or with template.

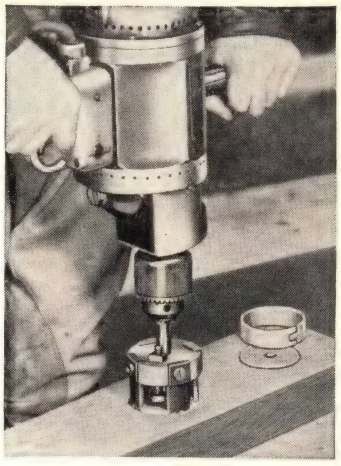
Specifications for Grooving Tool

ring size	shank diameter	number of cutters	diameter of pilot	diameter of drill bit
2½"	½"	2 or 4	9/16"	9/16"
4"	½"	2 or 4	13/16"	13/16"

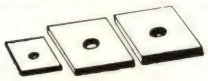
One pilot included with tool. Extra pilots and cutters available. Drill bits priced separately.

Operation

Grooving Tool can be used in a drill press or portable power drill. Shank of all Grooving Tools is ½". ½" capacity drill is required for 2½" tool. ⅝" capacity drill is required for 4" tool. Use 4-wing cutter for quantity production. For small jobs 2-wing cutter may be used. Grooving Tools can be operated by one man.



Cleveland Plate Washers

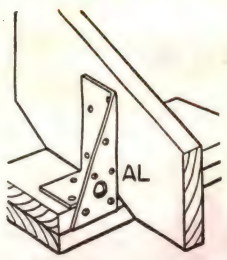


Used with Timber Rings as shown above, to prevent bolt head and nut from cutting into timbers.

Dimensions for Cleveland Plate Washers

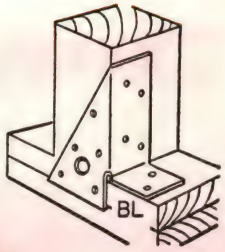
size washer	ring	bolt	weight
2" x 2" x ⅛"	2½"	½"	14 lbs. per 100
3" x 3" x 3/16"	4"	¾"	45 lbs. per 100

TRIP-GRIP ANCHORS



Style AL (left hand) and AR (right hand) used for anchoring rafters and trusses to plate and purlins to trusses. Made of 18 gauge zinc coated steel 4⅞" high, bent-in part 1⅝" long. Base of triangle 2⅜" wide. 100 AL or 100 AR per carton. Nails included. Weight 25 lbs. per 100 pcs.

Style BL (left hand) and BR (right hand) used for anchoring lintels and sills to jambs, studs to sills and headers to studs. 18 gauge zinc coated steel 4⅞" high, bent-out part 1⅝" long, base of triangle 2⅜" wide. 100 BL or 100 BR per carton, nails included. Weight 25 lbs. per 100 pcs.



CLEVELAND STEEL CROSS-BRIDGING



Cleveland Cross Bridging is fireproof, strong and neat appearing. Quick installation saves labor. Provides more space for pipes.

Made of ribbed steel for greatest strength. Flat ends ¾" wide, 2¼" long, 1/16" thick. No interference with laying flooring. Rust resisting finish. Approved by City Building Codes, by FHA in many localities, and on many Government Projects.

Packed straight—200 pcs. (100 sets) per carton. Weight 50 lbs. per carton.

Specifications

For joists 16" on center

No. 20 — fits these joists:

2x6	2x8	2x10
2x12	3x8	3x10
3x12	4x10	4x12
4x14		

No. 17 — fits these joists:

3x6	4x6	4x8

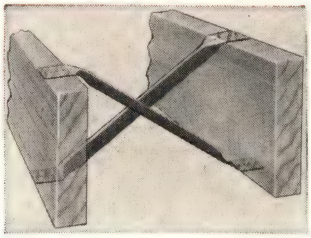
For joists 12" on center

No. 20 — fits these joists:

2x14	3x14	4x14

No. 17 — fits these joists:

2x8	2x10	3x10
3x12	4x10	4x12



Application

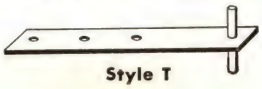
(1) Nail top ends
(2) Apply flooring
(3) Nail bottom ends
(Two nails at each end)

CLEVELAND BUILDING ANCHORS

Cleveland Joist Anchors are used to anchor joists to masonry walls. 14" and 18" lengths used on joists that frame into wall. 40" anchors used on joists parallel to wall and punched to fit 3 joists 16" on center. L anchors have 2" bends. Pins ⅜" diameter.



Style L



Style T

Specifications for Joist Anchors

style	length	size steel	weight 100 pcs.
L	14"	1 "x3/16"	85 lbs.
L	18"	1¼"x¼"	170 lbs.
T	18"	1" x3/16"	100 lbs.
T	40"	1¼"x¼"	370 lbs.

Plain finish Other sizes on request

Cleveland Wall Ties—For anchoring brick veneer to frame or masonry walls. 26-gauge galvanized steel, crimped or herringbone pattern. 1000 per carton.

style	size	weight 1000 pcs.
Crimped	¾"x7"	27 lbs.
Herringbone	⅞"x7"	32 lbs.



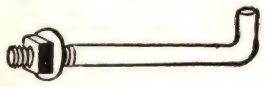
Cleveland Wall Plugs—Inserted in masonry walls during construction so that furring and other materials can be securely fastened to wall by nailing. Heavy galvanized steel. 500 per carton.



size	weight 1000 pcs.
2¼" wide x 2⅞" deep	105 lbs.
2½" wide x 2¼" deep	90 lbs.

Cleveland Anchor Bolt used for fastening sills to masonry walls. One end threaded 2", other end bent 1½". Not painted. Nut and washers included.

½" x 8" size— 53 lbs. per 100 pcs.
½" x 12" size— 75 lbs. per 100 pcs.
½" x 16" size—100 lbs. per 100 pcs.
Shipped in kegs or cartons.



Cleveland Door Buck and Wall Anchor

For anchoring door and window frames and applying grounds to masonry walls. 16-gauge galvanized corrugated steel. 2" wide, 2" bend, 8" long.

200 per carton.

Weight 35 lbs. per 100 pcs.

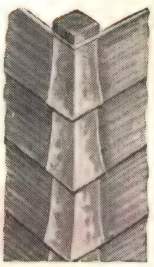


Cleveland Sleeper Anchor—For anchoring wood floor sleepers to concrete. 20-gauge galvanized steel.



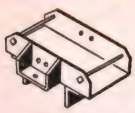
size anchor	size sleeper	per carton	weight per 100
2"	2"x2"	250	8 lbs.
3"	2"x3"	250	9 lbs.
4"	2"x4"	200	10 lbs.

Cleveland Siding Corners used on wood siding at the outside corners to make joint weather-tight. Eliminate mitering. Galvanized steel. 250 per carton.



size	weight 100 pcs.	size	weight 100 pcs.
½"x6"	11 lbs.	½"x10"	19 lbs.
½"x8"	14 lbs.	¾"x10"	20 lbs.
¾"x8"	15 lbs.	¼"x12"	20 lbs.

CLEVELAND POST CAPS AND BASES



Cleveland Post Caps
Made in any combination of post and girder sizes.



Cleveland Post Bases furnished in all standard sizes. Complete Engineering Details on request.

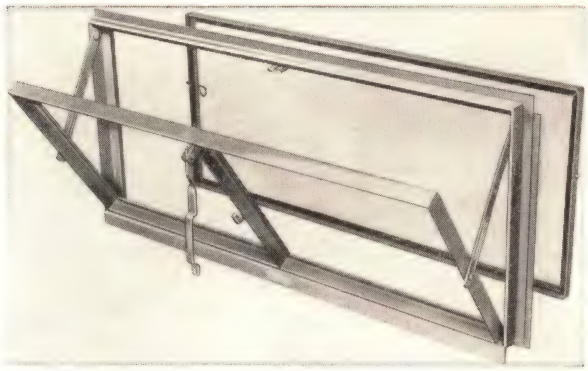


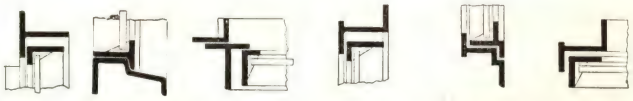
Wall Plates distribute load on wall and anchor beam to wall.

Wall Boxes supply ventilation to wall-bearing timbers. Complete Engineering Details on request.



CLEVELAND WINDOWS AND AREA WALLS





Head Sill Jamb
Steel Window

Head Sill Jamb
Aluminum Windows

Basement Window made in either steel or aluminum. Heavy steel angles and tees, or extruded aluminum sections, insure rugged construction. Vent sash closes tightly all around with cam latch. Unglazed, putty type. Glazing rabbetts all in same plane. Screens, steel or aluminum, available to fit.

Specifications for Basement Windows

size	wall opening	steel, painted		aluminum plain	
		style	wt. each	style	wt. each
2 lt. 15″x12″	32½″x14¾″	S12P	15 lbs.	AL12P	3.8 lbs.
2 lt. 15″x16″	32½″x18¾″	S16P	17 lbs.	AL16P	4.8 lbs.
2 lt. 15″x20″	32½″x22¾″	S20P	18½ lbs.	AL20P	5.0 lbs.

Steel windows shipped in bundles. Aluminum windows 2 per carton. Steel or Aluminum screens 6 per carton.

BASEMENT COLUMNS



Cleveland Columns are made of new steel tubing 4″ outside diameter, ⅛″ thick. Cap 4¼″ x 5/16″ x 8″. Base 4¼″ x ⅜″ x 8″. Bonderized and painted inside and out. Approved by FHA.

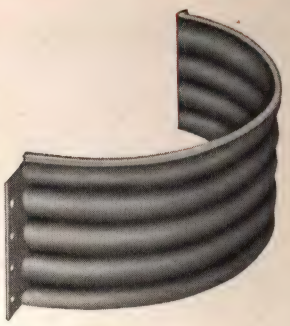
length	weight	length	weight
6′-0″	36 lbs.	6′-8″	40 lbs.
6′-6″	39 lbs.	7′-0″	41 lbs.

Other lengths to order.

Tel-O-Post Adjustable from 5′-0″ to 7′-9″. Capacity 22,000 lbs. Heavy jack screw. Ideal for reinforcing overloaded or sagging floors. Weight 34 lbs. Bonderized and painted inside and out. One per carton.



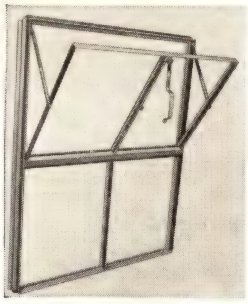
Cleveland Area Walls are made of 16-gauge galvanized steel. Entire curved area is corrugated and top edge is flanged in for rigidity. Flat end flanges fit tightly against wall. Top holes tear shaped for hanging over lag screws. Easily adjustable for openings 35″ to 40″ wide.



Specifications of Area Walls

number	inside width	projection	height	weight each
3716-15	35″ to 40″	16″	15″	16 lbs.
3716-18	35″ to 40″	16″	18″	19 lbs.
3716-24	35″ to 40″	16″	24″	26 lbs.

Other sizes available—Details on application.



Aluminum Utility Window

No. U-20 made of extruded aluminum sections. Sash opens in, locks tightly with cam latch. 8 sq. ft. light area. Uses same screen as 2 light 15″ x 20″ aluminum basement window. Fixed sash has 2 lights 15½″ x 20″. Wall opening 32½″ x 42⅞″. Putty type, not glazed. Weight 8 lbs. each.

CLEVELAND LINTELS

Formed Steel Lintels made of heavy steel formed and beaded for strength. Painted.

Lengths up to 5 ft. made of 3½″ x 3½″ by 11-gauge steel. Shipped 6 per bundle.

Lengths 5 ft. or over made of 4½″ x 3½″ by 9-gauge steel. Shipped 3 per bundle.



length	weight	length	weight
3′-0″	8.5 lbs.	5′-0″	19.9
3′-6″	9.9 lbs.	6′-0″	22.8
4′-0″	11.3 lbs.	7′-0″	26.6
4′-6″	12.7 lbs.	7′-6″	28.5



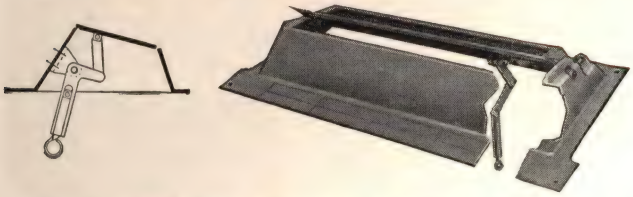
Angle Iron Lintels made of high carbon hot-rolled steel. Not painted. Shipped in bundles.

length	size steel	wt. each	length	size steel	wt. each
3′-0″	3x3x3/16″	12 lbs.	4′-6″	3x3½x¼″	24 lbs.
3′-6″	3x3x3/16″	13 lbs.	5′-0″	3x3 x3/16″	19 lbs.
4′-0″	3x3x3/16″	15 lbs.	5′-0″	3x3½x¼″	27 lbs.
4′-6″	3x3x3/16″	17 lbs.	6′-0″	3x3½x¼″	33 lbs.

Above angle sizes may be ordered in special lengths.

FIREPLACE DAMPERS AND EQUIPMENT

Cleveland Fireplace Dampers



Made of cast grey iron for highest resistance to corrosion and to warpage. Damper consists of frame, with tapered ends, poker control assembly and detachable door. Shipped bolted to wood skids to avoid breakage.

Specifications for Cleveland Fireplace Dampers

style	fireplace width	base dimensions			throat opening			weight each
		front	rear	depth	front	rear	depth	
H28	28″	32″	27⅝″	13⅝″	27¼″	25¼″	9½″	32 lbs.
H30	30″	33½″	30″	13½″	29¼″	27″	9½″	34 lbs.
H33	33″	37″	32¾″	13⅝″	32½″	30¼″	9½″	38 lbs.
H36	36″	39⅝″	36″	13½″	35½″	33½″	9½″	42 lbs.
H42	42″	45⅝″	42″	13½″	41½″	39½″	9½″	48 lbs.
H48	48″	51½″	48″	13⅜″	47¼″	45″	9½″	55 lbs.

Modular Flue Sizes—8″ x 12″ for H28—12″ x 12″ for H30, H33, H36—16″ x 16″ for H42 and H48.

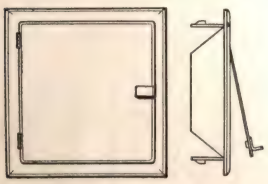
Cleveland Cleanout Door



Style C cleanout door made of cast iron to provide durability and maximum resistance to ash corrosion.

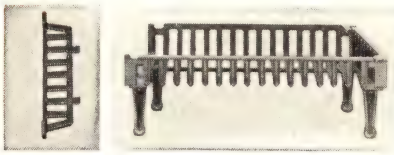
Flange on back anchors into masonry.

8″ x 8″ door, Weight 7 lbs. Packed 12 per carton.
10″ x 12″ door, Weight 10 lbs. Packed 6 per carton.



Style S cleanout door made of steel. Frame is embossed and flanged for strength and anchorage to masonry. Size 8″ x 8″, Weight each 2.5 lb.—24 per carton.

Cleveland Fireplace Baskets



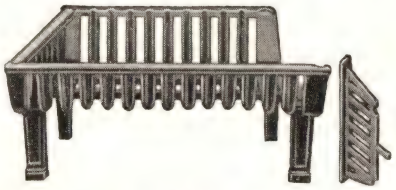
Dimensions

width		weight
front	back	lbs.
24″	20″	31
27″	23″	32
30″	26″	33

No. 480 made of cast iron, has removable ends. Used for either wood or coal. Depth 15″, height 8½″.

Dimensions

width		weight
front	back	lbs.
24″	17″	48
27″	20″	52
30″	23″	56



No. 440 is made of heavy duty cast iron, ends removable. Used for wood or coal. Depth 15″ height 10¼″.

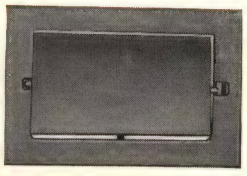
Cleveland Coal Doors



No. 6 Door is made of heavy gauge steel and consists of shell, door frame and door. Door is deeply embossed for strength and neat appearance. Hinges hold door in open position. Door locks with inside spring latch. Painted.
Outside of frame—26½″ wide by 20¼″ high
Door opening—21⅝″ wide by 15⅜″ high.
Masonry opening—23″ wide by 17″ high.
For walls 9″ or thicker. Weight 32 lbs. each.

Cleveland Ash Dumps

Style C made of cast iron to resist corrosion from ashes. Flange on back anchors to masonry. 6″ x 9″ outside, 5″ x 8″ inside. Weight 3 lbs. each. 24 per carton.



SEWER STRAINERS



Cleveland Sewer Pipe Strainer fits into hub of standard pipe to provide drainage screen in basement, areaway, garage, and driveway. Made of cast iron to resist corrosion.

size strainer	size pipe	diameter	weight each
3″	3″	4½″	1¾ lbs.
4″	4″	5½″	2 lbs.
6″	6″	7⅞″	3¼ lbs.

BELL TRAPS

Cleveland Bell Traps provide water trap against sewer gas in floor drains in garages and basements. Strainer removable for cleaning. Made of non-corrosive cast iron.

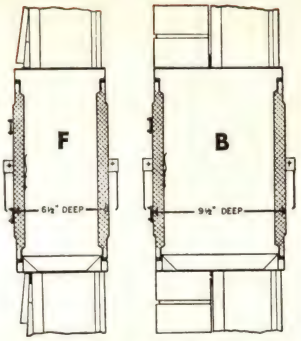


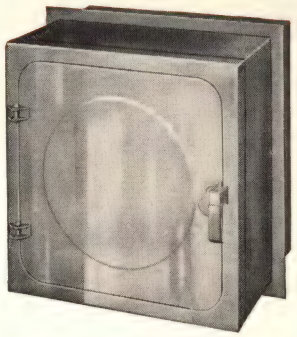
size	strainer	outlet	weight ea.
6″x6″	4½″	1⅞″	3½ lbs.
8½″x8½″	6¾″	2½″	7 lbs.
11″x11″	9⅞″	3″	13 lbs.

CLEVELAND PACKAGE RECEIVERS









Package Receiver Style M is of formed steel construction. Doors are made of attractively embossed sheet steel with rounded corners. Hinges have brass pins, door catches are nickel plated. Doors close tightly against frame; not insulated. Flush bottom. Wall opening 13½" wide. 12" high. 2 per carton. Painted Grey.

Style MF (Frame) 13½" x 12", 6¾" deep. Wt. 9 lbs.

Style MB (Brick) 13½" x 12", 9¾" deep. Wt. 10 lbs.

Package Receiver Style L is smartly styled with embossed doors equipped with spring latches. Each door has ½" of insulation between 2 sheets of steel. Doors and frames are die-made with rounded corners insuring weather-tight fit. Flush bottom makes cleaning easy. Message Clip on inside of outer door. Weather flange seals opening. Wall opening 14" x 14". One per carton. Painted aluminum.

Style LF (Frame) 14" x 14", 6½" deep. Wt. 14 lbs.

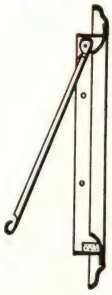
Style LB (Brick) 14" x 14", 9½" deep. Wt. 16 lbs.

CLEVELAND CLOTHES CHUTE DOORS

Clothes Chute Door Style L has round opening. Door hinges at top and opens in when clothes are pushed through. Round opening has rolled edge, will not snag clothing. Spring closes door against rubber bumper. Easily installed by screwing or nailing flange to chute or studding. No screws in face. Made of steel. White enamel finish.

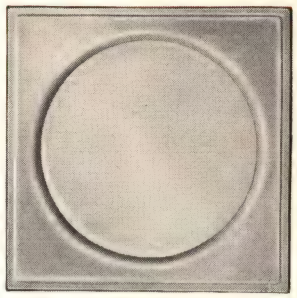
Style L10 fits 10" x 10" opening and is 12" x 12" overall. One per carton. Weight 3½ lbs.

Style L12 fits 12" x 12" opening and is 13¼" x 13¼" overall. One per carton. Weight 4 lbs.



FREE-
OPENING

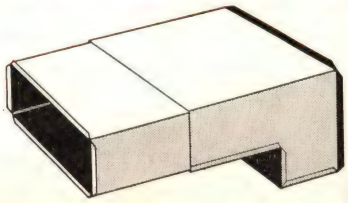
SELF-
CLOSING



CLEVELAND MAIL RECEIVERS



Outside Mail Door



Telescoping Box



Inner Door

Mail Receiver Style MW for wall installation, consists of heavy aluminum outside mail door and frame, inner door and frame of steel and spacious metal box which telescopes from 9" to 5" to fit brick or frame walls. Finished in bronze. Wall opening outside 7¾" wide by 2⅝" high, inside opening 7¾" wide by 4⅛" high. Weight 2½ lbs. One set per carton including screws. 10 cartons per case.



Hooded Back Plate



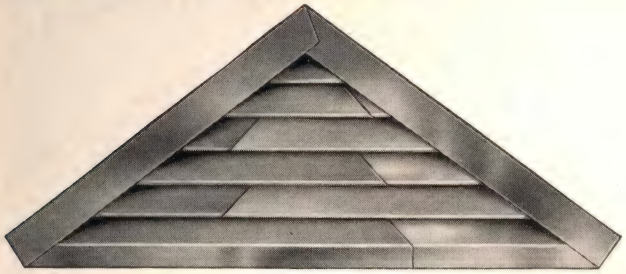
Letter Box Plate

House Door Set No. HD, made of wrought brass with polished finish, consists of Letter Box Plate for outside, and Hooded Back Plate for inside. Letter Box Plate, 3¾" x 9"; hinged door conceals attaching screws. Mail opening 1¾" x 7". Hooded Back Plate is 3½" x 9". Packed 2 sets per carton including brass screws. Weight per carton 2 lbs.

Commercial Door Set No. CD, made of cast brass with polished finish, consists of Letter Box Plate 3⅞" x 13⅜" with mail opening 2¼" x 11½" and Hooded Back Plate 3⅝" x 13½". Packed 1 set per carton. Weight per carton 5½ lbs.

CLEVELAND WALL VENTILATORS

Adjustable Peak Ventilator

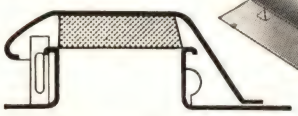


No. 415 is made of aluminum for long life. Complete with screen. Adjusts to any usual roof gable by extending or closing bottom corners. Louvers telescope with close fitting sliding action, and have flanged back to keep out rain. Top diagonal 20½" long with flat strip along top edge for nailing to outside of gable frieze board. Body of ventilator is behind frieze board. Maximum free area for air passage 108 sq. in. Packed 2 per carton, 6 cartons per case. Weight 30 lbs. per case.

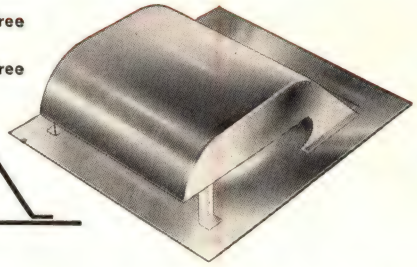
Roof Ventilator

No. 405—60 sq. in. free area

No. 405A—40 sq. in. free area

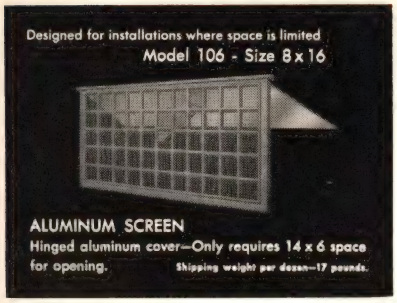


cross section



Made of aluminum for long life. Used to ventilate 4-way roofs. Venturi-shaped pipe extends up 2½" through hole in base and creates siphon effect for air movement. Has low silhouette, cover is only 4¾" above roof. Completely screened. Roof opening 7" square for No. 405A; 9" square for No. 405.

number	free area	base plate	per carton	wt. each
405	60 sq. in.	18½"x15½"	10	1.7 lbs.
405A	40 sq. in.	16"x12⅜"	10	1.3 lbs.



Block Size Ventilator

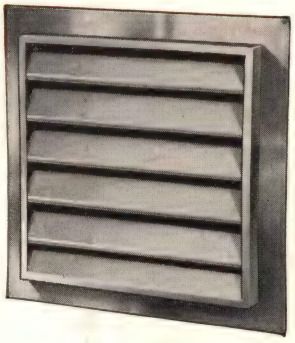
Complete with Shutter and Screen

All Aluminum

F.H.A. approved

No. 106 used in cement block foundations to reduce condensation and dry rot. Shutter closes tightly from outside. Free area 53 sq. in. Fits space of concrete block, or at end of 2" joists 16" on center.

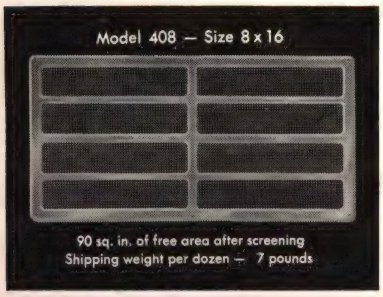
Louver Ventilator



No. 401 made of aluminum. Weather flange recessed for nailing to sheathing. Siding or brick extends over flange and butts against edge of vent for weather-tight fit. Frame is 2" thick with 8-mesh screen attached. Channels on back side hold glass or metal for closing.

Specifications for Rectangular Louver

width height	wall opening	free area	per carton	weight per carton
8" x 12"	8" x 12½"	64 sq. in.	10 pcs.	13 lbs.
8" x 16"	8" x 16½"	77 sq. in.	10 pcs.	15 lbs.
12" x 12"	12" x 12½"	91 sq. in.	10 pcs.	17 lbs.
12" x 18"	12" x 18½"	136 sq. in.	10 pcs.	21 lbs.



Cornice Ventilator

All Aluminum with 8-mesh Screen

F.H.A. approved

Used to ventilate attic spaces and reduce condensation. No. 408 shown above for use in wide cornices. No. 404 is 4" x 16", for use in restricted spaces, and has 30 sq. in. free area. Weight carton of 12-4 lbs.

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Established 1924

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Send us your blueprint for takeoff and our engineers will gladly forward you copies of the detailed takeoff. Materials can be furnished promptly upon receipt of plans or orders.
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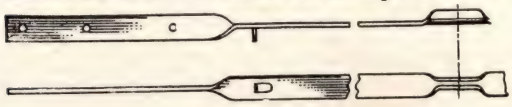
CONCRETE REINFORCING STEEL INSTITUTE CRSI FOUNDED 1924

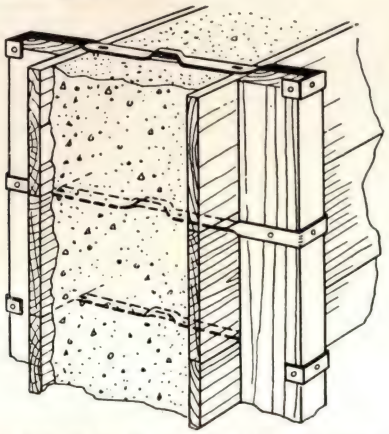
CONVER STEEL & WIRE COMPANY, INC.

600 East 132nd Street, New York 54, N. Y. -:- LUdlow 5-3700

wall form ties and spreaders

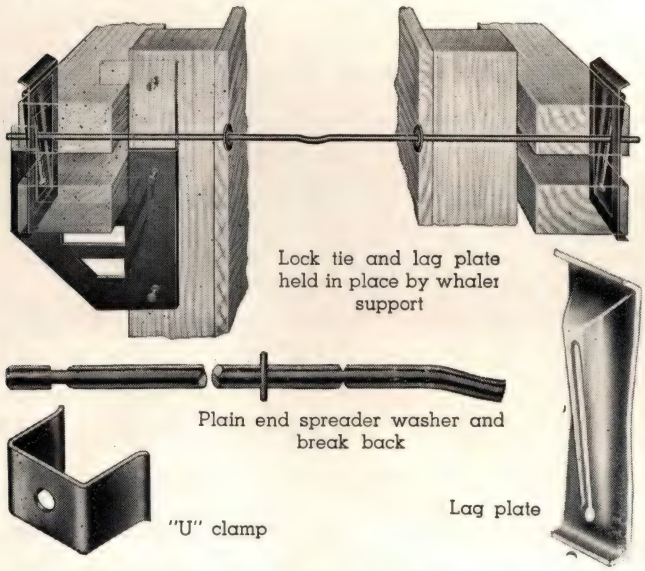
Conver Sure Bond form spreader ties





Manufactured from ¾" x #15 ga. steel and when nailed as shown, between form boards, to the stud, become a rigid tie and form spacer. Ends are punched for standard wall form construction and spacing lugs set as not to remain in the concrete when ties are broken off. No special tools required—a claw hammer twists off the ends. Provides a quick, inexpensive method for standard light wall construction, omitting whalers, wood spreaders and allows reinforcement to be placed before the second form face is erected. Ties are alternately reversed as shown. Crimped center section prevents loosening in wall when ends are broken while concrete is green—eliminating moisture penetration. Lumber used for the forms can be re-used for the rough flooring, siding and studding. Shipped in bundles of 50 pcs.

Conver lock tie, lag plate and "U" clamp



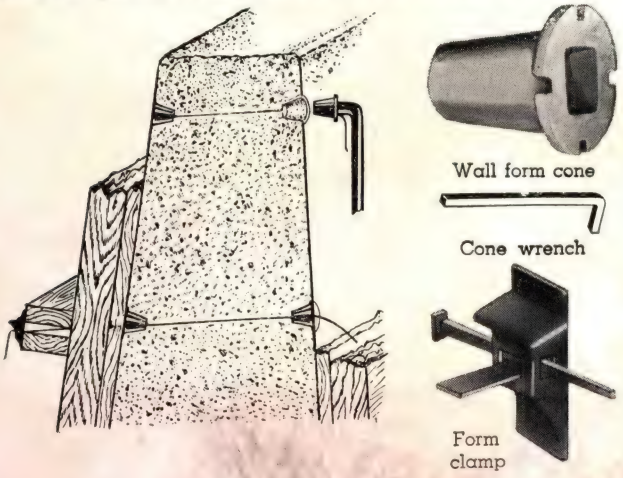
lock tie Manufactured from a #1 ga. (.283" dia.) carbon steel wire, having a working strength of 3000 lbs. Furnished for any required lumber size with a 1" break-back. Only a ⅜" hole is required in the form which reduces seepage. Lock Tie was designed without a button or a hook at the end to save time in setting up and taking down forms. Plain ends prevent tearing the face of plywood forms and are extremely helpful where space is negligible between forms and excavations. Ties are broken off by bending and cranking one quarter turn.

lag plate Manufactured from carbon steel, 6" long, 2½" wide with sufficient take-up to line the forms. Bent up ends permit quick placing and removal.

"U" clamp Manufactured of carbon steel, either 2½" or 3" x $\frac{3}{16}$", formed to hold panels together. The tie comes through the clamp and lag plate is placed on the tie against the clamp and the form is aligned.

whaler support Manufactured from ⅛" plate to hold whales in place, automatically aligns forms.

Bosco band iron, cones and form clamps



The ½" x #14 ga. band iron with cones and clamps as illustrated, adjusts automatically to battens or forms of unusual design as well as standard construction. The cone is removed by one twist with the cone wrench which shears the band iron at base of hole. Forms are tightened with band iron tightening wrench illustrated on page 3. Band iron is furnished in coils and there is approximately 7 feet of band iron to one pound.

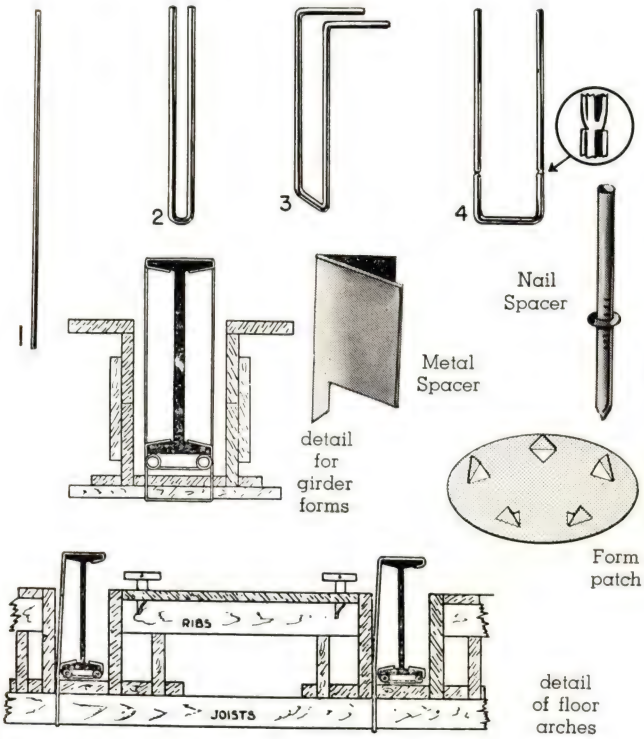
wall form cones Cast of malleable iron, 2" long and can be re-used repeatedly.

cone wrench Designed to provide the necessary leverage to remove the cone cleanly and easily.

form clamp Made of malleable iron to utilize quickly and efficiently the band iron which is secured by a specially tapered cut nail. The clamps and nails may be re-used repeatedly.

arch form hangers & spacers, beam saddles & clamps

Conver wire hangers and spacers



Usually manufactured from #8 bright basic wire—other gauges to order. This is the most economical method of hanging forms from structural steel.

#1—straight lengths As illustrated, wire furnished in accurate lengths, straight, for job bending.

#2—bottom bend Shows bottom bend with the bottom formed sufficiently wide to engage the wood joist.

#3—bottom bend and second bend All that remains now is to hook the wire under the top flange, providing a positive hold.

#4—Conver nicked hanging wire All above can be nicked so that the hangers will break back approximately 1" in the concrete for finished ceilings.

detail for girder forms Forms supported directly from the girder.

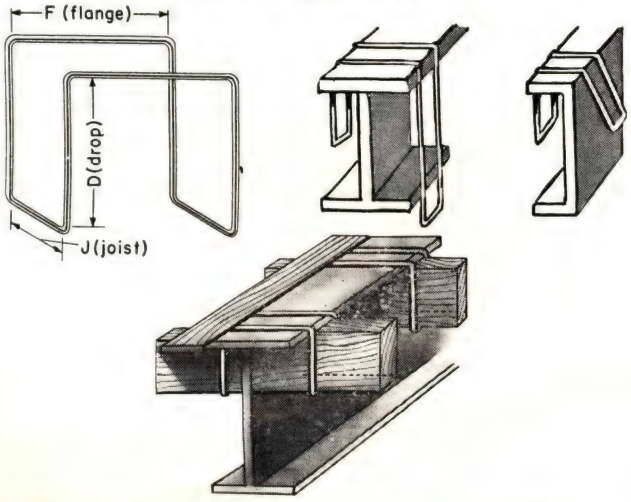
spacers Nail type may be removed after forms are dropped by just pulling out as there is no head at the top.

metal spacer Manufactured from sheet metal, is particularly adapted for hung ceilings where it is not necessary to remove the spacer.

form patches Furnished 1¾" in diameter to repair holes where other trades have drilled plywood forms.

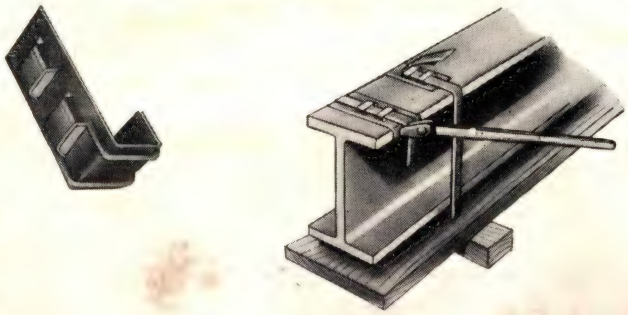
detail of floor arches Shows simplicity of hanging forms from structural members using hanging wire.

Conver wire beam saddles



Manufactured from #8, #6 and #4 bright basic wire. After forming, saddles are electrically welded and used to hang forms from steel structures where beams are not fireproofed. Especially advantageous for bridge deck forming and industrial plants. Adaptable for various conditions. two of which are illustrated. When ordering, give the quantity needed, gauge of wire, flange width, length of drop and width of joist.

Conver beam clamps with band iron hangers



beam clamp Manufactured from #12 gauge steel, 1¾" wide, has five size openings, ¾", 1", 1¼", 1½" and 1¾". At left is a method of hanging forms from structural members by use of Beam Clamp and Band Iron.

band iron tightening wrench Pulls the Band Iron tight and draws the form up against the soffit spacers. The tightener is used with the Form Clamp also.

fireproofing accessories

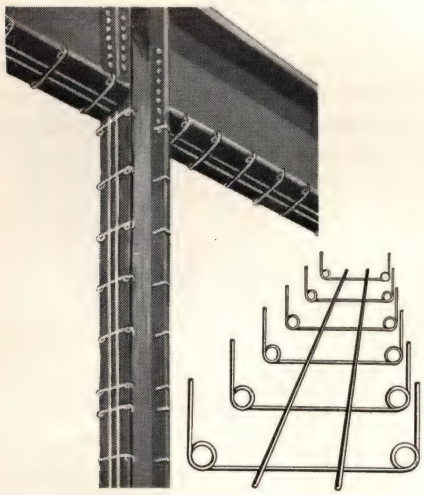
for structural steel members

expansible reed clips



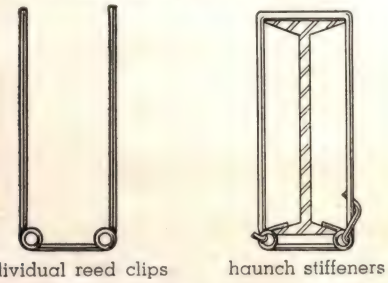
A soffit reinforcement for fireproof construction to the extent that no other reinforcing materials have met with greater success. Manufactured of galvanized steel wire with all members electrically welded assuring rigidity regardless of the size or shape into which a strip may be cut. All beams may be wrapped with the expansible clips enabling the contractor to use them with equal facility and economy in fireproofing buildings, bridge work or industrial plants. Their extensive use on various types of steel structures has proven them to be the most efficient and satisfactory material on the market for reinforcing the thin protective layers of concrete. Manufactured in five sizes: Style A, 4" wide, can be expanded through 8"; Style B, 8" wide, can be expanded through 12"; Style C, 12 " wide, can be expanded through 16"; Style D, 16" wide, can be expanded through 24"; Style Channel can be expanded to fit all channels. Manufactured from either #12 or #10 gauge galvanized wire for heavy government work, clips 12" or 9" on center.

Cover rigid reed clips

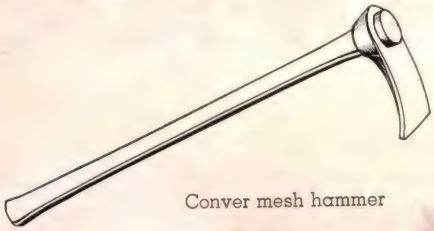


The simplest and most scientific beam clip ever devised costing less per lineal foot of beams wrapped—not only for the material but the placing cost is ½ that of wire mesh or other similar material. The longitudinals and cross wires are offset 1"—placing the reinforcing where it belongs to prevent cracking across the soffit. Reed clips, 3" to 8" wide have one longitudinal wire with 2½" projections above loops; clips 9" to 15" wide have two longitudinal wires with 4" projections above loops; clips 16" to 20" wide have three longitudinal wires with 5" projections above loops; clips 21" to 25" wide have four longitudinal wires with 6" projections above loops. Manufactured in #12 or #10 ga. galvanized wire with clips either 12" or 6" on center. Illustrated at left is a typical 9" to 15" reed rigid clip. Specify flange widths when ordering.

miscellaneous accessories



individual reed clips haunch stiffeners



Conver mesh hammer

individual reed clips Manufactured to fit the various flange widths of the structural steel beams or girders. The ends are long enough to project up the depths of the beam and be twisted together above the top flanges. Fabricated from #10 or #12 ga. galvanized wire, spaced 6" on center on the beams. Specify beam sizes when ordering.

haunch stiffener Furnished in #10 or #12 ga. galvanized wire with a hook at one end to engage the loop of the reed clip on one side and to extend up and over and back down to the loop on the opposite side—to reinforce the haunch. Usually used on beams having a depth greater than 16".

Conver mesh hammer Manufactured from malleable iron to provide a positive method for hooking and anchoring wire mesh to the flanges of steel beams. The hammer may also be used to speed the wrapping of columns.

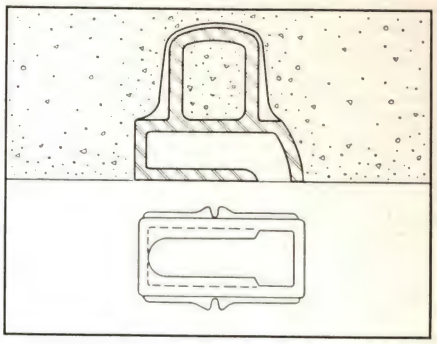
for maximum anchorage

adjustable insert



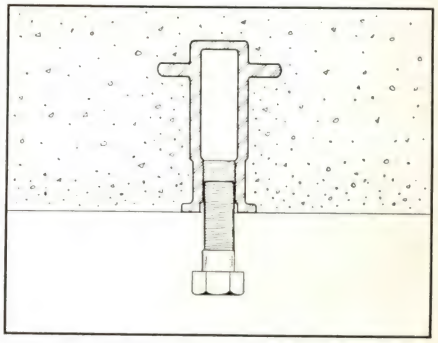
adjustable insert Cast from malleable iron and designed with a large loop with ribbed construction to provide a maximum of anchorage sufficient to develop the full strength of the bolt used. Carried in stock for ½", ⅝" and ¾" bolts.

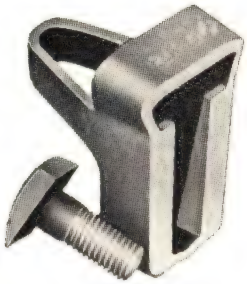
installation details



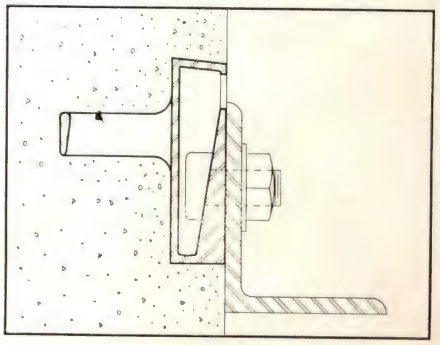


threaded inserts Cast from malleable iron and designed so that in good concrete sufficient bond is developed to utilize the full strength of bolt used. Carried in stock for ¼", ⅜", ½", ⅝" and ¾" bolt.



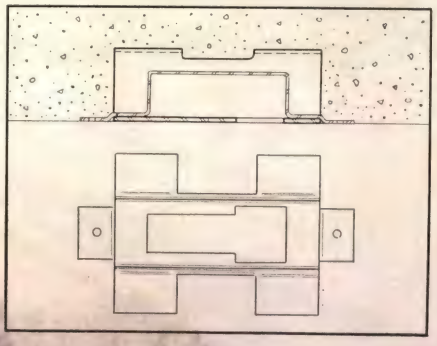


peerless wedge insert Designed to support with adjustment, shelf angles commonly used to carry brick veneer or other exterior wall facing. The wedge insert permits the shelf angle to be adjusted smoothly to the exact position desired. By merely tightening the nut in position, the load is carried at the required elevation without the slightest chance of slipping. Furnished with ⅝" or ¾" bolts.



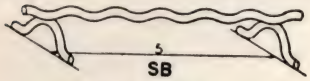


pressed steel inserts Manufactured from ⅛" thick plate and can be furnished either plain or galvanized. Extra wide flanges provide positive bearing in the concrete. Furnished for ⅜", ½", ⅝" and ¾" bolts.



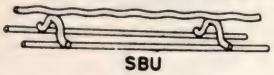
reinforced concrete accessories

slab and beam bolsters



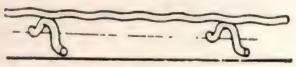
SB
Slab Bolster

slab bolster #4 top wire, corrugated 1" on center, to assist the steel setter in placing bars. #7 wire legs, 5" on center for ¾" height. Over ¾", #5 legs. Stocked in 5'-0" lengths.



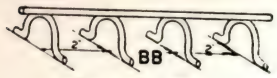
SBU
Slab Bolster Upper

slab bolster upper Supports a second layer of steel and is also used to support reinforcing over fill or cork insulation. Specifications same as slab bolster. Runners, #7 wire.



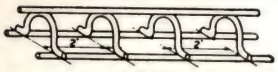
SBP
Slab Bolster with Plate

slab bar bolster with plate Supports reinforcing bars directly over fill or ground. The metal plate gives sufficient bearing to assure correct height of the reinforcing. Specifications same as slab bolster. Plate 3" x 20 gauge. 5'-0" lengths.



BB
Beam Bolster

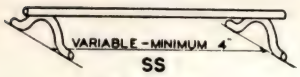
beam blosters Support reinforcing steel in beams and girders. Shipped in 5'-0" lengths and cut to width on the job. Specifications, #7 throughout, legs 2" on center. Heavy beam bolsters (HBB) #4 wire throughout, legs on 2" center.



BBU
Beam Bolster Upper

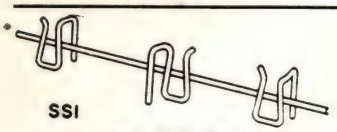
beam bolsters upper Supports an upper layer of reinforcing the required distance from the lower layer in beams and girders. Cut to length on job. Furnished in 5'-0" lengths. Specifications, #7 wire throughout, legs on 2" center. Heavy beam bolster upper (HBBU) #4 wire throughout, legs 2" on center.

slab and beam spacers



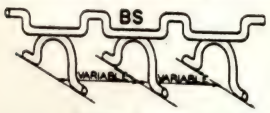
SS
Slab Spacer

slab spacer #4 top wire is smooth. Supports and spaces slab reinforcing with legs under each slab bar. #7 legs up to ¾" height. Over ¾", #5. Minimum leg spacing 4" on center. Furnished in 5'-0" lengths.



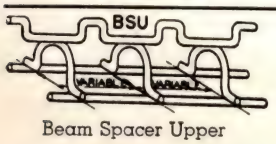
SSI
Snap-in Slab Spacer

snap-in slab bar spacer Supports and spaces the slab reinforcement without the necessity of tying the bars. Specifications, #4 smooth top wire and #7 wire legs.



Beam Spacer

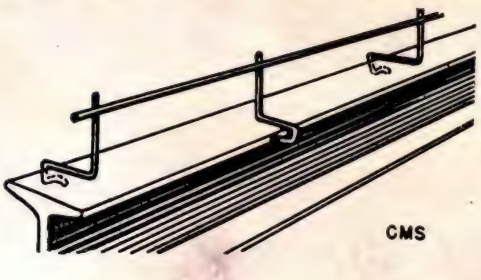
beam spacer Supports and spaces reinforcing steel in beams and girders. Furnished in 5'-0" lengths. Cut to beam widths on job. Specifications, #7 wire throughout—legs, minimum of 2" on center. Heavy beam spacer (HBS) #4 wire throughout.



Beam Spacer Upper

beam spacer upper Supports and spaces an upper layer of steel in beams and girders. Furnished in 5'-0" lengths. #7 wire throughout. Legs a minimum of 2" on center. Heavy beam spacer upper (HBSU)#4 wire throughout.

continuous wire mesh supports



CMS

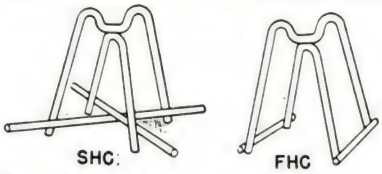
Designed to attach securely to top flange of structural members and hold reinforcement at the required height. Mesh reinforcement may be safely rolled over this chair as the spring tension firmly grips both sides of the structural flange. Specifications, #0 smooth top wire with #4 wire legs spaced 12" on center. Furnished in 5'-0" lengths.

high chairs



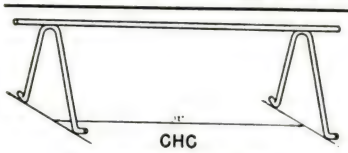
Individual high chairs

individual high chairs Support upper slab steel—either directly or with a temperature bar. High chairs over 7" are reinforced by additional wire around the legs to prevent the legs from spreading. Individual high chair with plate is used over ground or insulation. Specifications, ¼" wire to 4" high, #0 wire over 4" to 12"—special over 12". Plate, #20 gauge.



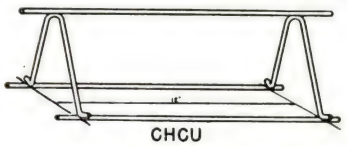
Special high chair High chair for fill

special high chairs Support and space a top layer of reinforcement steel by resting chair directly on lower steel with adequate bearing provided by the cross wires. Height is measured from underside of cross bar to the seat of chair. Specifications, ¼" wire up to 4", #0 wire over 4", cross wires #0.



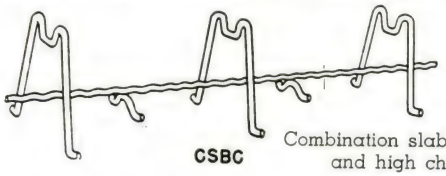
Continuous high chair

continuous high chairs Support continuously the top slab reinforcement and also the bent up bars around beams, girders and columns. Does away with temperature bars. Specifications, #0 top wire, ¼" wire legs 12" on center up to 4"; #0 wire legs 12" on center over 4". Stock lengths 5'-0".



Continuous high chair upper

continuous high chairs upper Support a second layer of reinforcing steel the required distance above the lower layer. Can also be used to support reinforcing steel over fill or insulation. Specifications, same as the continuous high chair. Runners ¼" diameter.



Combination slab bolster and high chair

combination slab bar bolster and high chair Used at a saving to support reinforcing steel in simple one way slab construction. The temperature bar is placed in the high chair and the upper and bent steel is supported on temperature bar. Lower steel is supported by the slab bolster. Specifications, same as slab bolster and high chair, legs alternately spaced 6" on center.

joist and bar chair



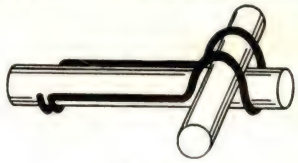
Joist bar chair

joist bar chairs Support two reinforcing bars in concrete ribs or joists. Manufactured for joist widths 4", 5" and 6" and space bars ¾", 1", 1½" and 2" in height. Specifications, #7 wire throughout.

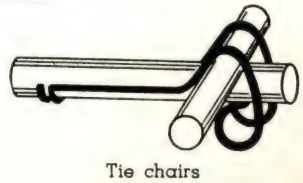


Bar chair

bar chairs An individual bar support providing exact spacing of steel in joists and also for miscellaneous steel. Manufactured in heights up to 2". Specifications, #7 wire throughout.


Bar ties

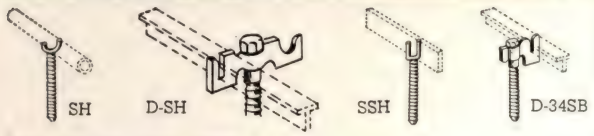
bar ties Provide an economical and positive method of tying two intersecting bars together either in vertical or horizontal position. Size #0, combined diameters ½" to ¾"; size #1, combined diameters ¾" to 1"; size #2, combined diameters 1⅛" to 1⅜"; size #3, combined diameters 1¼" to 1⅝".


Tie chairs

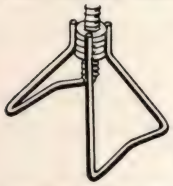
tie chairs Support and tie two intersecting reinforcing bars economically and securely ¾" above the form. Size #1, combined diameters ¾" to 1"; size #2, combined diameters 1⅛" to 1⅜".

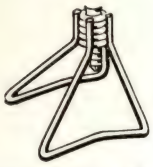
reinforced concrete accessories

screed supports



Four popular head types


ASC adjustable screed base


SCO offset screed chair

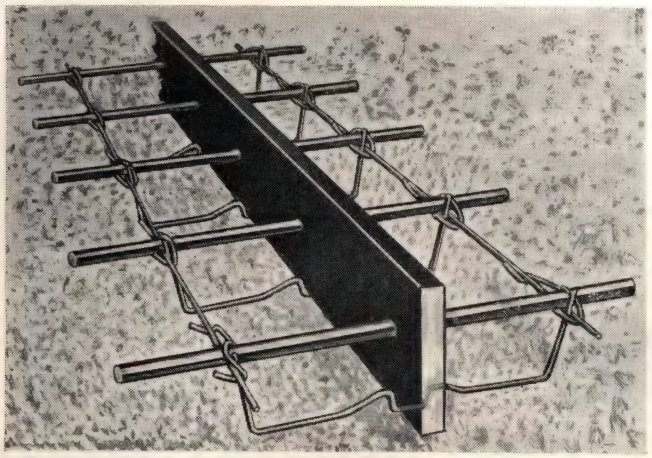
head types The SH takes a 1" inside diameter pipe. D-SH takes either a T bar or 1" diameter pipe. SSH takes a flat bar support. D-34SB takes a heavy T bar.

base types The two most common base types are the ASC adjustable screed base, manufactured in three sizes: #1, 2½" high; #2, 3½"; and #3, 5½". The SCO offset screed chair is particularly adaptable when used with the offset screed hear D-SH.


SC—screed chair

screed chair SC Manufactured from hard drawn wire —is non-adjustable with a seat to receive a 1" pipe and can also be furnished to receive a rectangular screed bar. Specify slab height and screed bar being used when ordering.

road dowel supports



continuous road dowel expansion joint assembly

Furnished in any desired length and made to provide a positive method for supporting and spacing road dowel at expansion joints. The dowel is placed in the angle formed by the intersection of the chair and spacing rod and is securely locked in place with a spring clip which permits the road dowel assembly to be made up economically in a central location and distributed as required.

The continuous road dowel assembly for contraction joints is similar to the above except the recess in the chair for the expansion joint is eliminated.



individual dowel chair

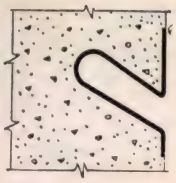
Designed to support the dowel at the correct height. The pointed and unequal length of the legs facilitate penetration of the sub-grade. The shoulders of the chair provide an accurate stop and support at the correct height for the dowel. When ordering, specify the height from sub-grade to center of the dowel and the diameter of the dowel.

form pins



Manufactured from steel; ⅝", ¾", ⅞" and 1"; lengths from 18" to 5' 0". Pencil point to facilitate driving.

reglet for flashing



Used extensively on parapet walls to secure the flashing and roof felt—providing a positive method of avoiding water seepage in flat or sloped roofs. Used in curbs, on road decks. Furnished in 10'-0" lengths—in #26 gauge galvanized steel, copper or other material. Can be furnished with felt filler to prevent seepage.

Conver wall ties

corrugated and herringbone types



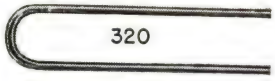


Galvanized steel, ⅞" wide x 7" long. Furnished in gauges from #26 to #16. Also furnished in non-ferrous metals.

wire types









#310 wire wall tie #10 ga. galvanized wire, 7" long with 1" diameter loops.

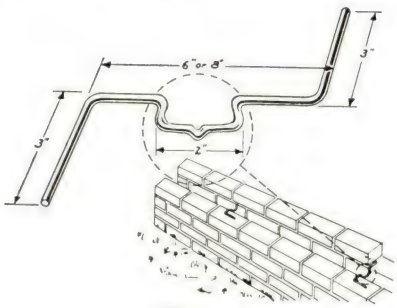
#311 wire wall tie #12 ga. galvanized wire, 7" long with a $\frac{5}{16}$" loop on one end for nailing, 1" diameter loop on the other.

#320 wire tie #10 ga. galvanized wire, 8" long, 1" between legs.

#321 wire tie #10 ga. galvanized wire, used for anchoring brick or stone.

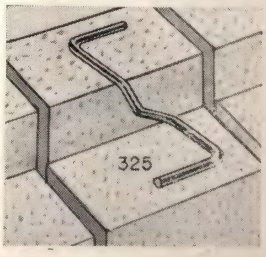
Note: All wire types can be made from copper, zinc or bronze.

cavity wall anchors

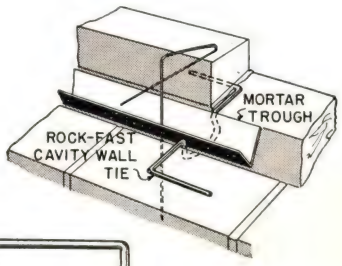


335

#335 "Rock-Fast" cavity wall tie (at left) Carefully engineered to space cavity walls exactly. Permanently protected against corrosive actions of moisture, lime and mortar by moisture drip feature. Manufactured with 6" stem and also 8" stem, 3" wings and 2" spacer for 2" cavity.



#325 Regular cavity wall anchor (at right) Manufactured from ⅛", $\frac{3}{16}$" and ¼" diameter, zinc clad, hot galvanized after or non ferrous material, prevents moisture from passing from outer wall to inner wall.

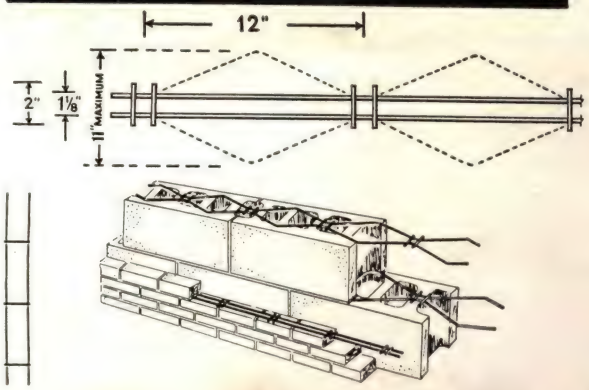




mortar trough For 2" cavity wall construction. Cleans cavity automatically, preventing mortar bridges forming across cavity and capillary attraction of outside moisture to inside wall. Heavy gauge steel eliminates sagging. Engineered for use with "Rock-Fast" cavity wall ties. Available in 36" lengths with 30" collapsible wire pulls.

rectangular type wall tie Galvanized wire $\frac{3}{16}$" dia., 2" x 6" and 2" x 8". With or without drip crimp. Also manufactured in non-ferrous material.

wall reinforcement

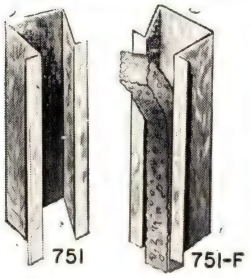


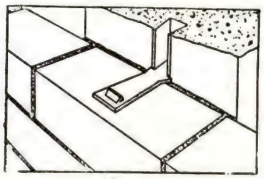
expansible wall reinforcement Fabricated from #10 gauge cold drawn steel wire, galvanized, 100,000 lbs. p.s.i. Does not interfere with mortar joints. Assures walls free from cracks, even around openings. Furnished 2" wide, any lengths up to 12' in even foot multiples. Expands to 11" width for any walls 3" to 13" in width. Specify lengths when ordering.

ladder type #9 gauge Cross Wires and #9 gauge longitudinal wires. Also furnished with drip crimp for cavity. Heavy duty furnished with $\frac{3}{16}$" longitudinal wires. Advise wall size.

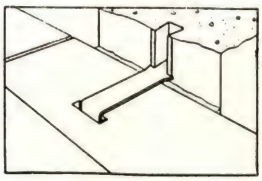
masonry wall anchors and ties

dovetail anchor slots and anchors





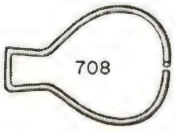
Brick anchored to concrete



Stone anchored to concrete





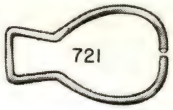
















anchor slots

#751 provides an adjustable method that is both positive and economical for anchoring stone, brick, tile, block or other masonry to concrete walls or columns. Can also be furnished felt-filled, #751-F which prevents cement grout from seeping into the anchor slot where vibrators are used. As masonry courses are built, anchors may be placed wherever required, thereby firmly tying in the veneer to the concrete wall. Manufactured from #24 gauge galvanized steel—also in heavier gauges to order, copper, monel and zinc.

stone anchors

#712 furnished in plain steel or hot galvanized after fabrication, 3½" long from the face of concrete to the outside of the ¾" right angle bend. Also manufactured to other lengths, usually in ⅛", $\frac{3}{16}$" and ¼" thicknesses.

#713 is the same as #712, except that it has a 90 degree twist.

brick anchors

#708—#10 ga. galvanized wire, having a 3½" diameter.

#709—Corrugated, 3½" long.

#711—Notch Type, 3½" long.

#710—Notch Type with mortar hole for additional bond, 3½" long.

Manufactured in #16, #14 and #12 gauge galvanized steel.

Other lengths as required—also furnished in non-ferrous material.

furring anchors

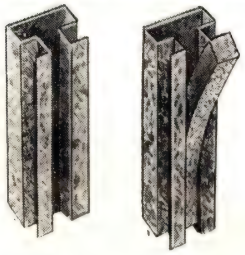
#720 and #722—Manufactured 2" long from face of concrete in either #16 or #14 gauge galvanized steel.

#721—Manufactured in #10 ga. galvanized wire.

#723—Has a ¼" right angle bend.

Also manufactured in non-ferrous material.

Conver "T" anchor slots and anchors

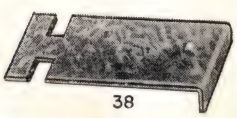


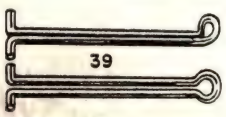
anchor slots

Is a positive means of anchoring brick, tile, stone, block or masonry to concrete walls or columns. The slot provides an adjustable method by permitting the anchors to be placed between courses wherever required. Normally manufactured from #24 gauge galvanized steel, however, heavier gauges can be manufactured to order as well as non-ferrous material. Furnished either open, without felt-filler or with a felt-filler added to prevent grout from seeping into the slot. Standard lengths are 10'-0".









brick anchors

#33 is the corrugated type brick anchor, furnished in 3½" lengths from face of concrete. Manufactured in #16, #14 and #12 gauge galvanized steel.

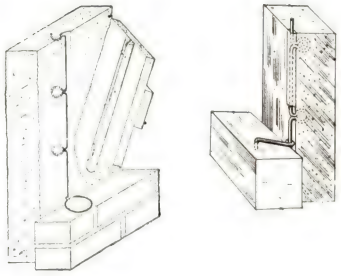
#35 is a #10 ga. galvanized wire used for anchoring brick or tile.

stone anchors

#38—Furnished in ⅛", $\frac{3}{16}$" and ¼" thickness, either plain or hot dipped galvanized steel, 3½" long from face of concrete to outside of ¾" bend. Other lengths as well as non-ferrous material to order.

#39—Manufactured from #9 ga. galvanized wire. Also furnished in non-ferrous material to order.

clog-proof anchor ties



for walls

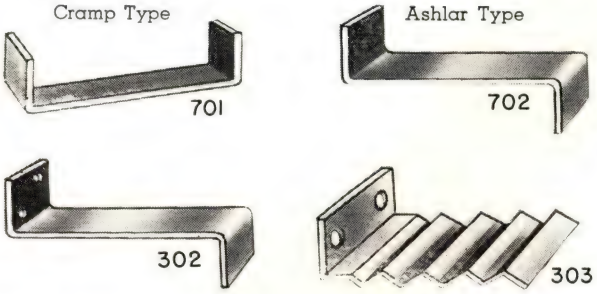
Manufactured from a #9 ga. hard galvanized wire, to provide a fool-proof method of anchoring brick and stone veneer to masonry walls and also for anchoring tile veneer in masonry partitions. The Anchor is delivered to the job enclosed in a semi-circular wood core which is nailed directly to the form. When the forms are stripped, the wood core is stripped along with the form, leaving the wire securely anchored with 1½" diameter rings 6" on center in the concrete and the continuous wire exposed in the semi-circular groove in the concrete for fastening the anchor. Illustrated is #10 ga. galvanized wire-brick anchor being placed between courses in the brick and also a ¼" galvanized stone anchor.



for partitions

Manufactured from #10 gauge wire 2" wide x 5" or 12" long. Other lengths can be manufactured to order.

Conver stone and buck anchors



stone anchors

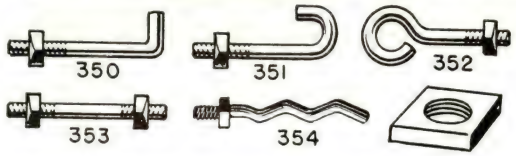
Furnished plain, painted or galvanized. ⅛", $\frac{3}{16}$" or ¼" thick x 1" or 1¼" wide. Also special sizes and material to order.

door buck, window frame anchors

#302—Same as #702—Just has two holes in one leg for nails or wood screws.

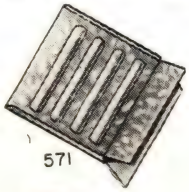
#303—8" long plus 2" right angle bend with hole for wood screws or nails. Furnished in #16 gauge galvanized, 1½", 2" and 3" wide.

Conver anchor bolts and washers



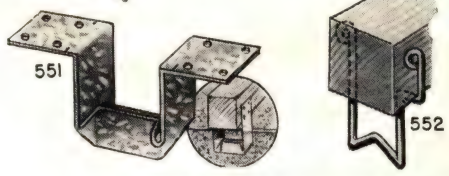
Illustrated at left are various anchor bolts, eye bolts and tie rods that can be manufactured in any diameter from ¼" up to and including 1½". The square washers manufactured to order for any size and thickness.

wall plug and sleeper clips



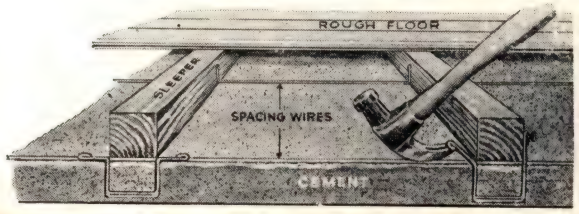
metal wall plugs

Manufactured 3" deep x 2¼" wide. The side and back are sealed to prevent mortar seepage. Provides a positive friction nailing base at low cost. #571 WF not illustrated, is the same except that it is wood filled.



sleeper clips

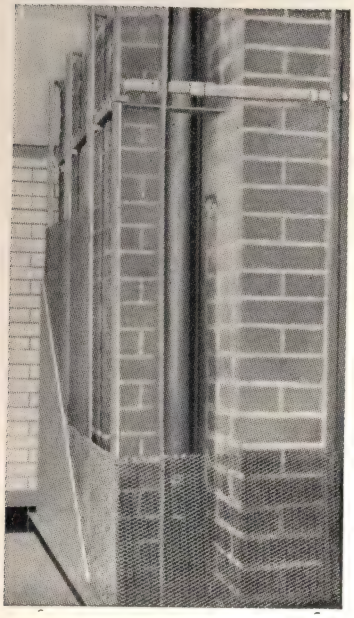
Manufactured from #20 ga. galvanized steel, 1¼" wide in three sizes for 2", 3" or 4" sleepers. Anchors wood sleepers to concrete floor slabs at low cost. #552 is the wire type manufactured from #10 ga. galvanized wire in the same sizes.



continuous sleeper spacing anchors

Manufactured from #10 ga. galvanized wire to facilitate the spacing of sleepers as well as anchorage. The clips are spaced either 12" or 16" on center to take either a 2", or 3" or 4" sleeper. The pre-spaced anchor strips secure sound floors more economically than any other method.

Simp-l-on furring system



standard Simp-L-On system

A steel wall furring for any type of new masonry walls, invented and developed by an architect as a result of unfortunate experience with leaky masonry walls. The system consists of a metal shield set in the masonry, an adjustable bracket inserted in the shield and a horizontal furring strip of such shape that it fits snugly into the bracket—secured in place by a resilient clip. The combination of shield, bracket and V-strip provide a rigid, free standing furring of non-corrosive material that is adjustable to within ⅛" of vertical furring surface. Simp-L-On assures the objective of all furring—provides an air space and eliminates direct contact between masonry and plaster and is the best insurance against damp plaster surfaces yet devised.

some representative installations

Schools

Wilmington, Del.; Greenwich, Conn.; Paris, Ky.; Reading, Pa.; Montpelier, Vt.

Colleges

Brooklyn College, N. Y.; Medical College of Va.; Manhattan School of Music; Wooster College.

Federal Buildings

San Francisco; New York, N. Y.; Ketchikan, Alaska.

Post Offices

Sitka, Alaska; Lebanon, N. H.; Lodi, Calif.; Seattle, Wash.; Vicksburg, Miss.; Marquette, Mich.; Fond du Lac, Wisc.; Wilmington, N. C.

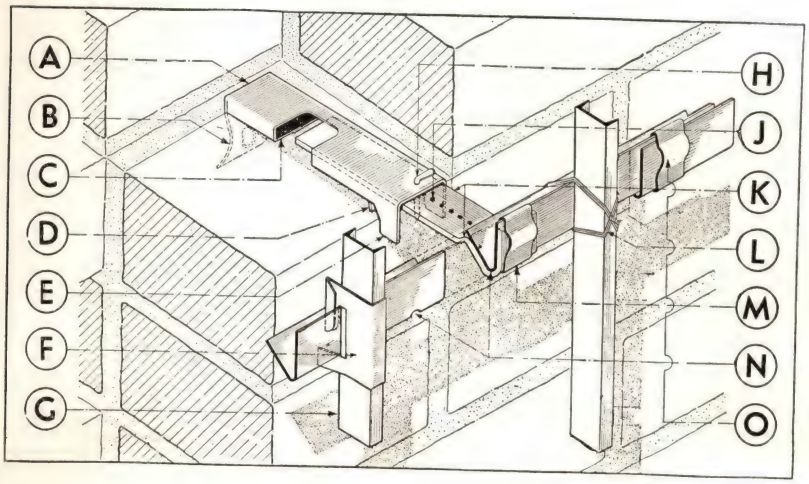
Churches

St. Luke's, Schenectady; St. Paul's, Clifton, N. J.; St. Agatha's, Brooklyn, N. Y.

Hospitals

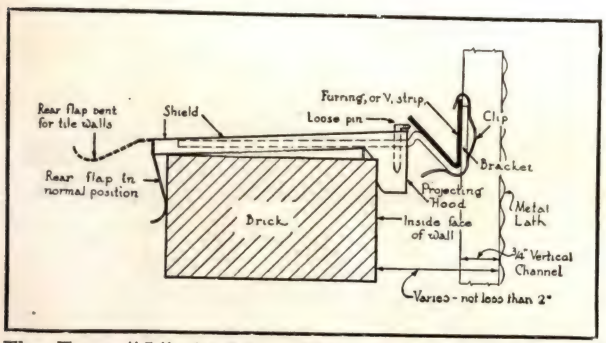
New York, N. Y.; Kingsport, Tenn.; Tupelo, Miss.; Provo, Utah; Richmond, Va.; Warm Springs, Ga. Central State, Petersburg, Va.

brick masonry installation



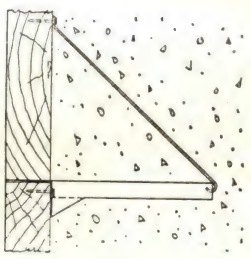
A—22 guage galvanized metal shield built into brickwork.
B—Spring flange, clamping shield to brick.
C—Shield entirely enclosed to prevent clogging by mortar.
D—Leg under front end of shield provides pitch and prevents water flowing toward plaster.
E—Projecting hood serves three purposes—provides alignment of shields in relation to face of masonry—prevents moisture on face of wall reaching Bracket "K" and prevents mortar droppings clogging opening.
K—Adjustable Bracket made in any length desired. Note crimp at front end of bracket to provide moisture stop.
J—Holes for adjustment—¼ in. on centers.
H—Removable pin for bracket adjustment.
N—Horizontal furring member with weep holes.
M—Metal Spring Clip securing horizontal member to Brackets.
G—Vertical Channels (spaced as desired) to which metal lath is secured.
F—Simp-L-On Channel Clip for securing channels to horizontal member.
L—Ordinary method (wiring) of securing vertical channels to horizontal member.
O—Method of overlapping strips and clipping together to form continuous horizontal member.

brick or block installation



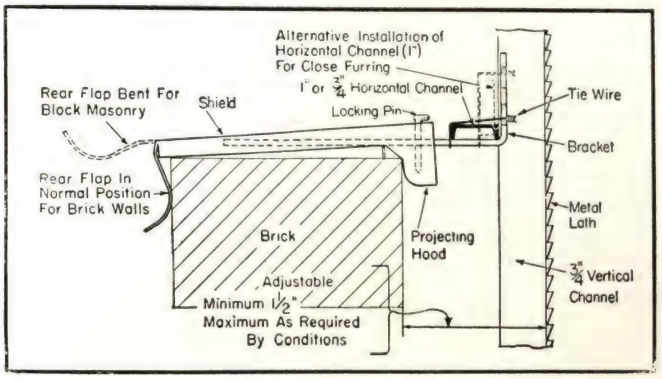
The Type "A" shield as illustrated above is used for brick, block or tile construction and the shield is snapped to the brick and placed in the wall. For block or tile, the rear flap of the shield is bent upwards and used the same way.

concrete installation

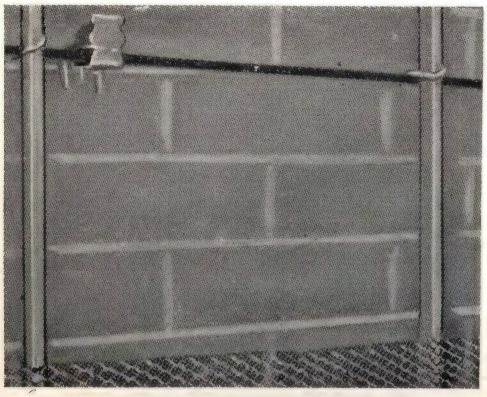


The Type "B" shield is used in poured concrete walls and the shield is nailed either between form boards or the front flap is bent upwards and nailed directly to plywood or other forming material. A prefabricated wire is furnished with a hook on one end, a loop on the other. The loop end is nailed to the form above the shield and the hook is engaged in the end of the shield to insure that the shield is not bent downward while concrete is poured into the form. The opening of the Type "B" shield is protected with mastic to prevent any concrete seepage from entering.

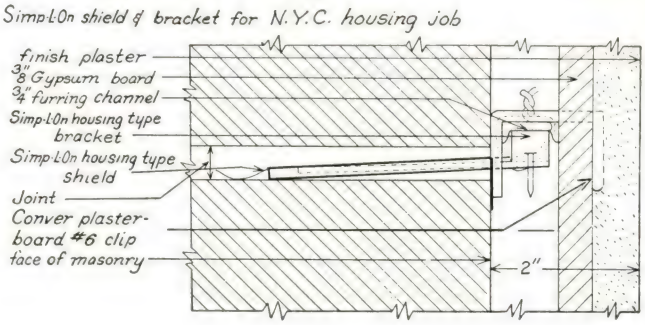
modified Simp-L-On system



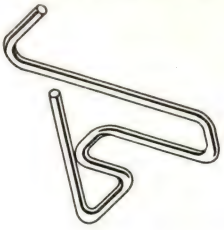
The same as the standard system, with the exception that contractor furnishes his own horizontal furring member—usually a 1" or ¾" channel. The modified bracket has cutouts to facilitate tying of the horizontal furring member to the bracket. Vertical furring members are tied to the horizontal.

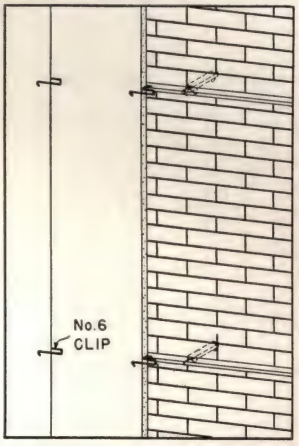


housing Simp-L-On system

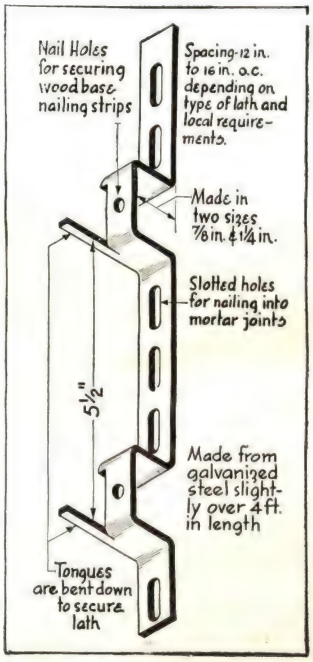


The housing bracket permits a ¾" horizontal furring member to be placed directly against the masonry wall if desired. The #6 clip anchors the plasterboard securely to the horizontal furring member. The housing shield is used with brick, block or tile.

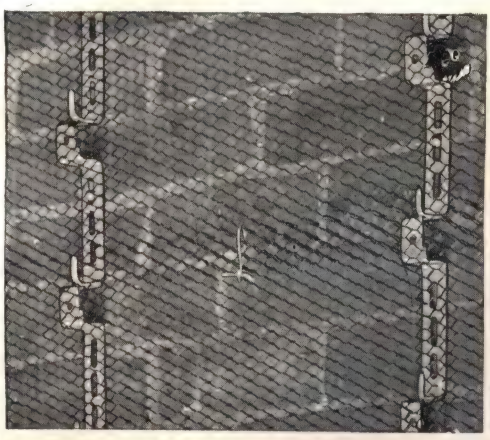




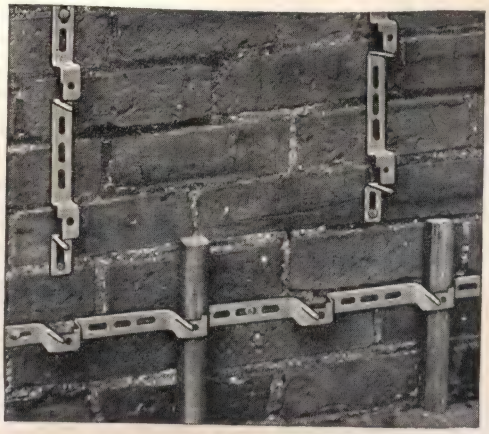
Taylor bracket strips



Provides an efficient and economical wall furring face for metal lath and plaster when nailed to masonry or concrete surfaces. The strip forms a complete wall furring with clearance in all directions for cables and small piping. Two sizes are made, ⅞" and 1¼". The Taylor Bracket Strip is suitable for new and old walls, apartments, low cost housing and many other types of construction. Paper back or open mesh lath is applied directly to the Taylor Strip and fastened by bending the prongs.

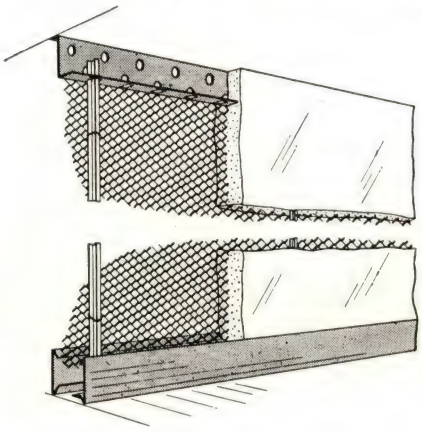


Metal Lath Applied

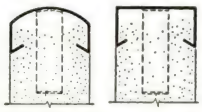


Wood Nailing Strips for Base

solid partitions—using metal lath and channels



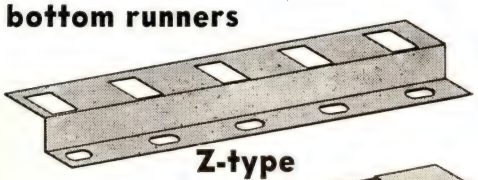
The partition is a steel reinforced-vertical slab of plaster 2" or 2¼" thick. Hot or cold rolled channels running vertically from floor to ceiling, reinforce the partition vertically and also hold the metal lath to which plaster is applied. The lath is attached on the runner side of the partition by tying to channel. Partition is completed by plastering both sides of metal lath to the total thickness required. Where metal base is used, bottom runner is not necessary. The base clip anchors the vertical channel as well as the metal base.



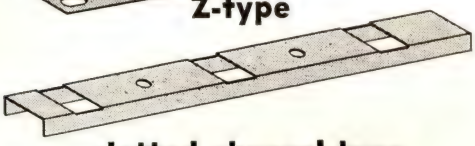
partition ends

Manufactured in #18 gauge with either a round or square nose for either a 2" or 2¼" partition. Furnished with clips welded for anchorage and with one clip loose per length to be used for the top in case the lengths have to be cut on the job. Also used as a stair rail. Furnished with one prime coat of zinc chromate paint.

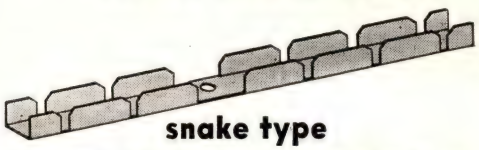
bottom runners



Z-type



slotted channel type



snake type

Z-type is slotted to receive channels 2" on center. Vertical leg is ⅝" high. Made of #26 ga. galvanized steel.

Slotted channel type has slots to receive channels 4" on center and is offset from the floor ½". Furnished in #20 ga. painted.

Snake type is a #24 ga. galvanized runner with the slots to receive channels 2" on center.

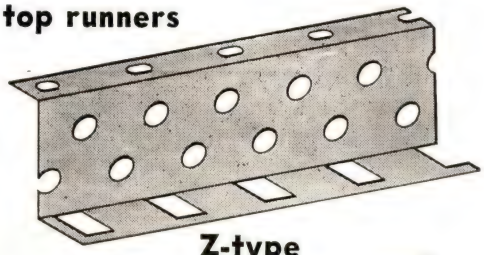
top runners

Z-type runner is offset 2½" and made of #26 ga. plain or galvanized steel sheet, slotted 2" on center.

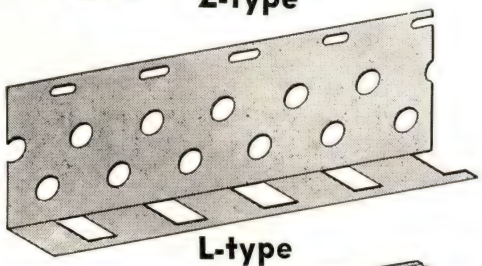
L-type used around beams, has a 3" drop and is made of #26 ga. galvanized or painted steel.

Prong type ceiling runner, made of #20 ga. steel, furnished painted, has prongs to receive the channels 4" on center. The edges are embossed to provide additional rigidity.

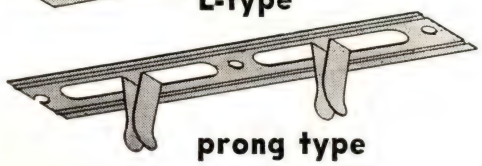
top runners



Z-type

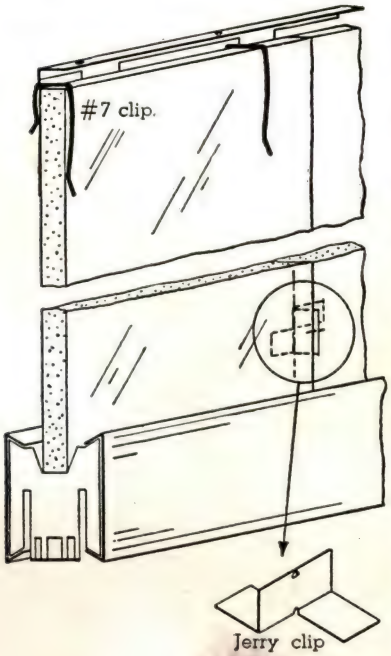


L-type



prong type

solid partitions—using plaster board



The Solid Partition using plaster board as illustrated, forms a 2" solid partition using the plaster board as the base and then plastering on both sides until the required thickness is reached. Where metal base is used, a floor runner is not necessary since the clips that anchor the metal base are notched to receive the plaster board.

L-prong type top runner has 2" long prongs 4" on center and the plaster board is placed against the runner, the prongs are pulled down securely fastening the plaster board in place. Made of #24 ga. galvanized steel with a 2½" drop.

L-slotted type top runner, of #24 ga. galvanized steel, when used in conjunction with the #7 spring clip, securely fastens the plaster board to the runner as illustrated at left.

Straight slotted type ceiling runner, made of #24 ga. painted or galvanized steel, has a 3" drop and utilizes the #7 clip. Used primarily around beams.

No. 7 clip

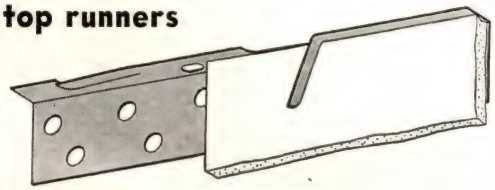
Manufactured from ⅛" diameter spring wire used to quickly and economically fasten plaster board to the L or straight type slotted ceiling runner.

Jerry clip

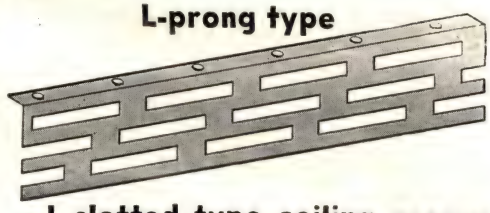
#24 ga. galvanized clip used to securely lock in place plaster board at the joints. A 6d finishing nail is used in conjunction with this. The Jerry clip does away with cracked plaster walls at the plaster board joints.

No. 6 plasterboard clip see application illustrated on page 13.

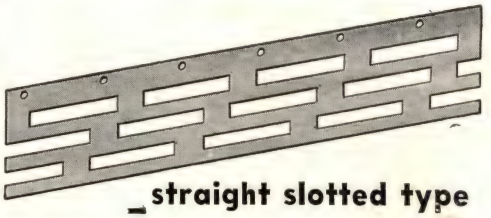
top runners



L-prong type



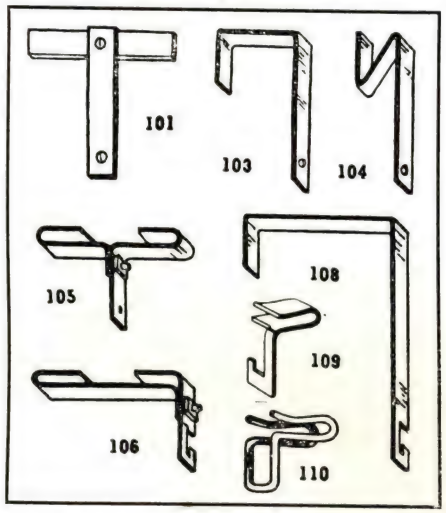
L-slotted type ceiling runner



straight slotted type

for suspended ceilings

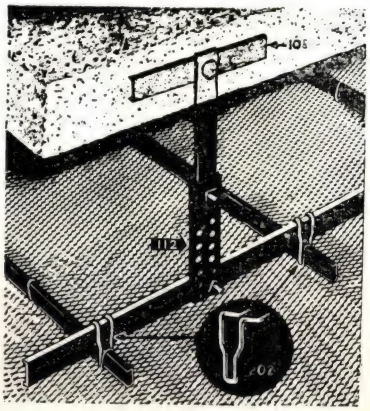
Conver ceiling hangers



#101, #103, #104 and #108 are used in the concrete slab construction and with the exception of the #101, are nailed to the forms and after the forms are stripped, the hanger is pulled down into the vertical position to support the ceiling.

#103 can be used on wood beams; #105 and #106 are used on steel beams. Where desired or necessary to omit the main furring members, hangers may be notched directly to support the ¾" or 1" channel—as in #108 and #106.

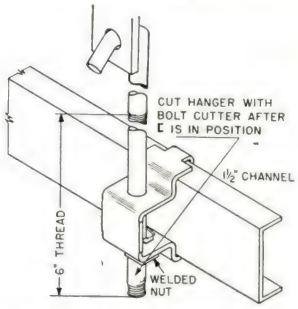
#109 and #110 support the furring member directly from the structural member omitting the main furring.



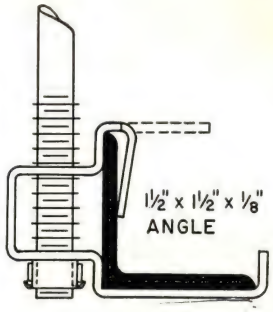
hair-pin clip No. 202

Manufactured from #8 ga. galvanized wire and used to connect the main and cross furring members together quickly and economically. Merely snap on and the furring members are fastened together. Give size of furring members when ordering.

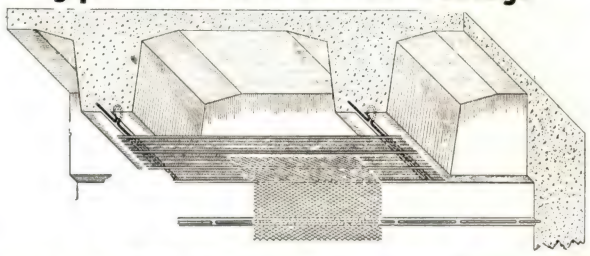
level line adjustable ceiling hangers-"patented"



Is the latest improvement in hung ceilings. Can be used in place of hanger #112. Eliminates bolts and the necessity of marking and taking down the hanger to be punched at the correct level, and of course saves the time of putting up the hangers again. With the thread adjustment at the bottom, the hangers can be adjusted to a true and level height. Permits furring to be hung in any direction if changes are necessitated after hangers are installed and can be used on all types of ceiling hangers from #101 to #105. The greatest time saver invented in recent years. Manufactured from #14 ga. copper bearing steel to receive an 1½" channel or angle. Hanging rod is manufactured of ⅜" cold drawn steel, furnished with hook at one end and 6" of thread at the other, in 6" multiples.



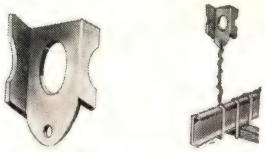
clog-proof anchor ties for ceilings



Installed in concrete joists, slabs and walls to provide a continuous wire hanger for the direct attachment of metal lath. Also provides continuous anchorage for hung ceilings. If acoustical tile is used, furring boards are tied directly to the anchor. One of the most economical methods of supporting lath directly to the ceiling—doing away with all furring members.

miscellaneous hangers

nailer ceiling inserts



Nailer Ceiling Insert #199—manufactured from #14 ga. hard steel and is easily driven into the forms. A popular method of hanging ceilings and can be used with a pencil rod as well as the direct hanger.

wire ceiling lath hangers



#204—manufactured from #8 ga. hard galvanized wire or copper wire, is used where lath is to be applied directly to the underside of the beam. This eliminates the use of main and cross furring members. Clips are placed in the forms approximately 6" apart leaving projecting legs to clinch the ceiling runner tightly to bottom of joist.

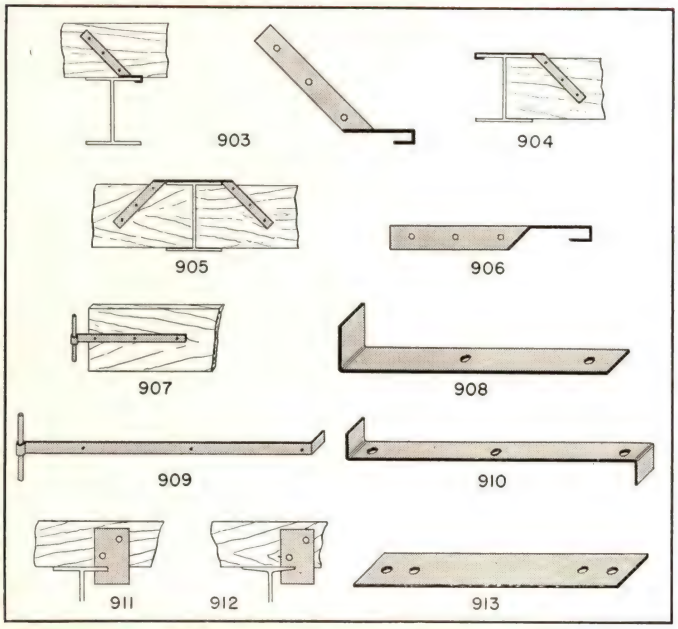
wire lath clip



Used to attach metal lath quickly and securely to top and underside of steel joists or to structural members. Specify width of flanges to which lath is to be attached. Made of #10 gauge galvanized wire.

carpentry accessories

joist anchors



#903—I-Beam hook anchor up for fastening wood joists to the top of steel beams.

#904—I-Beam hook anchor down for fastening wood joists that tie into the beams.

#905—Double twisted joist strap for fastening wood beams to steel beams.

#906—I-Beam hook anchor used where wood joists go over or into the steel beams.

#907—T Anchor used for fastening joists to masonry walls. The anchoring pin is ½" round x 6" long.

#908—L Type anchor used for fastening joists to masonry walls. The small leg is 2" long.

#909—T Wall anchor furnished either as illustrated or twisted 90 degrees. Has three holes to catch three of the wood joists.

#910—Wall anchor used for anchoring the wood joist to the masonry with three holes to catch three of the joists.

#913—Steel strap for splicing wood joists.

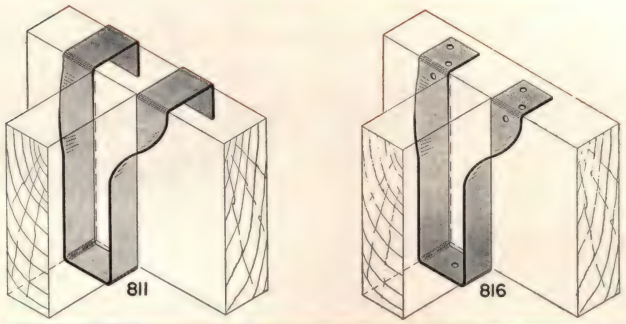
All of the above manufactured in ⅛", $\frac{3}{16}$", and ¼" thickness, having widths 1", 1¼ ' or any other sizes. Furnished plain, painted or galvanized.

#911—Used for fastening wood sleepers to steel beams—has a square notch ⅝" wide.

#912—Same as #911, except it has a tapered notch.

#911 and #912 are manufactured from 1½" x #14 ga. steel plate. Length is measured from the top of the notch to the end.

joist hangers

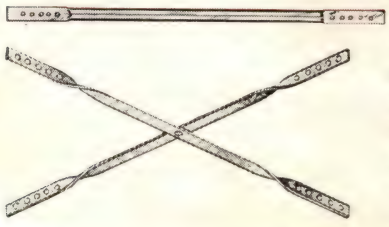


#811—Bridle Iron, manufactured as shown or can be manufactured double where joists frame opposite each other into girder or I Beam. When ordering, give dimension of carrying member, followed by dimensions of member to be carried.

#816—Joist Hanger used for framing joists into girders, headers into joists, etc.

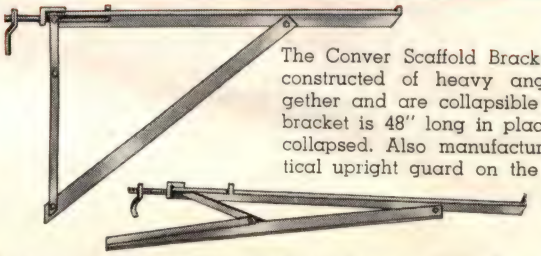
The above manufactured in ⅛", $\frac{3}{16}$", ¼" or ⅜" thickness x 2" wide or wider.

Met-Cro steel bridging



Manufactured from ¾" wide x #16 ga. galvanized steel, furnished either single or double as illustrated. Specify joist size and centers when ordering.

scaffold bracket



The Conver Scaffold Brackets are sturdily constructed of heavy angles riveted together and are collapsible as shown. The bracket is 48" long in place and 60" long collapsed. Also manufactured with a vertical upright guard on the end for safety.

Conver material can be purchased from the larger building supply dealers in all the principal cities throughout the United States

CONVER

Steel and Wire Company, Inc.

600 East 132nd Street, New York 54, N. Y.

LUdlow 5-3700

H. F. HOHMANN, president

1b
Ho

H&B hohmann & barnard inc.

building and construction specialties

#13 A CATALOG

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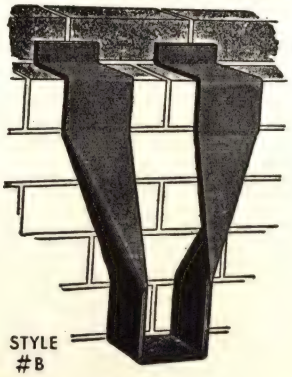
MOST ITEMS USUALLY CARRIED IN STOCK. SHIPMENT CAN BE MADE VIA MOTOR FREIGHT, RAIL OR BOAT TO ALL POINTS IN U.S.A. & POSSESSIONS

HOHMANN & BARNARD, Inc., 204 E. 33rd ST., N.Y.C. • MUrray Hill 3-3796-7-8-9

joist hangers and bridle irons for wood joists



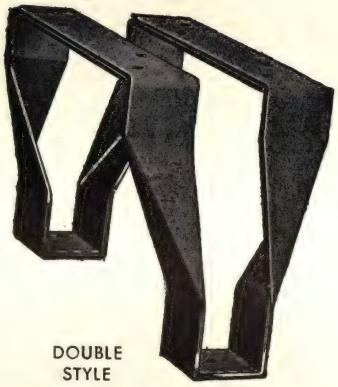
STYLE #A



STYLE #B



STYLE #D



DOUBLE STYLE

STEEL STIRRUP HANGERS IN ALL STYLES FOR HANGING WOOD JOISTS BETWEEN GIRDER AND BEAMS.

STYLE A—Joist Hanger made in all sizes for standard nominal size Wood Joists — Single & double Joists 2x6—2x8—2x10 — 2x12 — 4x6 — 4x8 — 4x10 — 4x12 — 6x6 — 6x8 — 6x10 — 6x12, etc.

STYLE B—Joist Hanger made as per Style A plus added lip or welded steel plate for bearing and building into masonry wall.

STYLE D—Bridle Iron Type as Style A plus extra top bend and lip to drop over header.

DOUBLE STYLE—Especially designed for hanging Joists that are aligned on each side of a central girder or beam—steel or wood. Single Style A Joist Hangers are welded together to form completed stirrup.

When Ordering Joist Hangers — All Styles — Mention Lumber Size, Also if Dressed or Rough Size.

joist anchors and straps for wood joists



#501

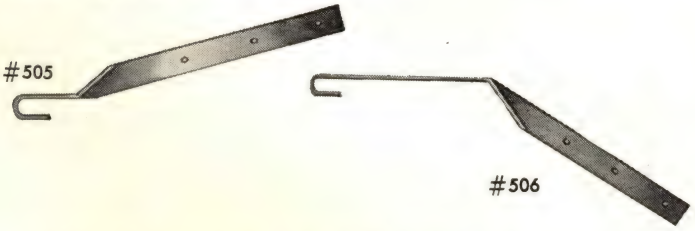
JOIST ANCHOR STRAPS

#501—END JOIST ANCHOR—PIN TYPE
Stocked: 1¼" x ¼" x 16" Long
1¼" x 3/16" x 16" Long
1" x ⅛" x 12" Long



#503

#503—PARALLEL JOIST ANCHOR—PIN TYPE
For 3 Joists tied to Masonry Wall
Stocked: 1¼" x ¼" x 40"—Joists 16" O.C.
1¼" x 3/16" x 40"—Joists 16" O.C.
1" x ⅛" x 40"—Joists 16" O.C.
Also 32" Length for Joists 12" O.C.



#505

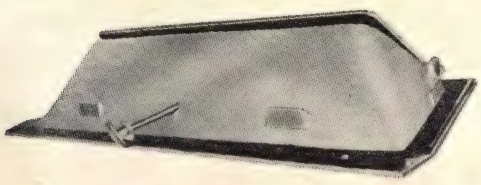
#506

#505—JOIST CLAMP ANCHOR STRAP—For Anchoring Wood Joist on Top of Steel Beam
Stocked: 1¼" x ¼" x 16"
1¼" x 3/16" x 14"
1" x ⅛" x 12"

#506—JOIST CLAMP ANCHOR STRAP—For Anchoring Wood Joist that Frames Below Top Flange of Steel
Stocked: 1¼" x ¼" x 20"
1¼" x 3/16" x 18"
1" x ⅛" x 16"

fireplace dampers & cleanout doors

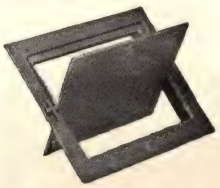
Furnished in: Cast Iron & Steel



FIREPLACE DAMPER
Cast Iron - Rachet or Poker - Control Devices
Masonry Opening
30"—36"—42"—48"—54"—60"—72"



FLUE COLLAR
8" Diameter
Also Sheetmetal
Adjustable Type



ASH DUMP
Steel & Cast
Iron Door
5" x 7"



CLEANOUT DOORS
Cast Iron 8" x 8"
12" x 12"—12" x 16"
8" x 10"—10" x 12"
18" x 24"—24" x 30"

metal cross bridging for wood joists

"MET-CRO BRIDGING"



APPROVED BY
BOARD OF STANDARDS AND APPEALS
N.Y.C. Cal. #647-45SM

"MET-CRO" METAL CROSS BRIDGING

SIZE	#101		#102	#122	
Centers	16"	12"	12"	18"	16"
Beam Sizes	2 x 8 3 x 8 2 x 10	3 x 10 2 x 12 3 x 12	3 x 6 2 x 8 3 x 8	2 x 8 3 x 8 2 x 10	3 x 10 2 x 12 3 x 12

HOHMANN SINGLE BRIDGING



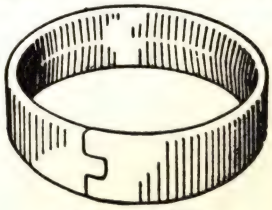
APPROVED BY BOARD OF STANDARDS AND APPEALS
N.Y.C. Cal. #825-49SM

"METAL SINGLE" CROSS BRIDGING

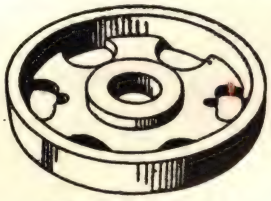
SIZE	#2101		#2102
Centers	16"	12"	12"
Beam Sizes	2 x 8 3 x 8 2 x 10	3 x 10 2 x 12 3 x 12	3 x 6 2 x 8 3 x 8

"MET-CRO" BRIDGING Packed 100 Doubles Per Carton
"HOHMANN" SINGLE BRIDGING 200 Singles Per Carton
ALL METAL BRIDGING GALVANIZED STEEL
MADE OF ¾" WIDE x #16 GAUGE

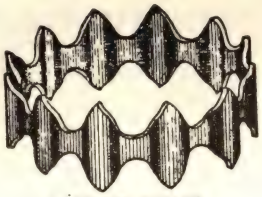
timber connectors and timber connector tools



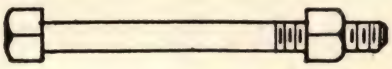
SPLIT RINGS
2½"—4"—6"



SHEAR PLATES
2⅝"—4"



TOOTHED RINGS
2"—2⅝"—3⅜"—4"



ALL SIZE MACHINE BOLTS

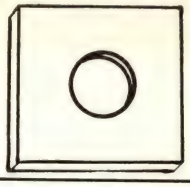
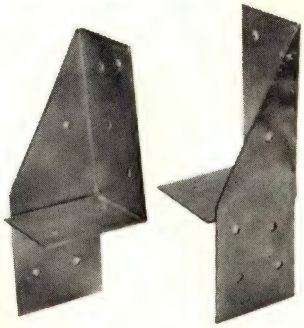


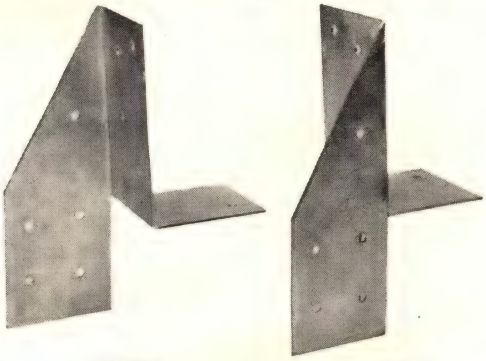
PLATE WASHERS
2" x 2" x ⅛"
2½" x 2½" x 3/16"
3" x 3" x ¼"

"grip-tite" anchors

TIMBER FRAMING ANCHORS



GT-1R GT-1L

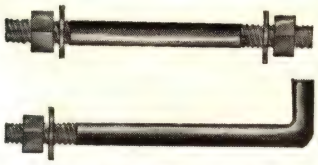


GT-2R GT-2L



GT-3R GT-3L

"GRIP-TITE" FRAMING ANCHORS USED FOR ANCHORING WOOD TRUSSES — PURLINS — WOOD STUDS TO WOOD SILL AND WALL PLATES — ALSO FOR ANCHORING WOOD JOISTS TO HEADERS.

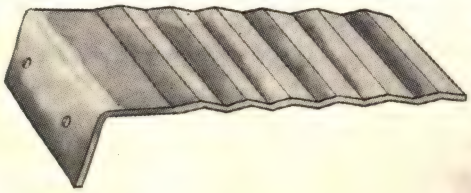


ANCHOR BOLTS and TIE STUD BOLTS

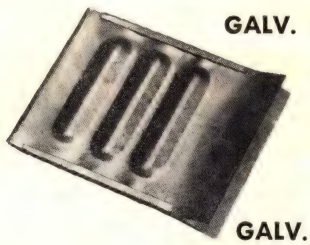
STOCKED:
⅜"x6 - 8 - 10 - 12 - 15 - 18 - 20 - 24"
½"x6 - 8 - 10 - 12 - 15 - 18 - 20 - 24"
⅝"x6 - 8 - 10 - 12 - 15 - 18 - 20 - 24"
¾"x6 - 8 - 10 - 12 - 15 - 18 - 20 - 24"

Available: Plain - Painted - Galvanized

GALV. CORR. BUCK ANCHOR #2



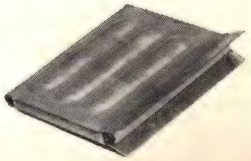
STOCKED:
1½" Wide x 8" Long
2" Wide x 8" Long
2½" Wide x 5" Long
3" Wide x 8" Long
4" Wide x 8" Long



GALV. ALL METAL WALL PLUGS

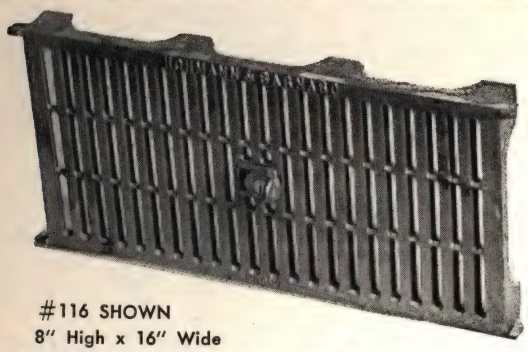
FOR BUILDING INTO MASONRY
TO ATTACH WOOD FURRING
Style J—3" Long
Style K—2" Long

GALV. WOOD-FILLED WALL PLUGS



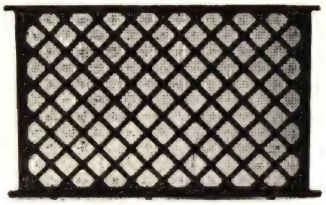
WOOD INSERT IN PLUG MAKES NAILING EASIER.
Style L—2" Deep
by 3" Wide

foundation wall ventilators — adjustable and fixed



#116 SHOWN
8" High x 16" Wide

Furnished in: Cast Iron - Cast Aluminum - Cast Bronze



#24 SHOWN—8" High x 12" Wide

ADJUSTABLE FOUNDATION VENTILATOR

#1016—Size 10" High x 16" Wide
#116—Size 8" High x 16" Wide
#112—Size 8" High x 12" Wide
#86—Size 6" High x 8" Wide
#115—Size 5¾" High x 11" Wide



#86L SHOWN
6" High x 8" Wide

DIAGONAL GRILLE TYPE VENTILATOR

Available in: Cast Iron — Cast Aluminum with or without insect screen — Aluminum or Galvanized.

SIZES: #24— 8" High x 12" Wide
#25— 8" High x 16" Wide
#26—12" High x 24" Wide

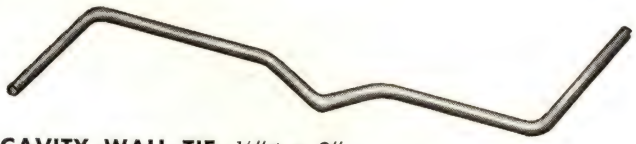
wall ties for masonry construction



CORRUGATED WALL TIE #CWT

Available: Galvanized Sheetmetal ⅞" x 7" Long. #26, #24, #22, #20, #18, #16 ga.

Eraydo Zinc — ⅞" x 7" x #24 ga.
Copper — ¾" x 6" x 32 oz.—⅞" x 7" x 16 oz.



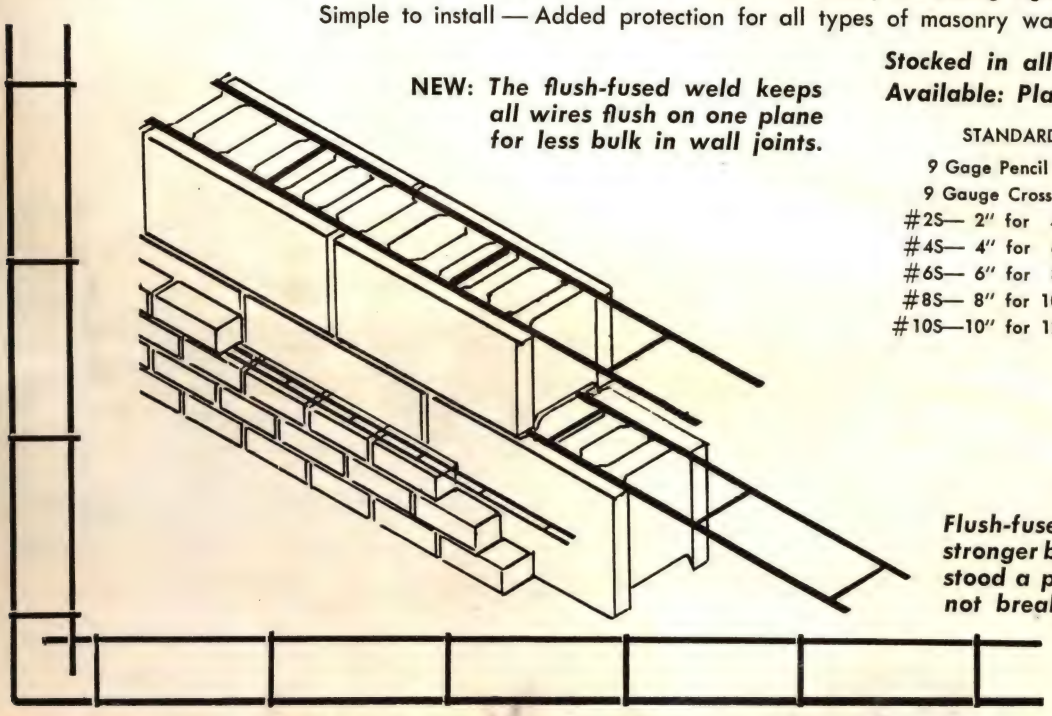
CAVITY WALL TIE ¼"ø x 8"
3/16"ø x 8"

Available:
ERAYDO ZINC—¼"ø x 8"
BRONZE—¼"ø x 8" — 3/16"ø x 8"
COPPERWELD—3/16"ø x 8" — 3/16"ø x 6"
GALV. WIRE—¼"ø x 8" — 3/16"ø x 8"
HOT GALV.—¼"ø x 8" — 3/16"ø x 8"

"blok-lok" masonry wall reinforcement with flush-fused welds

knurled

Blok-Lok Mansonry Wall Reinforcment Assembly incorporates lateral and tensile strength in the concrete block, brick and clay tile wall, substantially increasing rigidity and reducing unit separation. Simple to install — Added protection for all types of masonry walls.



NEW: ***The flush-fused weld keeps all wires flush on one plane for less bulk in wall joints.***

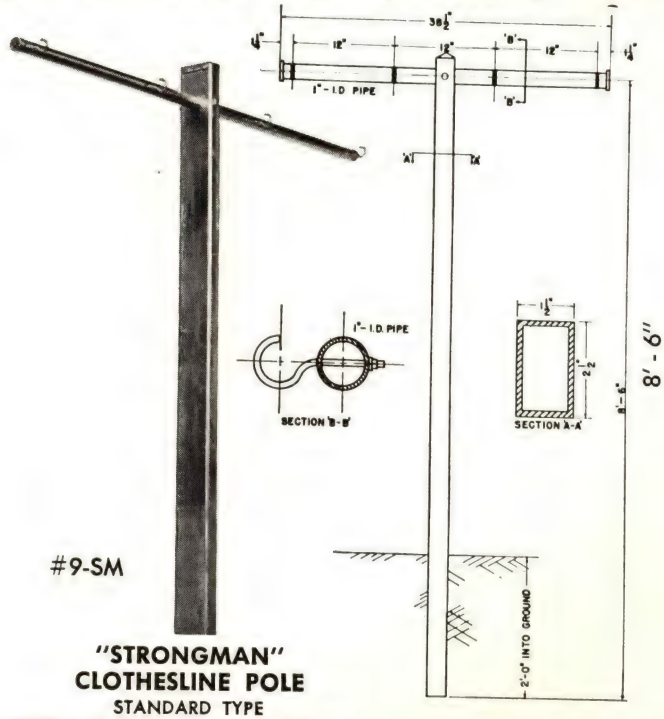
Stocked in all sizes for masonry unit walls
Available: Plain or Galvanized

STANDARD	HEAVY DUTY
9 Gage Pencil Rods	3/16" Pencil Rods
9 Gauge Cross Rods	9 Gauge Cross Rods
#2S— 2" for 4" Wall	#2HD— 2" for 4" Wall
#4S— 4" for 6" Wall	#4HD— 4" for 6" Wall
#6S— 6" for 8" Wall	#6HD— 6" for 8" Wall
#8S— 8" for 10" Wall	#8HD— 8" for 10" Wall
#10S—10" for 12" Wall	#10HD—10" for 12" Wall

SPECIAL WIDTHS FOR EXTRA WIDE WALLS MADE TO ORDER

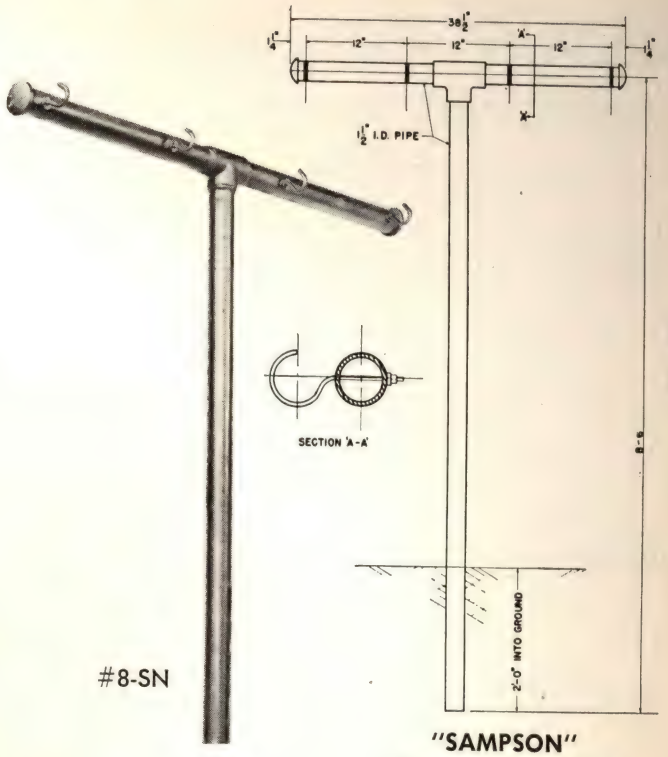
Flush-fused Welded Blok-Lok proved stronger by laboratory test. Weld withstood a pull of 1480 pounds and did not break or part.

galvanized clothesline poles



#9-SM

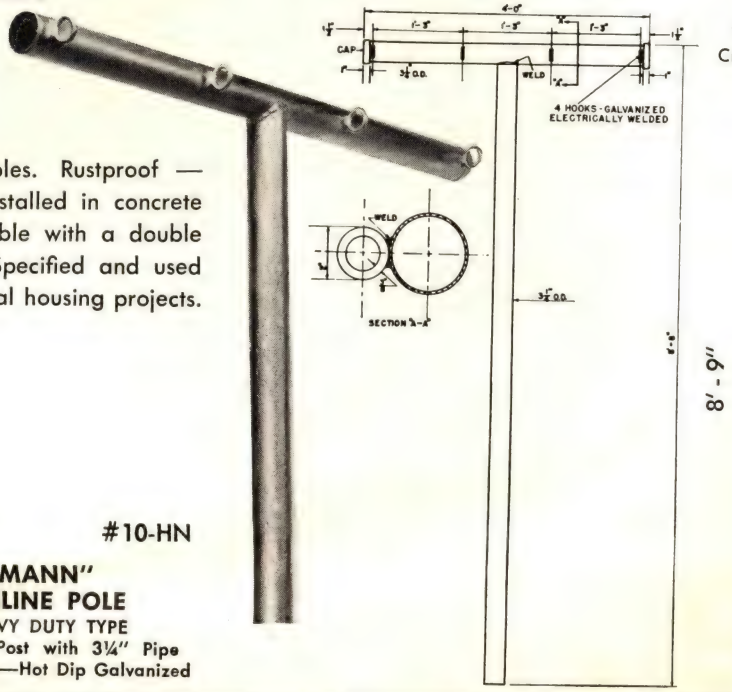
"STRONGMAN"
CLOTHESLINE POLE
STANDARD TYPE
2½" x 1½" Pipe Post with 1" Pipe
Crossarm—4 Hooks—Hot Dip Galvanized



#8-SN

"SAMPSON"
CLOTHESLINE POLE
HEAVY DUTY TYPE
1½" I.D. Pipe Post with 1" I.D. Pipe
Crossarm—4 Hooks—Hot Rip Galvanized
or Painted

Sturdy outdoor clothesline poles. Rustproof — Rotproof — Strong. Easily installed in concrete base or sound soil — Available with a double set of hooks for row poles. Specified and used on many local, state and federal housing projects.

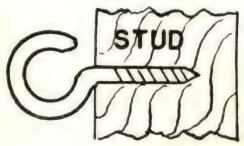


#10-HN

"HOHMANN"
CLOTHESLINE POLE
EXTRA HEAVY DUTY TYPE
3¼" O.D. Pipe Post with 3¼" Pipe
Crossarm—4 Hooks—Hot Dip Galvanized

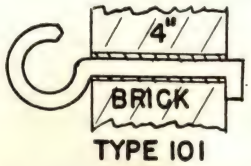
galvanized clothesline hooks for attaching to walls

#100—SCREW END INTO STUD WALL



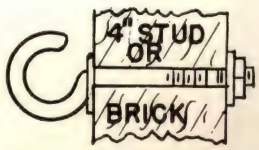
TYPE 100

#101—HOOK END BUILD INTO MASONRY

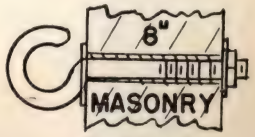


TYPE 101

#102 - #103—BOLT END FOR BOLTING THRU MASONRY WALL OR STUD WALL



TYPE 102



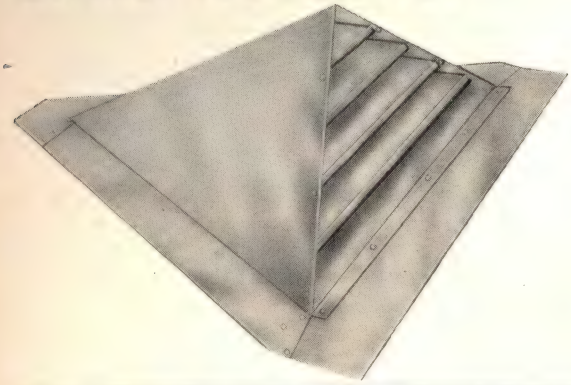
TYPE 103

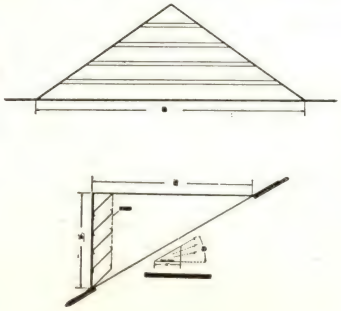
OTHER SPECIAL TYPE HOOKS WELDED ON STEEL PLATES OR STRAPS MADE TO ORDER — ERAYDO ZINC

louvers, sheetmetal

dormer roof louvres

Manufactured of Galvanized, Aluminum and Copper Sheetmetal.





DORMER ROOF LOUVRES

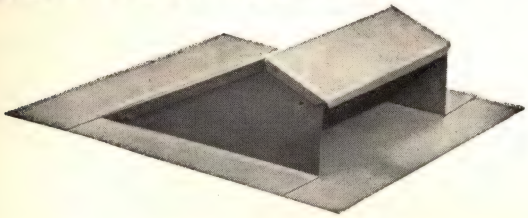
Manuf.: #22 ga. Aluminum, also in copper, complete with insect screen.

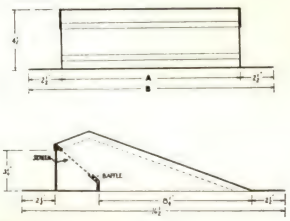
Style #139 Free Area 85 sq. in.
A: 10¾" B: 28¾"

Style #140 Free Area 130 sq. in.
A: 14" B: 34½"

Designed to fit pitch of roof from 4:12 to 6:12.

slant roof louvres





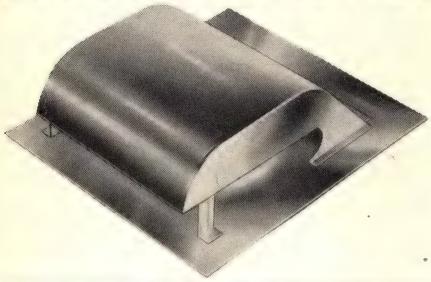
SLANT ROOF LOUVRES

Manuf.: #22 ga. Aluminum
#24 ga. Galvanized
also in copper
complete with insect screen

Style #137 Free Area 40 sq. in.
A: 13⅛" B: 18"

Style #138 Free Area 60 sq. in.
A: 19½" B: 24½"

dome slant roof louvres



The Dome slant roof louvre available in aluminum sheetmetal. Made in two sizes:

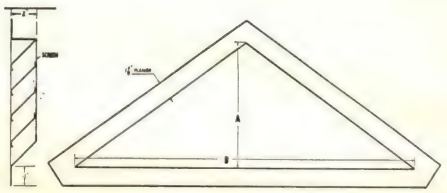
#60—made to provide 60 sq. in. of free area.

#40—made to provide 40 sq. in. of free area.

Screened storm baffle provides protection from rain, snow and insects. Especially designed to ventilate 4 way roofs. Simple to install, nail to roof surface, dome louvres have ample flange setting under roofing material.

triangle wall louvres





TRIANGLE WALL LOUVRES

Manuf.: #22 ga. Aluminum
#24 ga. Galvanized
also in copper
complete with insect screen

Style #135 Free Area 68 sq. in.
A: 9" B: 36"

Style #136 Free Area 84 sq. in.
A: 10¾" B: 28¾"

"midget" aluminum louvres (patented)



STYLE #ML



STYLE #LD

"MIDGET" ALUMINUM LOUVRES are ideal for installation in walls, under overhang cornices, porches, gable ends, doors, dormers, for ventilating spaces. Important for preventing moisture collecting behind siding and causing paint scaling. Complete with aluminum insect screen.

Available: Packed in dozen lots. Covers available: 1"—2"—2½"—3"—4" diameters. Easily installed. Non-corrosive—non-rusting.

STYLE #ML—With face deflectors for vertical installation

STYLE #LD—Without face deflectors for horizontal installation

flush flange wall louver

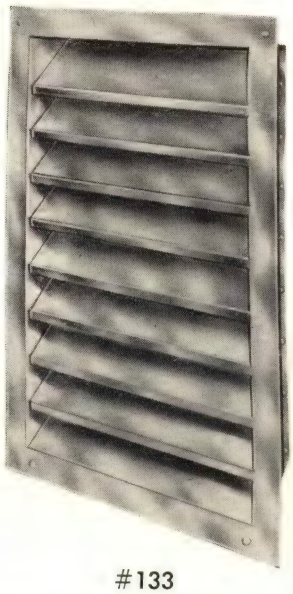
recessed flange wall louver

Manuf.: Aluminum, Galvanized and Copper Sheetmetal

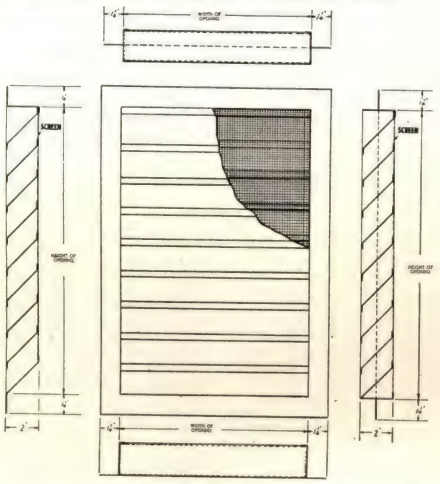
SIZES: Width x Height

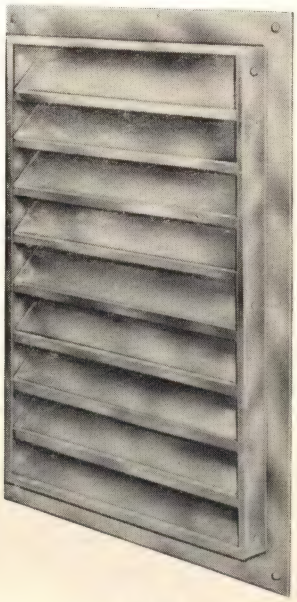
8x8 — 8x12 — 8x16 — 10x10
12x8 — 12x12 — 12x16 — 12x18
12x18 — 12x24 — 14x24 — 16x8
18x18 — 18x24 — 24x24 — 24x30

Above are opening sizes. Other sizes made to order.



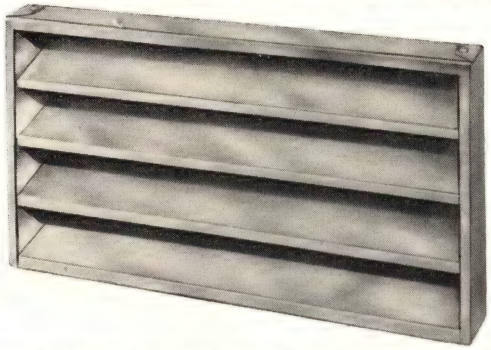
#133





#134

weatherman box frame louver



#132

Manuf.: Aluminum, Galvanized and Copper Sheetmetal.

Ideal for building into Masonry or Concrete Walls. Complete with insect screen.

Sizes: Width x Height
12"x5" — 12"x8" — 16"x8"
18"x12" — 24"x12" — 30"x12"

Other sizes made to order.

Also furnished with side wall anchors on request.

WEATHERMAN LOUVRE ALSO AVAILABLE WITH OPERABLE BACK FLAP DOOR WITH FRONT CHAIN OPERATOR. IDEAL FOR VENTILATING CRAWL SPACES.

"thru-wall" brick vents

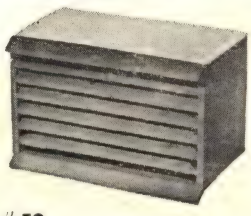
BRICK VENT CASTINGS IN 3 SIZES

"THRU-WALL" BRICK VENTS are furnished in Cast Iron — Bronze — Cast Aluminum with or without Duct, Damper and Register.

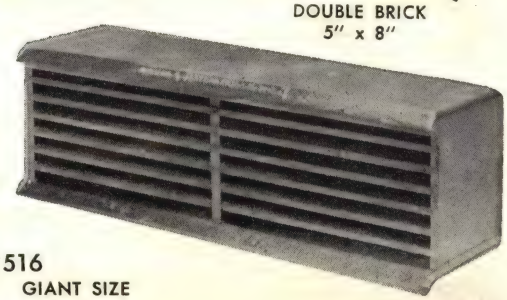
USES: To ventilate unexcavated crawl spaces — basements — pipe tunnels — garages — under roof — larder rooms — closets and cellar spaces . . .



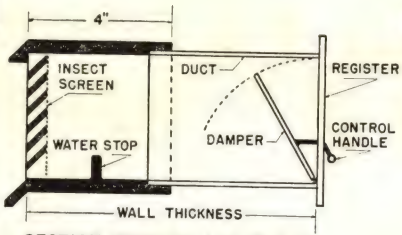
#28
SINGLE BRICK
2¼" x 8"



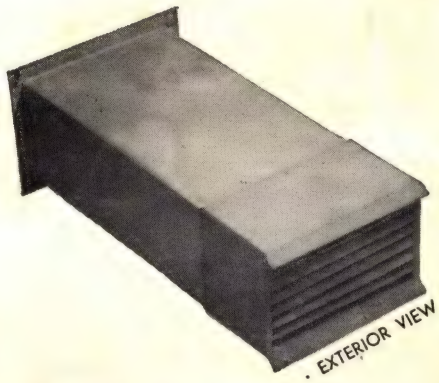
#58
DOUBLE BRICK
5" x 8"



#516
GIANT SIZE
5" x 16"



SECTION THRU WALL SHOWING INSTALLED BRICK VENT

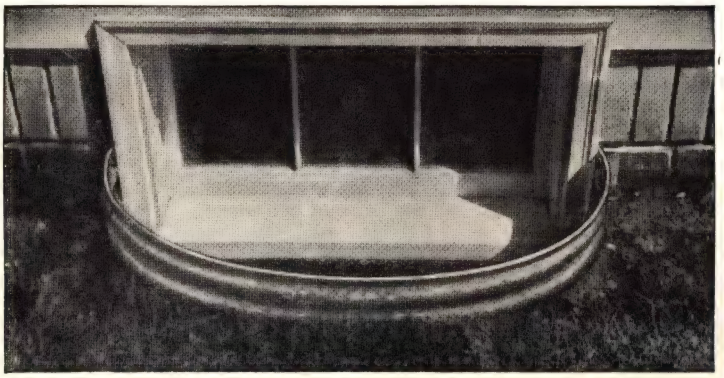


EXTERIOR VIEW

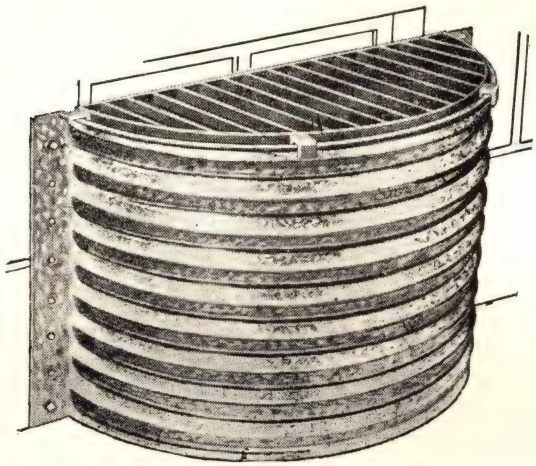
BRICK VENTS — Casting made in 3 metals and can be furnished with or without Ducts, Dampers and Registers.

Furnished:

galvanized steel areawalls & areawall cover guards

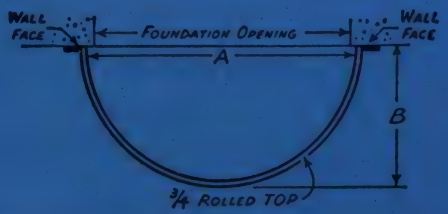


AREAWALL FOR BASEMENT WINDOWS OR ACCESS DOORS THAT ARE BELOW FINISHED GRADE LEVEL



GALVANIZED AREAWALLS made from #16 ga. Galvanized Copper-bearing steel, deep horizontal corrugations for added strength. Flush-flanged sides for tight fit to walls. Rolled top edge for safety and strength.

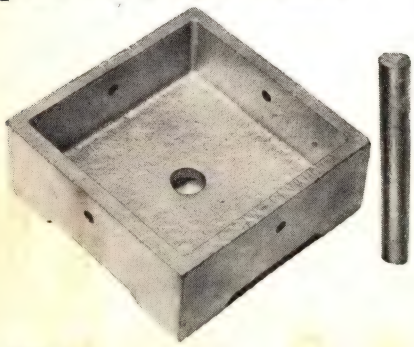
CODE NUMBER	WIDTH "A"	DIMEN. "B"	HIGH
R-3114	2' - 7"	1' - 2"	Standard Heights 12" 18" 24" 30" 36" High
R-3518	2' - 11"	1' - 6"	
R-3720	3' - 1"	1' - 8"	
R-4020	3' - 4"	1' - 8"	
R-4620	3' - 10"	1' - 8"	
R-5920	4' - 11"	1' - 8"	
R-6724	5' - 7"	2' - 0"	
R-7130	5' - 11"	2' - 6"	



"BAR-GRILLE" AREAWALL SAFETY GRATING COVERS Sturdy welded steel safeguards to cover the open tops of the Areawalls. Made of welded steel bars, 1"x¼" frame with ¾"x¼" bars 2" on center.

HOT-GALVANIZED after fabrication. When ordering gratings give area-wall code number.

porch post base



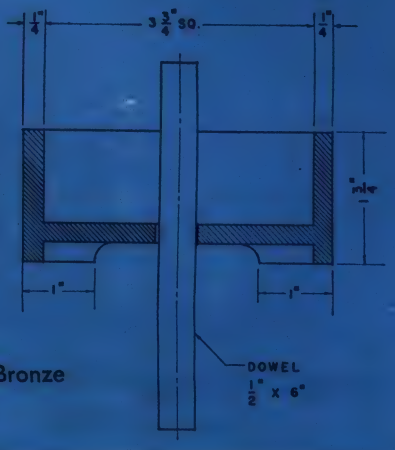
#PB-44

4 x 4 PORCH POST BASE #PB-44

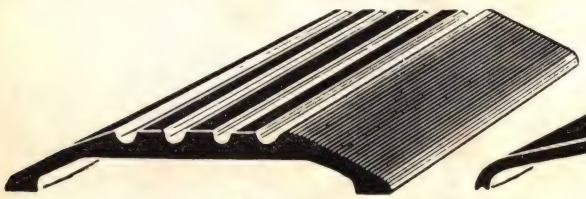
The Hohmann Porch Column Base designed to prevent the wood posts in contact with concrete or masonry from rotting or splitting due to constant wetting.

Available: Cast iron, plain or hot galvanized
Cast Aluminum or Cast Bronze

Dowels furnished in: Galvanized Steel — Brass — Bronze or Eraydo Zinc ½" x 6" long.



door saddles — aluminum - bronze - rolled steel



STYLE #300
BRONZE: 3"—4"—4½"—5"—6"—7" Wide
ALUMINUM: 4"—5"—6"—7½" Wide
ROLLED STEEL: 3"—4"—5½"—7" Wide



STYLE #301
BRONZE: 3½"—4½"—4⅛" Wide
ALUMINUM: 4⅛" Wide



STYLE #302
BRONZE: 1⅜" Wide

FURNISHED CUT TO SIZE WITH COUNTERSUNK HOLES AND SCREWS

1b
Mi



construction by adhesion

adhesives for tile 2-3

fastenings for insulation 4-5

protective coatings 6-7

miracle adhesives corporation

MIRACLE

The Miracle Adhesives Corporation began research in 1937 in order to make the use of genuine clay tile economically practical. Miracle's development and production of Ceramic Tile Cements answered the need for advanced tiling techniques. Through extensive tests the life expectancy, workability, comparative costs and other factors were determined for those adhesives which could be employed for tile application to walls, ceilings and floors in new construction as well as in modernization of institutional and residential buildings.

thin-set method

This method was developed in answer to basic objections to the heavy and full-thick mortar beds required by traditional methods of tile installation. Miracle Ceramic Tile Cement has proved its certain performance for application of tile by the "Thin-Set" method—on almost any subsurface under normal conditions of use or exposure, indoors or outdoors, in hot or cold climates, vertically or horizontally, under wet or dry conditions.

advantages and features

Speed of erection • Added floor space • Reduced dead weight • Flush surfaces • Flexible and lasting bond • Economical base materials • May be applied over dry-wall panel materials • Existing mortar installed tile may be patched • No interruption of normal business during remodeling • Materials for leveling, priming, setting, grouting and caulking are made to work together by Miracle—focusing responsibility for quality materials on a single supplier.

bases and surfaces

Tile work may be installed over any of the following subsurfaces (old or new) which are dry, firm, strong, clean and true: Gypsum Wallboard, unpainted gypsum white coat, (putty, skim or trowel coat), painted plaster, Keene's cement, rich mixture of gypsum brown coat, Portland cement plaster, masonry with mortar jointing, poured concrete, exterior grade plywood and cement asbestos board. Tile has been installed by Miracle "Thin-Set" Adhesive on metal, marble, steel, slate, existing terrazzo and old glazed tile.

miracle tile cements

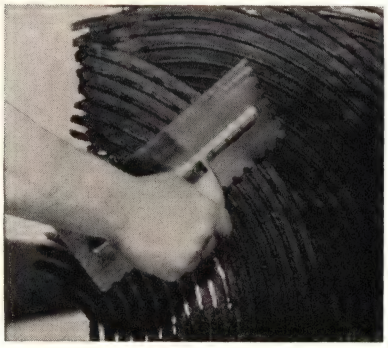
- comply with the requirements of the current edition of Commercial Standard CS-181-52 for "Water Resistant Organic Adhesives for Installation of Clay Tile" as issued by the U.S. Department of Commerce.
- are approved by the Board of Standards and Appeals for use in New York City under Calendar #748-41-SM.
- comply with and are accepted by the Use of Materials Bulletin #UM-19 of the Underwriting Division of the FHA.

COMMERCIAL STANDARD SPECIFICATIONS — WATER RESISTANT ORGANIC ADHESIVE FOR INSTALLATION OF CLAY TILE — MEETING CS181-52

walls and ceilings

methods

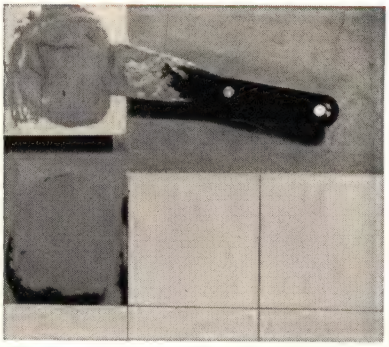
floating



Spread Miracle Tile Cement (Floating Type), using a Miracle notched Wall Trowel, covering surface with a thin layer of adhesive and leaving no bare spots. Coverage shall not be more than 50 square ft. per gallon of adhesive.

Press each tile firmly into wet adhesive within one hour after adhesive is spread, using slight twisting motion. Do not slide into place as adhesive might build up on tile edge and squeeze through joint, making satisfactory grouting difficult. Maintain horizontal and vertical joints plumb, true and even and of specified width.

buttering



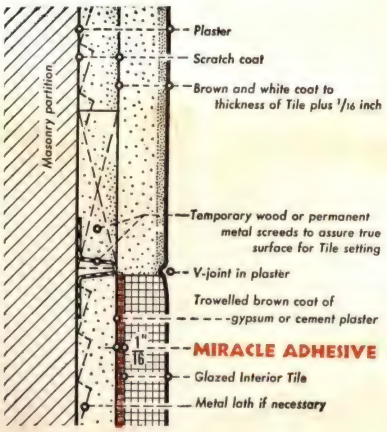
Place on back of each tile one or more daubs of Miracle Tile Cement (Buttering Type) of such quantity that the adhesive, when compressed, will cover 60 percent of the back of each tile, approximately 1/32" to 1/16" thick. Tile should be set immediately.

Important: Where excessive heat is encountered around sterilizers, ovens, etc., use Miracle Special Heat Resistant Adhesive over areas to be protected. (Consult our Engineers.)

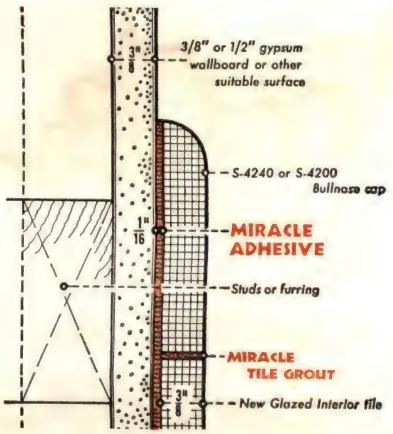
Setting ceiling tile—Use buttering method as described above and bond to a suitable surface. Buttering Type Adhesive must be used; do not use Floating Type.

details (half full size)

hospital or school flush wainscots



gypsum wallboard as base



floors

methods

ceramic tile



Spread Floor Type Miracle Tile Cement with Miracle Floor Trowel on surface to be tiled in a thin layer, leaving no bare spots. Within 30 minutes press Ceramic tile firmly into the adhesive and align carefully.

quarry tile

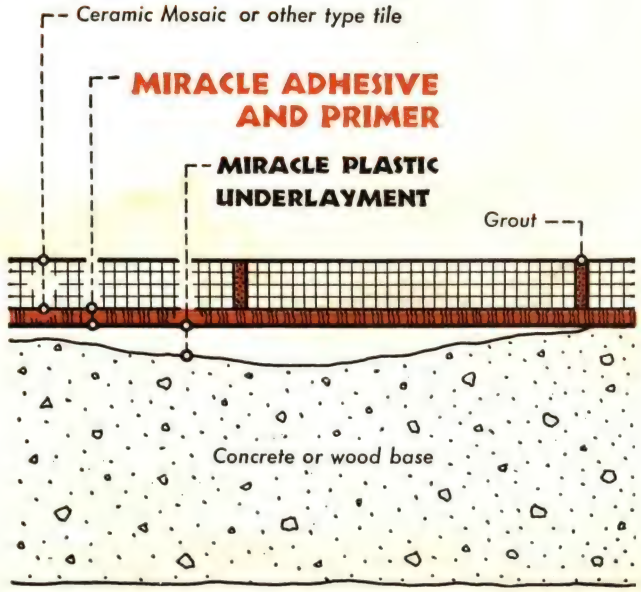


Install Quarry tile by floating a small section of the subsurface and buttering each tile individually as described in the Miracle Tile Handbook. For roof deck and patio installations consult Miracle Adhesives Corporation on preparation of slabs which require expansion joints.

CONDUCTIVE CERAMIC FLOORS Installed with Miracle Floor Trowel as described under *Ceramic Floor Tile* above using Miracle Conductive Flooring Adhesive. Complies with NFPA #56, "Recommended Safe Practice for Hospital Operating Rooms," when tested, as prescribed therein, with an ohmmeter. The average resistance for protection against shock, arc or spark must be more than 25,000 ohms and less than 1,000,000 ohms.

details (full size)

floor construction



short form specifications

For Installation of Tile by "Thin-Set" method "The Contractor for Tilework—is to be responsible for an acceptable and completed installation over areas to be tiled conforming in every respect to the type of Tile, dimensions, colors, grades, pattern, and necessary trim shapes, as (. . . given in the Schedule . . . and/or . . . shown on the drawings . . . as noted . . .) or as is reasonably inferable from the Contract Documents. Set Tile by the thin-bed method using (. . . organic adhesive . . . inorganic bonding coat . . . Portland cement . . .).

The contractor for Tilework is ***not to be responsible for*** (. . . structural provisions to, receive the setting bed . . . leveling coats . . . removal of existing construction . . . cutting . . . patching . . . final cleaning . . . accessories . . . pans . . . etc. . . .).

The A.I.A. General Conditions, and any Supplementary General Conditions, together with the Publication "Thin Setting Bed Methods and Materials" as compiled by Don Graf in cooperation with the Research Committee of the Tile Council of America, are hereby made a part of this specification insofar as applicable to this project."

adhesives

Ceramic Tile Cements

floating type: Waterproof rubber resin adhesive for easy application with Miracle notched wall trowel. Remains workable 1 hour after application. Light colored or black. Coverage: 50 sf/gal.

buttering type: Medium-bodied fast setting waterproof rubber resin adhesive used primarily for buttering wall tile and also for ceiling applications. Light colored or black. Coverage: 50 sf/gal.

floor type: Waterproof rubber resin adhesive for ceramic mosaic floor tile. Applied with Miracle floor trowel. Open time 30 minutes. Light colored or black. Coverage: 50 sf/gallon.

Conductive Flooring Adhesive

Waterproof electrically conductive adhesive for use with conductive ceramics for surgical suites. Color is black. Open time 30 minutes. Complies with NFPA #56 "Recommended Safe Practice for Hospital Operating Rooms."

Heat Resistant Adhesive

RT-1000 a chemical set, two part adhesive especially formulated for a temperature range of —50°F to +500°F. Also used for floor installations on and below grade.

related products

Primer: Brush type for waterproofing damp areas (shower stalls, tub enclosures, etc.) prior to setting tile. Coverage: 200 sf/gallon.

Tub-Caulk: To seal around tubs, sinks, etc. Does not dry, shrink or turn yellow. One tube caulks 10 linear feet.

#79 Thinner: Used for cleaning and for replacing solvents in adhesives when lost by evaporation.

Plastic Underlayment: Used to level walls or floors prior to tilework installation. Coverage: 100 sf/ 1/16" thick unit.

Wall Grout: Waterproofed for use in both "Thin-Set" and full-thick installations. Coverage: 200-300 sf of stacked tile/ 25 pound bag.

anchor fastening devices

Miracle Surface Anchors provide firm support for block or board types of insulation, furring strips, wood runners, conduits, pipes, fixtures, etc. on all types of clean, rigid surfaces. These devices also provide anchorage in otherwise inaccessible locations. Miracle Surface Anchors consist of perforated metal plates 2" x 2" or 2¾" x 2¾" to the center of which is welded a spindle, prong, nail, bolt or threaded stud; selection depends upon the material and load to be supported. The perforated base is designed to provide anchorage by bonding it to masonry, metals, wall boards, plaster, tile, glass, etc., with Miracle Anchor Adhesives which are manufactured in many formulations to meet various requirements.

advantages

Zinc coating with a dichromate finish resists corrosion—eliminates delamination and sagging of glass fiber and soft board types of insulation—eliminates drilling, welding, expansion bolts —reduces time, construction and installation costs—no damage to surfaces in event of removal of installation.

features

load capacity: 2" x 2" anchor safely supports 5 lbs/anchor; 2¾" x 2¾" anchor safely supports 10 lbs/anchor.

spacing: approximately 12" on centers, depending upon load requirements.

coverage: one man can install 200 anchors per hour; approximately ¼ of time required for mechanical anchorage.

adhesives for anchors

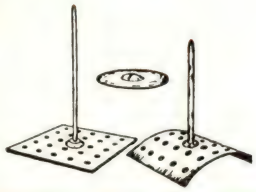
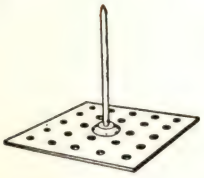
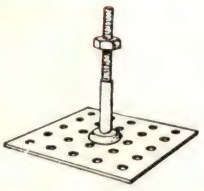
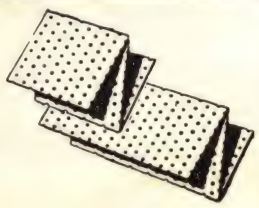
Anchor Adhesives: for temperatures from —40° F to +200° F.

RT-1000: from +200° F to +450° F or when asphalt primers or compounds are involved.

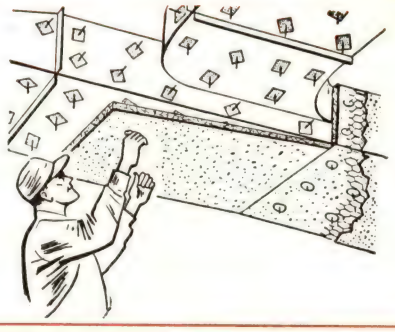
NP-153: for extra low temperatures (or RT-1000 if applied over asphalt coatings).

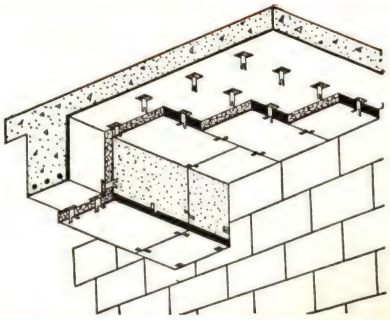
installation of anchors

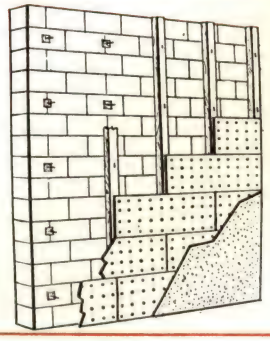
Bonding surfaces must be clean and rigid. Do not bond to cold water paints. Apply a walnut sized "blob" of Miracle Anchor Adhesive on anchor base with a putty knife to insure a film of adhesive approximately 1/16" thick after the anchor will have been firmly pressed into place by a twisting motion to insure wet adhesive coming into contact with both surfaces. Allow to set for 48 hours at normal room temperature before attaching any load.

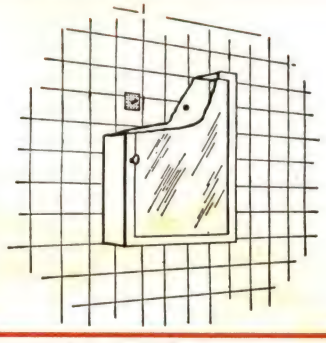
anchors	description
spindle anchor and washer 	For bonding cork, Fiberglas, batts, Foamglas, mineral wool, etc., to ducts, walls and ceilings. Also for support of wire mesh for plaster finish. Lock washer is designed to hold insulation firmly in place thus eliminating delamination of insulation. Curved plate available for attachment to convex surfaces.
pronged anchor 	For bonding block insulation such as Foamglas to ducts, walls and ceilings. Pronged Anchors are set between rows of block insulation and prongs bent in reverse direction over blocks. For wire mesh with plaster finish, 1 prong of each Anchor is bent over block insulation, the other prong penetrating mesh, then bent over before applying plaster finish. Alternate type anchor available for support of small cables, tubing, air lines, etc.
anchor nail 	For bonding furring strips to Masonry walls for the attachment of wallboard. Also for installing wood floor runners on concrete floors to support 2" solid partitions (½" plaster board plus ¾" plaster both sides). No drilling for mechanical anchorage.
anchor bolt 	For attaching cabinets, towel, tissue and other types of dispensers to tile or other rigid surfaces. Also used for attaching plastic, wood or metal letters to glass or masonry. No drilling required.
Z-clips 	For attaching wallboard, plasterboard, insulation board, etc. to exterior walls when an air space is required. Hinged construction takes up irregularities in surface to which they are bonded. Clips are 2" x 2" or 2" x 4" perforated 20 ga. steel.

example











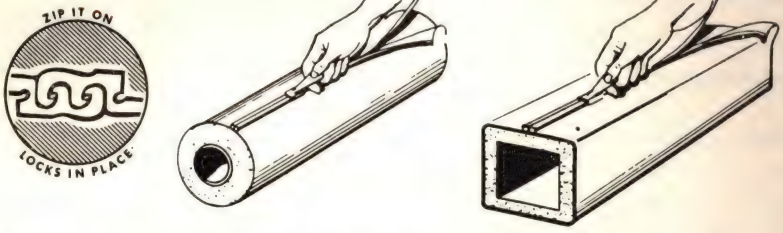
direct adhesion

Miracle Adhesives are manufactured in many formulations (see back cover) to suit the direct bonding of insulation materials to metal, brick, concrete, wood, building boards, etc., for on-the-job application. Listed on the back cover are adhesives suited for production line and plant use by trowel, paint, spray, or roller application.

curtain walls: In conjunction with several Porcelain Enamel Manufacturers, Miracle Adhesives Corporation has developed (1) adhesives for bonding or laminating porcelain enamel pans to either side of an insulation core, and (2) a permanent plastic sealing compound for the sealing of joints between panels.

roof decks: By invitation of the Metal Roof Deck Institute we have produced a Roofing Cement specially formulated to lower roof fire hazards; to be used for attaching rigid roof insulation directly to steel deck. A companion item is a high temperature resistant non-combustible caulking compound which seals side laps of metal roof decks, thus assuring a vapor tight joint. Both products can also be used on precast concrete slab decks.

PROTEKTINSUL for pipe and duct covering finish



Protektinsul is a unique development for thermal insulation pipe covering. It is a .012" thick prefabricated, poly-vinyl chloride outer finish, designed to protect insulation against weather, abrasion, chemicals, mildew, etc. It is furnished to exact size and requires no cutting, fitting or sewing in the field because of its zip-on application.

advantages

- an integral, all poly-vinyl zip closure insures watertight, airtight longitudinal joints.
- barrier against moisture-vapor transmission and corrosion.
- protection against soil chemicals and fungus; provides waterproof barrier on underground lines, in conduits, etc.
- protection against electrolytic corrosion due to galvanic action or stray current effects because of its dielectric strength and electrical insulation resistance.
- nonflammable; will not support combustion.
- furnished in several standard colors or in color combinations for identification purposes.
- joints and fittings: covered with tape made from same poly-vinyl compound as covering itself; sealed with vinyl sealing liquid to insure uniform characteristics and the same protection for the entire installation.

properties

Tensile Strength in psi	1600
Elasticity	Excellent
Temperature limit	+200° F to —60° F
Moisture Vapor Transmission Rate gms/100sq. in. /24 hrs.	1.5 ASTM test # Jan-P-127
Dielectric strength /mil of thickness approx.	1000V
Insulation Resistance greater than	100,000 megohms

No tendency to rot or check after prolonged exposure to underground conditions or as result of exposure to weather.

R-MIR-DEK COATINGS

for heavy duty industrial maintenance and production work

were first developed to meet specific requirements and to overcome problems that confronted many government and industrial engineers for protection of their standing and operating properties and equipment. R-MIR-DEK Coatings have proven merits in its actual use for years in:

chemical and textile plants
public utilities
railroads
petroleum industries
the marine field
government properties

MIRACLE PAINTS AND COATINGS

for institutional and residential maintenance

Miracle Paints and Coatings are designed to give the utmost in beauty and service—the quality often lacking in many of present day paints and coatings. Miracle's durability and wearability are unsurpassed for ease of application, appearance and resistance to the elements and wear.

colors

R-MIR-DEK and MIRACLE Paints and Coatings of pigmented type are available in a variable range of attractive—practical and durable colors to give the utmost in utility, wear and beauty.

specifications

general: Individually furnished upon request.

government: (for non-slip coatings only) R-MIR-DEK NON-SLIP Coating conforms to Navy Specification MIL-C-5044—Type 1 and Type 2 and Army Specification 14152. It is used on wing walks, catwalks, glider floors, floors of aircraft and tanks, rudder and clutch pedals, ramps and ship decks.

description sheets

Detailed description sheets and application instructions furnished upon request.

R-MIR-DEK industrial paints and coatings	properties
Non-Slip-Phenolic Non-Slip-Vinyl (Hi Octane and Aromatic Resistant) Machinery and Implement Enamel Marking Paint Pipe Coating Floor and Deck Paint (Phenolic)	Non-Corrosive; Fire Resistant; Oil and Grease Resistant; Mild Alkali and Acid Resistant; Long Wearing
Floor and Deck Paint (Rubber Base)	Alkali and Acid Resistant; Waterproof; Very Elastic; Tough Finish
High Heat Aluminum Paint (1000° F.)	Heat Resistant; High Lustre; Very Durable
Aluminum Stack Paint (1500° F.)	Extreme Heat Resistant; Excellent Weathering and Flexibility
Anti-Rust Inhibitor (Primer)	Excellent Penetration and Sealing
Anti-Rust Ductile (Coating)	Extremely Flexible; Anti-Corrosive for bare metal; Heat Resistant 275° F.

MIRACLE institutional and home maintenance paints and coatings	
General Purpose Aluminum	High Lustre; Self Leveling; Durability
Floor and Deck Paint—Phenolic and Rubber Base	Tough; Elastic; Scuff Resistant
Architectural White Enamel *	Non-Yellowing; Hard Hi-Gloss Perfect Leveling; No Cracking or Chipping; Scrub Resistant
Exterior House Paint	Heavy Bodied; Excellent Weathering; Permanent Color
Exterior Primer	Good Hiding and Good Sealing
Asbestos Shingle Paint	Non-Saponifying; Good Hiding and Sealing; Permanent Colors
Trim and Trellis Paint *	Good Weathering, Hiding; Permanent Colors
Wood Shingle Paint	Lasting Color; Excellent Weathering; Penetration and Sealing
Semi-Gloss Enamel *	Easy Working; Permanent Color; Washable; Hard Finish
Enamel Undercoater	Heavy Bodied; Good Hiding; Levels Well; Hard Finish
Wall Primer and Sealer	White Pigmented; Non-Saponifying; Seals Porous Surfaces; Uniform Surface
Flat Wall Enamel (Alkyd)	Washable; Easily Applied; Levels Well; Hard Surface
Hard Spar Varnish #-26	Tough; Elastic; Full Bodied; Pale Color; Excellent Weathering
Soft Spar Varnish #-96	High Water and Chemical Resistant; Full Bodied; Rich Finish
Plastic Sealer	Transparent; Quick Drying; Water Oil and Grease Resistant

* primer or undercoat necessary

location	surfaces	coverage approx sf/gallon/coat
interior or exterior	metal, wood or concrete	120 120 350 350 350 400
interior or exterior	concrete	400
interior only	metal	600
interior or exterior	metal	600
interior or exterior	metal	350
interior or exterior	metal	350
interior or exterior	wood, metal	600-700
interior or exterior	wood, concrete, metal	450-600
interior or exterior	wood, metal, plaster	600
exterior	wood	650
exterior	wood	600
exterior	concrete, masonry	500
exterior	wood, metal	600
exterior	wood	350-450
interior	wood, metal, plaster	600
interior	primed plaster, metal or wood	500
interior	plaster	400-600
interior	wood, plaster, sheet rock	500
interior or exterior	wood	600
exterior	wood	600
interior	wood, metal, concrete	350-500

other products

floor treatments for industrial, institutional and residential applications

FLEXAFLOOR—for resilient floors

provides a monolithic floor—no joints or seams—water, alkali and acid resistant; durable and low maintenance. Ideal for new floors in place of or to replace linoleum or tile floors for institutions, offices and home.

ENDURA FLOOR—for hard floors

A combination of R-MIR-DEK NON-SLIP (to provide a hard durable surface) and a coating of R-MIR-DEK Floor and Deck Coating to bring the surface to a beautiful smooth finish which will withstand scrubbing, mild acids, alkalies and extremely hard wear. Endura Floor serves well under heavy dolly and fork lift trucks but is *not* recommended where heavy vehicular traffic involving heavy loads on *sharp steel* wheels or *casters* are used.

primers and thinners

PHENOLIC PRIMER EXTENDER

For priming metal surfaces to receive Phenolic Coatings and to thin Phenolic Coatings.

PHENOLIC PRIMEX

For priming wood or concrete to receive Phenolic Coatings.

RUBBER BASE THINNER

For thinning Rubber Base Paints and to clean brushes.

VINYL PRIMER EXTENDER

For priming metal surfaces to receive Vinyl Coatings and to thin Vinyl Coatings.

VINYL SEALER

For priming wood or concrete to receive Vinyl Coatings.

swimming pool paints

Custom Paints: PED-RA-GAL (Pool-a-Rama)

An original and a unique manner of painting a concrete swimming pool to achieve the beautiful effects of the varying and graduated hues of Caribbean waters—an exclusive with Miracle. Consult our Custom Service Department.

Custom Colors

Paradise Beach Green
West Indian Green
North Sea Green
Caribbean Blue
Varadera Blue
Acapulco Blue
Gulf Stream Blue

Standard Paints

Both primer and finish coats bond well to new concrete and are formulated to permit "breathing." Compounded with a rubber base, they are resistant to water, alkali and acids. Coverage is approximately 275 square feet per gallon per coat.

Standard Colors

White, Royal Blue, Sky Blue, Deep Ocean Blue, Light Blue, Dark Blue, Sea Green, Deep Sea Green, Vermilion, Black.

list of products

	IDENTIFICATION	DESCRIPTION	BASE	APPLICATION	TYPE	VISCOSITY	COLOR
STANDARD ADHESIVES	P 702	Fast-drying waterproof adhesive used between two rigid level surfaces; an anti-corrosive coating and vapor sealer. *(Variations of this formula are available in solids content, open time and color.)*	RECLAIM RUBBER-RESIN	BRUSH, SPRAY	SOLVENT	HEAVY PAINT	
	CONDUCTIVE FLOOR ADHESIVE	Conductive Floor Adhesive for setting Conductive Floor Tile to comply NFPA56. Open time 30 minutes.	RECLAIM RUBBER-RESIN AND CARBON BLACK	1/8" SAWTOOTH SPREADER		LIGHT DOUGH	BLACK
	CTC — FLOATING TYPE	Ceramic Tile Cement for setting clay wall tile by floating method. Open time one hour.		1/4" x 1/4" NOTCHED SPREADER		LIGHT DOUGH	
	CTC — BUTTERING TYPE	Ceramic Tile Cement for setting clay wall tile by buttering method.		SPOT		MEDIUM DOUGH	BLACK-LIGHT COLOR
	CTC — FLOOR TYPE	Ceramic Tile Cement for setting Ceramic Floor Tile by floating method. Open time 30 minutes.		1/8" SAWTOOTH SPREADER		LIGHT DOUGH	
	MT	Slow setting, plastic, waterproof, self bonding.		NOTCHED SPREADER		LIGHT DOUGH	
	M	Fast setting, waterproof, self bonding.	RECLAIM RUBBER-RESIN	SPOT, CAULKING GUN		MEDIUM DOUGH	
	H			SPOT		HEAVY DOUGH	
	WALLBOARD CEMENT	Waterproof wallboard cement. Bonds 5 to 45 minutes after application.		NOTCHED SPREADER		LIGHT DOUGH	BLACK
	DRY WALL ADHESIVE	Waterproof adhesive for bonding gypsum board to studs. Open time 30 minutes.		CAULKING GUN		LIGHT DOUGH	
	Anchor Adhesive	For bonding surface anchors. Temp. range up to 200° F (use NP153 for minus 60° F to plus 70° F).		PUTTY KNIFE		MEDIUM DOUGH	
	G 40	Slow setting adhesive for mirror work.		SPOT, CAULKING GUN		LIGHT DOUGH	
	G 100	Slow setting adhesive for heavy mirror work.		SPOT		HEAVY DOUGH	
	RT 1000	High temp. adhesive for temp. range minus 40° to plus 450° F.	SYNTHETIC RUBBER	PUTTY KNIFE, TROWEL, BRUSH	WATER	LIGHT DOUGH	BLACK (2-PART)
	140	Fabric and Canvas Cement; strong flexible bond.	LATEX-RESINS AND CASEIN	NOTCHED SPREADER	WATER	LIGHT BUTTER	
	19 WOOD-GLU	Fast drying wood glue; high bonding strength.	POLYVINYL-RESIN	BRUSH	WATER	MEDIUM SYRUP	WHITE
INDUSTRIAL ADHESIVES	NP 153	Extra low temp, minus 60° F to plus 70° F for bonding anchors or laminating board types of insulation.	RECLAIM RUBBER-RESIN	PUTTY KNIFE, TROWEL	SOLVENT		
	WOOD BLOCK ADHESIVE	Water, soap, detergent and alcohol resistant. Not resistant to aliphatic and aromatic solvents.	RUBBER-RESIN, ASPHALT	1/4" NOTCHED TROWEL		MEDIUM DOUGH	BLACK
	W 2001	For general home use: china, leather, hobby crafts, etc.	SYNTHETIC RESINOUS TYPE				WATER WHITE
	WP 134	High heat resistant adhesive for bonding light aluminum face asbestos materials (Alfol and similar sheet materials) to steel, concrete, etc. Anti-corrosive coating and vapor sealer.		BRUSH, SPRAY		PAINT	DARK AMBER
	WP 297	Fast drying contact adhesive for bonding plastic sheets to wood, etc. Bonds wood to wood.	SYNTHETIC RUBBER-RESIN				LIGHT TAN
	WP 240	Bonds vinyl film, polyester laminates & phenolic laminates to wood, metal, etc., providing vinyl contains non-migratory plasticisers.	RUBBER-RESIN	PAINT, SPRAY		HEAVY PAINT	BROWN
	WP 168	Bonds vinyl film, latex, papers, wood, insulation and plaster boards, etc., where one component is absorbent. Bonds paper to wood.	SYNTHETIC RUBBER-RESIN	BRUSH, SPRAY	WATER BASE	PAINT	DARK TAN
	ADWELD 185 OR ADWELD W799	2-part, heat resistant adhesives. Bond to metals, glass, etc., with outstanding strength. High and low temp. resistance.	EPOXY RESIN	WOOD SPREADER, BRUSH	CHEMICAL SET	PASTE OR PAINT	LIGHT TAN
	150G-150GEW	For bonding or laminating insulation materials (Fiberglas, Celotex, Zerolite, etc.).	RUBBER RESIN	BRUSH, SPRAY, ROLLER COAT	WATER	PAINT	TAN
CAULKING MATERIALS	NP 177 SEALING COMPOUND	Fire-resistant permanently plastic caulking compound for high temp. conditions up to 750° F. Recommended for metal roof deck and allied type of caulking applications.	RECLAIM RUBBER-RESIN	GUN, KNIFE	SOLVENT	DOUGH	
	KM 740 SEALING COMPOUND	All purpose caulking compound retaining indefinite plasticity. Top temp., 350° F.	SYNTHETIC RESIN WITH MINERAL FILLERS				GRAY
	KM 766 SEALING COMPOUND	Same as KM 740 except with slight skinning action.					
	KM 773 STEEL WINDOW SEALING COMPOUND	Same as KM 766 with no slump and minimum oxidation. Consistency adjusted to allow direct pressure feed from drum for production line assemblies.				HEAVY BODY	
	KM 774 PORCELAIN ENAMEL SEALING COMPOUND	Sealer with slight surface skinning action, retaining permanent plasticity to maintain tight seal of temp. up to 350° F. Texture permits easy handling during application.					
	KM 795 COMMERCIAL GLAZING COMPOUND	Glazing compound with similar base to KM 740 with additive to provide permanent plastic bond between glass, steel, or wood frames. Suitable as caulking compound for difficult conditions.				LIGHT DOUGH	WHITE
	TC 1000 SEALER	Heavy caulking used where rubbery flexibility is required with surface skinning action. Bonds to steel, glass, ceramic tile, wood, etc.	SYNTHETIC RESIN-PLASTICS			DOUGH	
OTHER PRODUCTS	PRIMER	Prime coat to waterproof plaster or gypsum board behind tubs and showers prior to installing clay tile with Miracle adhesive.	RECLAIM RUBBER-RESIN	BRUSH, SPRAY	SOLVENT	HEAVY PAINT	BLACK
	TUB-CAULK	Permanent waterproof sealer for caulking around tubs, shower stalls, etc. Impervious to scouring powders, grease, acids or alkalies.	RESIN	TUBE		HEAVY BODY	WHITE, TAN, BLUE, GREEN, PINK
	PLASTIC UNDERLAYMENT	Resilient underlayment for leveling floors as base for asphalt and rubber tile, linoleum, woodblock and ceramic tile set in adhesive.	Liquid synthetic rubber binder aggregate; mineral fillers and vulcanizer	TROWEL		HEAVY DOUGH WHEN MIXED	GRAY
	TILE GROUT	White waterproof grout; non-shrinking, non-cracking. For thin-set or mortar-set tilework.	CEMENT—LIME	SQUEEGEE, CLOTH, BY HAND	WATER	HEAVY PAINT WHEN MIXED	WHITE
	WATERLESS HANDCLEANER	Waterless handcleaner containing lanolin, vegetable oils. Removes Miracle adhesives, grease paint, tar, carbon, ditto ink, etc.	DETERGENT	BY HAND		HEAVY PAINT	WHITE

Miracle Adhesives Corporation

214 East 53rd Street

New York 22

service Miracle Adhesives Corporation's staff of experienced engineers and technicians will assist the architect, engineer and contractor with any Construction-By-Adhesion problem which is not sufficiently covered in this catalog. Write for information regarding our consultation services which are offered without cost or obligation.

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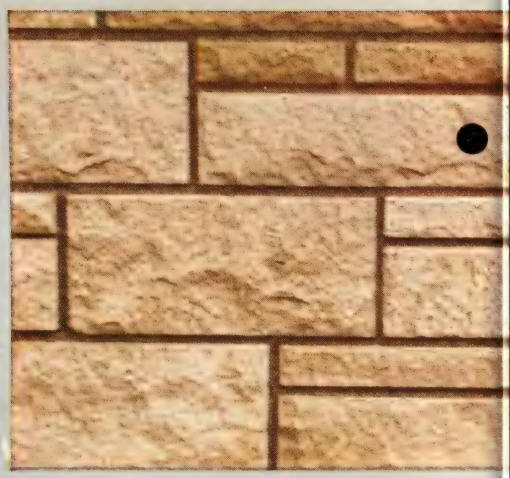


Built for beauty with

Briar Hill

GOLDEN TONE SANDSTONE

From the rolling hills of Ohio
comes this beautiful stone...
lovely in its pastel shades, yet with the
inherent strength of the ages...to help
build America's most distinctive homes,
its most imposing churches, schools,
public and commercial buildings



Briar Hill

GOLDEN TONE SANDSTONE



ONLY A FEW YEARS AGO, the use of stone such as that produced by Briar Hill was limited largely to the most important projects. Custom cut, it went chiefly into the mammoth residences, the huge cathedrals, the more elaborate college buildings.

Today, modern methods of quarrying and standardization of sizes have expanded the application, and considerably lowered the cost so that Briar Hill Golden Tone Sandstone now is well within the boundaries of modest building budgets.

The answer is Briar Hill Ashlar Veneer, processed to a standard 3½-inch width and in heights of 2¼, 5 and 7¾ inches. Strips are furnished in random unjointed lengths. Face and back have a split finish to preserve the natural, rugged stone effect. Sawed top and bottom beds make possible firm, even, quick and easy setting.

Thus, Briar Hill stone arrives on the construction site practically ready to set. Either stonemason or bricklayer has the experience to complete the application. Simple scoring with straight-faced chisel or coping tool, followed by gentle tapping, permits cutting to any desired lengths.

Sooner than you think, your walls of Briar Hill Ashlar Veneer are in place . . . your home, your church, your school graced with a beauty that will live throughout the years.

For the architect, Briar Hill brings a material which better enables him to create distinctive designs that please the most discriminating clients. For the builder, Briar Hill provides an economical means of producing homes of greater charm and ready salability.







Combine Briar Hill stone with any other building materials . . . with wood, with glass, with brick. Use it for complete or partial walls, for decorative chimneys, for patios, fireplaces, garden enclosures, walks and play areas.

You will discover that Briar Hill is most adaptable, most beautiful, most economical . . . the stone that best expresses your best ideas.

Look at the four patterns shown above . . . a quartet of harmonies in Briar Hill Ashlar Veneer.

Use any one of them "as is" . . . or make them a jumping-off place for your own ideas. There are countless combinations, opportunity for you to create whatever you may wish in original treatments of patterns, coursing, mortar joints, color distribution, light and shadow effects.

You may order Briar Hill stone in "run-of-quarry" color range which permits greatest freedom of design. At your request, the more extreme shades may be eliminated. Or, if you choose, select "all buff" or "all gray" shades to obtain the general color tone best suited to your plans.

In most of its applications, Briar Hill Ashlar Veneer is used with the three heights . . . 2¼, 5 and 7¾ inches . . . in combination. Unless otherwise specified, orders are filled with quantities of each height proportioned to produce either random or coursed walls. However, as demonstrated by accompanying natural color photographs, it is possible to obtain striking effects with combinations of only two heights or use of only a single height.

For the benefit of architects, designers and builders, a helpful advisory service is maintained by a special Briar Hill staff. Any additional information desired is supplied promptly. Or, if you wish to submit blueprints, recommendations and estimates will be furnished without obligation. Address *The Briar Hill Stone Company, Glenmont, Ohio.*

BRIAR HILL STONE NOW AVAILABLE IN PACKAGED FORM



Briar Hill Ashlar Veneer is available also in packaged assortments to meet a variety of construction needs. Each package contains enough stone to cover 10 square feet, using ½" mortar joints. Stone is cut, ready to set. Pleasing quarry-run colors of buffs, tans, grays and browns are grouped in the packages.

Briar Hill packaged stone is suitable for use on building fronts, for fireplaces, inside walls, garden walls, chimneys, barbecue pits, gateposts, patios and modern construction of all kinds. With this new packaged stone, you can calculate your needs accurately and order the exact amount necessary for the job at hand.

For detailed size information, and description of the packaged assortments available, consult your building materials dealer or write The Briar Hill Stone Company, Glenmont, Ohio.

Figuring wall coverages of Briar Hill Ashlar Veneer

It is a simple matter to compute the tonnage of Briar Hill Ashlar Veneer required for any building. On the majority of projects, all three standard heights of 2¼ inches, 5 inches and 7¾ inches are used in combination. Frequently, only the two lesser heights are combined. Occasionally, the entire job is done with the 2¼-inch height.

When three heights are used in the standard percentages of 16 per cent 2¼ inches high, 47 per cent 5 inches high and 37 per cent 7¾ inches high, coverage will be approximately 45 square feet of wall per ton.

When two heights 2¼ inches high and one height 5 inches high are used, coverage will be approximately 50 square feet of wall per ton. When one height all 2¼ inches high is used, coverage will be approximately 55 square feet of wall per ton.

All above coverages are based on use of ½-inch mortar joints.

All sales of Briar Hill Ashlar Veneer are based on the measured ton when loaded at the quarries since possible weight variations may be caused by atmospheric conditions while en route.



NEW BOOK AVAILABLE

to architects and builders

Send today for new 16-page full-color book illustrating numerous homes, churches, schools and commercial buildings built of Briar Hill Golden Tone Sandstone.

Briar Hill

GOLDEN TONE SANDSTONE

THE BRIAR HILL STONE COMPANY

GLENMONT, OHIO

Standard Specifications

Stone wall facing shall be Briar Hill Split Face Ashlar Veneer as furnished by The Briar Hill Stone Company, Glenmont, Ohio. This stone shall be furnished in random length strips, unjointed, with sawed beds in heights of 2¼, 5 and 7¾ inches, and with split face and back to approximately 3½-inch widths. (Note: Heights of 10½ inches also may be specified for large scale projects, but these strips are split to a minimum width of 4½ inches.)

Corners, jambs and bond stones can be furnished 6 to 8 inches wide if required. (Specify.)

Color range shall be (run of quarry) (lighter shades) as approved by the architect.

Setting (Masonry back-up) Ashlar shall be laid in (random) (coursed random) (coursed) patterns as shown on Briar Hill standard jointing layout with modifications as required by the architect. Mortar joints shall be ½ inch and each stone shall be laid in a full bed of mortar *with end joints completely filled.* Mortar shall be equal to Type B, as per American Standard Association requirements, consisting of one part Portland cement, one part hydrated lime, and six parts sand by volume; or may be Brixment, Medusa Stoneset, or other prepared mortar mixed according to the manufacturer's directions and as approved by the architect. Stone shall be thoroughly saturated with water just prior to setting.

All stonework shall be properly bonded to back-up material either with bond stones or by the use of galvanized steel wall ties.

All facing stone shall be back-plastered with a coat of waterproofed mortar not less than ½ inch thick before the masonry backing is built. (Parging shall attain initial set before backing is laid.)

Stonework shall be cleaned down after completion, using clear water and bristle brushes. Where necessary, stone shall be washed free of dirt prior to setting, using a mild detergent, but under no circumstances shall acid be used. All mortar droppings adhering to stone shall be immediately removed. The stone shall be sponged free of mortar along the joints as the work progresses.

Setting (Frame construction) Use the foregoing specification but omit reference to bond stone and parging back of stonework. A moisture barrier should be applied to wall sheathing before stone is laid.

Technical Data

Briar Hill Golden Tone Sandstone is known geologically as the Massillon Sandstone and has established an enviable record for beauty and durability in many types of buildings over the last 100 years. The stone is medium to coarse-grained and is composed mostly of quartz with iron oxide, minerals and secondary silica comprising the cementing materials. The crushing strength ranges from 4000 to 6000 pounds per square inch and absorption is 6 per cent by volume. Chemical analysis is as follows:

Silicon Dioxide	95.00%	Calcium Oxide	.30%
Aluminum Oxide	2.75%	Magnesium Oxide	.25%
Iron Oxide	.60%	Loss in Ignition	1.10%

Printed in U.S.



WAR MEMORIAL GROUP—Boldt Tower, Lyons & McFadden Halls—
LENROC SEAM FACE; ARCHITECT—Charles Z. Klauder
Philadelphia, Pa.
CONTRACTOR—Dall, Hayden & Treat
Ithaca, N. Y.

lenroc stone

Enjoy the Protective Warmth of Natural Stone



Forging New Frontiers in Stone Construction

LENROC Seam Face	LENROC Rock Face
LENROC Sawed-Bed Ashlar	LENROC Flagstone
LENROC Dimension Stone	LENROC Panelwall

- **Incomparable Beauty**
  Distinctive blue-gray colors weathering to muted tones of magenta, brown and tan.
- **Does not Discolor With Age**
- **Inexpensive**
  Costs comparable [illegible] work.
- [illegible] **nce Cost**

forging new frontiers in stone construction

Our policy is to develop better methods for using man's oldest building material, natural stone. Keeping pace with modern building design and construction methods, the Finger Lakes Stone Co. produces a variety of building materials to provide the Architect and Builder with superior stonework that is low in cost and architecturally handsome.

design: Complete drafting-room services are available for preparing estimates and shop drawings. Our designers constantly seek new and better ways to use stone for your greater economy.

testing: By having the Engineering Laboratories of Cornell University available for periodic tests and control checks, you can be sure the quality of LENROC meets the highest building standards.

quarry: These are the quarries, opened by Cornell University early in the 20th Century, which produce stone from which many famous buildings at Cornell University have been built.

production: Modern quarry tools and machines are used to produce consistent high-quality stone products. The formation is such that stone is lifted out in large slabs without blasting. The stone is drilled in the natural seams and then wedged so that you are insured that lines of tension, which would result in fractures and spalling, are avoided.

inventory: LENROC stone is quarried and fabricated into a series of standard products, although individuality of product is assured because the characteristics of LENROC are the result of nature's work. Shipments are made promptly with the economies of mass production passed on to you.

PROFESSIONAL BUILDING, Ithaca, N. Y.
—LENROC SAWED-BED ASHLAR;
ARCHITECT—
Carl C. & Robert B. Tallman, Ithaca, N. Y.
CONTRACTOR—
C. A. Hill Construction Co., Ithaca, N. Y.

LENROC is a fine-grained sandstone deposited during the Devonian Age. When first quarried its dominant color is blue-gray; iron oxides are responsible for muted tones of magenta, brown and tan that emerge with age. Full architectural beauty comes with the aging of the stone.

condensed chemical analysis

silicon dioxide	SiO_2	75.3%
aluminum oxide, etc. (cementing materials)	R_2O_3	13.1%
iron oxide	Fe_2O_3	5.9%
other: Ti°a, Ca, Mg°		5.7%
		100.0%

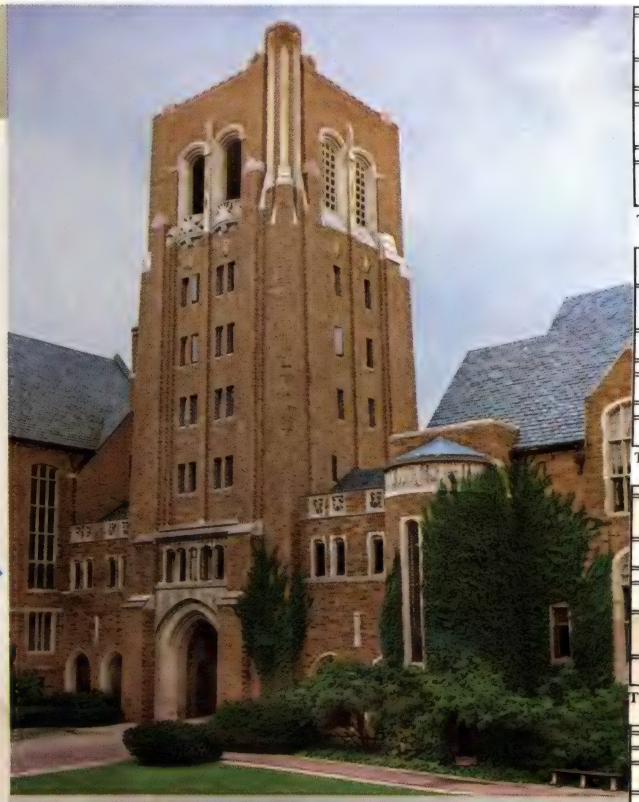
physical properties

crushing strength, per square inch	26,500 lbs.
weight, per cubic foot	165 lbs.
absorption, by weight	1.7%

lenroc seam-face bonded ashlar

Our finest squared rubble stone is offered in 100% natural seam face. The portion of the quarry devoted to seam face production is criss-crossed with vertical seams from which stone is lifted and cut back in varying wall thicknesses from these seam faces.

uses: High compressive strength makes LENROC Seam Face Ashlar ideally suited for load-bearing walls. Seam Face is reserved for the finest building construction. Curtain walls should be detailed to a minimum thickness of 8″ because of the difficulty of splitting the stone to lesser widths.



MYRON TAYLOR HALL—Cornell University—LENROC SEAM FACE:
ARCHITECT—Jackson, Robertson, and Adams, Providence, R. I.
CONTRACTOR—George A. Fuller Co., New York, N. Y.

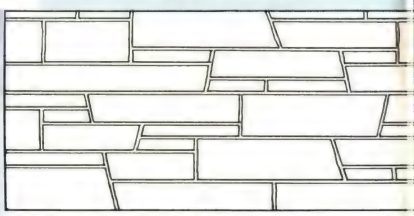
general specifications

face heights:	random from 2″ to 10″
widths and coverage:	8″ Wall 17 sq. ft./ton
	12″ Wall 12 sq. ft./ton
lengths:	random from 8″ to 48″
shape:	rectangular with sawed beds
face:	100% natural seam faces, vertical
finish:	The face has a natural, soft, satin finish. Upon exposure the concentration of iron oxides weather to muted tones of magenta, brown and tan. The original bluish cast of the stone disappears completely after two years in the wall.

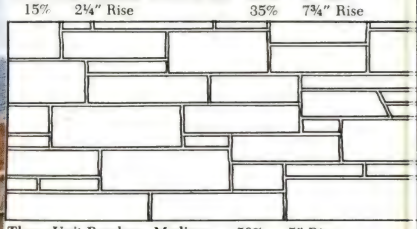
Installation: LENROC Seam Face Ashlar shall be handdressed on the job by a competent stone mason. The stone is laid in a coursed rubble ashlar pattern with mortar joints of ½″ to ¾″ one of the faces should be pitched.



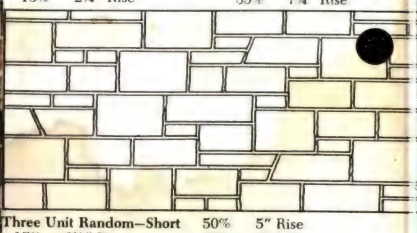
LADY OF LOURDES CHURCH—Elmira, N. Y.
ARCHITECT—Haskell, Considine & Haskell, Elmira, N. Y.
CONTRACTOR—Welliver Construction Co.



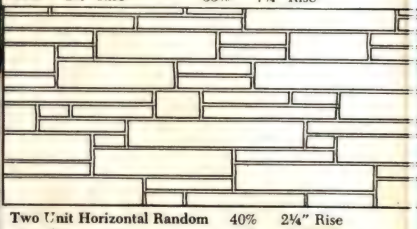
Three Unit Random—Broken End 50% 5″ Rise
15% 2¼″ Rise 35% 7¾″ Rise



Three Unit Random—Medium 50% 5″ Rise
15% 2¼″ Rise 35% 7¾″ Rise



Three Unit Random—Short 50% 5″ Rise
15% 2¼″ Rise 35% 7¾″ Rise



Two Unit Horizontal Random 40% 2¼″ Rise
60% 5″ Rise



Four Unit Random Ashlar 30% 5″ Rise
15% 2¼″ Rise 40% 7¾″ Rise
15% 10¼″ Rise

lenroc sawed-bed ashlar

economical, modular, quarry-sawed, natural stone veneer

Unprecedented economies result from rapid installation and high wall coverage per ton. LENROC SAWED-BED ASHLAR arrives on the job in 3½″ or 5½″ veneer widths, ready to set. A mason need only cut the ends to length. Natural seam corners are included to make jambs and corners without cutting.

MODULAR RISE PRINCIPLE

Modular design borrows techniques from mass production industries, planning everything to fit a specified pattern. Stone is cut in multiple rises of a standard module so that two stones with mortar joint will exactly match a larger rise stone to permit laying a two against one pattern.

Modular-cut stone can be laid three to five times faster than hand-cut stone and faster than brick. Expensive on-the-job cutting and trimming costs are reduced. Sketch shows the modular-rise principle. By adding the next rise of stone to a three-unit ashlar, a four-unit ashlar is created.

UNLIMITED PATTERN POSSIBILITIES

By imaginative selection of two, three, or four-unit ashlars, you can create unlimited patterns by varying the length of the stone, and varying the percentage of different rises in the stone. Patterns which are in character and scale with a particular project can be selected at will. The modular principle is retained in all patterns for economical construction. Some of the striking patterns possible are shown at the left. Write for our special coursing folder showing many more additional patterns.

uses: Beautiful veneers in a variety of patterns for schools, churches, institutions, commercial buildings, private homes and architectural features.

GENERAL SPECIFICATIONS FOR ALL TYPES SAWED-BED ASHLAR

widths and coverage: 3½″ Veneer 45 sq. ft./ton
5½″ Veneer 30 sq. ft./ton

lengths: random from 12″ to 48″. module A 69 Stone is cut in lengths conforming to a basic 4″ module.

face: Approximately 40% Natural Seam Face—60% Split Face. For bold texture, we recommend that approximately 25-30% of the faces be hand pitched 1½″ for striking shadow lines.

returns & jambs: natural seam face corners are furnished which eliminate the necessity of hand-trimming on the job.

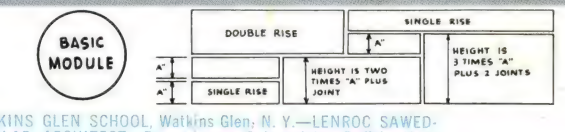
shape: rectangular with diamond-sawed beds.

face heights:

standard modular designation	rise	ton mixture
brick module	2¼″	15%
	5″	50%
	7¾″	35%
formula A 69	1½″	15%
	3½″	50%
	5½″	35%
large scale module	3″	5%
	6½″	25%
	10″	50%
	13½″	20%
gothic-type module	4″	25%
	5½″	25%
	7″	15%
	10″	18%
	11½″	17%

Installation: Set in ½″ mortar bed with recommended mortar mix (See Page 4). Lengths are to be cut as required and to be hand-trimmed on the job. Faces shall be trued up by a pitching tool along the arris of the stone. To produce a bold texture, specify that 25-30% of the faces be hand-pitched with projection of 1½″ to give shadow lines.

For full color range, set with seam faces exposed. Where a subtle tone is desired, set split faces to show.



WATKINS GLEN SCHOOL, Watkins Glen, N. Y.—LENROC SAWED-BED ASHLAR; ARCHITECT—Duane Lyman & Associates, Buffalo, N. Y.
CONTRACTOR—Matthew L. Carroll, Inc., New York, N. Y.



LOWDEN POINT BRIDGE—LENROC SAWED-BED ASHLAR
ENGINEERS—Andrews, Clark & Buckley, New York, N. Y.
CONTRACTOR—A. Plotzker Co., Inc., Rochester, N. Y.



FAIRWAY HOUSE—Rochester, N. Y.—LENROC SAWED-BED ASHLAR; ARCHITECT—Highland & Highland, Buffalo, N. Y.
CONTRACTOR—Erdle & Graves, Rochester, N. Y.



Finger Lakes Stone Co., Inc.
Professional Building, 903 Hanshaw Rd., Ithaca, N. Y.

other lenroc stone products



LENROC DIMENSION STONE FOR—Wellesley College, Cornell University; ARCHITECT—Isadore Rosenfield, New York, N. Y. CONTRACTOR—John E. O'Neil Construction Co., Chicago, Ill.

lenroc dimension bluestone

uses: treads, copings, sills, belt courses, cut stone.

finish: diamond sawed—smooth finish with slight kerf marks from the action of the rotary blade.
wire sawed—matted finish created by the sawing action of sand drawn thru the cut by the wire.

product specifications: Standard sills are cut to sizes established by leading window manufacturers. Prices on request.
Other products cut to specifications. Write for information and prices.

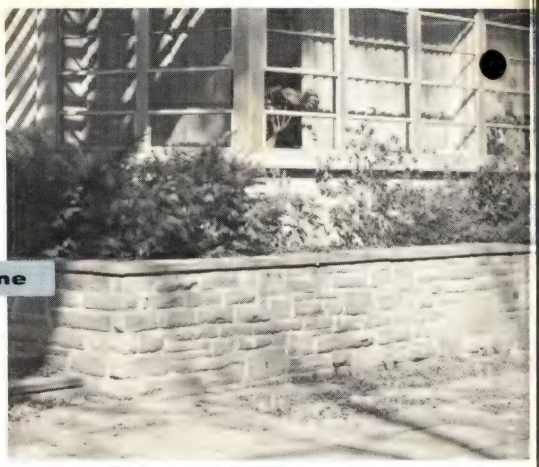
shop drawings: Prepared by Finger Lakes Stone Co., Inc. in accord with architect's drawings.

lenroc rock face stone

A rubble stone with all split faces. A by-product of seam face production. Recommended for walls where trimming of the stone is not required; otherwise, the low cost of stone is offset by high hand-trimming costs. Excellent for rustic effects or for dry walls. Often mixed with LENROC Seam Face which introduces brown tones for greater color interest.

general specifications

face heights:	4″ to 14″
widths and coverage:	8″ Wall—20 sq. ft./ton 12″ Wall—15 sq. ft./ton 16″ Wall—10 sq. ft./ton
lengths:	random, from 8″ to 30″
finish and color:	All split face. Overall blue-gray with oxidized tones of brown, and tan.



ARTS BUILDING RETAINING WALL, Syracuse University—LENROC ROCK FACE; ARCHITECT—Harry A & F Curtis King, Syracuse, N. Y. LANDSCAPE ARCHITECT—N. A. Rotunno, Syracuse, N. Y. CONTRACTOR—D. W. Winkleman Co., Inc., Syracuse, N. Y.

lenroc flagstone

Natural cleft sandstone flagging, also known to architects as bluestone flagging.

uses: Terraces, interior floors, treads, copings, and sills.

general specifications

type:
- dimension—Cut at the quarry to shop drawing specifications. Numbered for setting without field cutting.
- pattern—Cut in rectangles or squares in multiples of 6″. Can be laid without cutting in the field.
- random rectangular—Cut in rectangles or squares with a maximum size of 3′ x 4′. No set dimension.
- irregular—Consists of irregular pieces left from other cuttings.

size: Maximum size of 12 sq. ft. with a maximum of 4′ in any dimension.

thickness: 1-inch for areas supported on concrete foundation. 1½ inch for areas laid on sand or earth foundation. 2-inch for treads, exposed edges, or copings.

edges:
- Sawed—Diamond-sawed perpendicular to the face to accurate dimensions.
- Tooled—Quarry hand-cut and tooled from top and bottom for a neat edge.
- Snapped—Quarry hand-cut from the top side only. One face only can be exposed.

finish and color: Natural cleft face with blue-gray, green, and earth brown colors.
Order by **type**, by **edge**, and by **thickness** in any combination to size requirement.



IBM RESEARCH CENTER, Poughkeepsie, N. Y.
ARCHITECT—Voorhees, Walker, Foley & Smith, New York, N. Y.
CONTRACTOR—Turner Construction Co., New York, N. Y.



lenroc panelwalls

A natural cleft surface flagging sawed in repeating rectangles and squares for an architecturally honest expression of stone veneer. Cost is considerably less than conventional limestone, granite, or marble slab veneers.

uses: As stone veneer for curtain walls or spandrel facings in commercial, industrial, monumental and institutional buildings.

general specifications

size: As specified by the architect and cut to shop drawings. Maximum size of 10 square feet and a minimum of 3 square feet per panel.

thickness: 1½″ with ¼″ tolerance.

RECOMMENDED MORTARS: Add only enough water to produce a stiff mortar which will support the stone until initial set:
#1. 1 part Portland Cement, 1 part Natural Cement, 6 parts sand.
#2. 1 part Portland Cement, 1 part hydrated lime, 6 parts sand.
#3. 1 part prepared mortar, ¼ part Portland Cement, 3 parts sand.

ORDER: Through your building supply house. LENROC STONE is available from distributors throughout the Eastern United States. For the name of the dealer of LENROC STONE in your area, write to the Finger Lakes Stone Co., Inc.

SHIPPING: Can be made by rail or by our trucks. Sawed-Bed Ashlar is shipped in one-ton palletized loads to permit easy handling by fork-lift trucks or by derrick. All other stone will be shipped bulk loaded in truck, carload or barge lots. Packing for special masonry handling system, such as the West System, can be made upon specification.

INQUIRIES: Special information, samples, specifications, or comparative cost data will be quickly supplied by the Finger Lakes Stone Co., Inc. Ithaca, N. Y. We welcome your inquiries.

Finger Lakes Stone Co., inc. **Sold by**

Professional Building, 903 Hanshaw Rd., Ithaca, N. Y. Tel. 2518

Printed in U.S.A. 105460

lightweight

insulating

fire-resistant

crack-resistant

better-workability



Permalite®

THE LEADING PERLITE AGGREGATE FOR BETTER PLASTER AND CONCRETE

PLASTER



GENERAL PLASTERING
BASECOAT PLASTER
WALLS AND CEILINGS



FIREPROOFING
STRUCTURAL STEEL
COLUMNS

CONCRETE



LIGHTWEIGHT CONCRETE
ROOF DECKS
ROOF FILL



INSULATING CONCRETE
FLOOR SLABS
FLOOR FILL

Permalite®



THE LARGEST SELLING PERLITE AGGREGATE IN THE WORLD

LIGHTWEIGHT



PERMALITE *particle, showing the unique cellular structure which gives* PERMALITE *its lightweight, insulating, and fire-resistant characteristics. Photo-micrograph magnification 30x.*

PERMALITE, *in the form of perlite crude ore, is quarried from these vast deposits of quality ore located at Socorro, New Mexico (left), and at Rosita, Colorado (right).*

PERMALITE is the registered trade-name of the leading perlite aggregate for better plaster and concrete. Perlite is a non-metallic mineral, a siliceous volcanic rock, which for millions of years has withstood all the destructive forces of nature. When crushed to size and heated quickly to above 1500° F, it expands to form perlite aggregate, a lightweight, non-combustible, glass-like material of cellular structure. Owing to its many unique properties . . . lightweight, insulating, fire-resistant . . . perlite aggregate is one of the most versatile and valuable building materials available to the construction industry!





PERMALITE
is less than 1/10 the weight of sand!

PERMALITE, as crude ore, weighs 70 to 80 pounds per cubic foot; as expanded aggregate, weighs 4 to 16 pounds per cubic foot. Sand, in contrast, weighs 100 to 110 pounds per cubic foot.

PERMALITE plaster is so light in weight that it can save up to 80% of dead-load!* Used for base coat plaster on walls and ceilings, it is only ⅓ the weight of ordinary sanded plaster, saving in dead-weight about one ton per 100 sq. yds. ½-inch thick in residential buildings, and as much as two tons per 100 sq. yds. over metal lath in commercial buildings. Used for fire-proofing structural steel columns, an 18-inch beam with a 25-foot span, for instance, it saves in dead-weight about 200 lbs. per lineal foot!

PERMALITE concrete is the lightest of all mineral concrete—so light that it actually floats on water! While ordinary sand-gravel concrete weighs 120 to 150 lbs. per cu. ft., PERMALITE concrete can be made from 20 to 50 lbs. per cu. ft. Used for lightweight concrete roof decks, roof fill, floor slabs, and floor fill, it makes possible immense savings in dead-weight!

**Where applied in modern lightweight design.*

PERMALITE's many unique qualities give you plaster and concrete aggregates of high quality and great economy.

Permalite®

PERLITE AGGREGATE 1c Gr



INSULATING

PERMALITE offers up to 20 times greater insulation!

PERMALITE adds high thermal insulation value to plaster and concrete, because its millions of microscopic sealed vacuum cells are permanent insulating agents that reduce heat transmission losses.

PERMALITE plaster offers thermal insulation value which is three to four times greater than that of ordinary plaster. Consequently, it is the ideal base coat plaster for walls and ceilings.

PERMALITE concrete offers up to 20 times greater insulating value than ordinary concrete! Consequently, it is the ideal lightweight insulating concrete for roof decks, roof fill, floor slabs, and floor fill.



FIRE-RESISTANT

PERMALITE offers 4 times greater fire-resistance!

PERMALITE, as plaster and concrete aggregates, withstands temperatures up to 2300° F without melting. Mixed with gypsum to form plaster, and mixed with cement to form concrete, PERMALITE adds inherent fire-proofing qualities to plaster and concrete. Fire tests by Underwriters' Laboratories, Inc., have resulted in ratings as high as four hours for PERMALITE plaster.

PERMALITE plaster makes possible the superior modern building techniques for fire-proofing structural steel columns. It offers the lightest, thinnest, most economical means available for achieving 2, 3, and 4-hour fire protection for steel columns, beams, girders, partitions, and roof decks. Used as a base coat plaster on walls and ceilings, it adds much greater fire protection with the resultant potential cost reduction.

PERMALITE concrete offers 4 times greater fire-resistance than ordinary concrete!



CRACK-RESISTANT

PERMALITE offers 10 times greater resiliency!

PERMALITE adds inherent crack-resisting qualities to plaster and concrete. PERMALITE has a high degree of elasticity; it is not as brittle as ordinary plaster and concrete.

PERMALITE plaster adds resiliency to walls. It withstands 42% more strain than ordinary plaster.* It can be sawed, nailed, or drilled without cracking or flaking off. It offers not only greater crack-resistance to pounding, but also greater resistance to freezing, thawing, and settling.

PERMALITE concrete offers 10 times greater elasticity than ordinary concrete!

**Armour Research Report, "Standardized Lathing and Plastering Practices"*



BETTER WORKABILITY

PERMALITE for better workability and easier handling!

PERMALITE may be job-mixed, transit-mixed, pre-mixed, or pre-cast. Sharp, irregular particles assure excellent workability. Inherent air entrainment assures greater plasticity. Unsurpassed ease of handling. Easily poured, shoveled, hoed, or mixed, even in the coldest weather. Can be nailed, drilled or sawed.

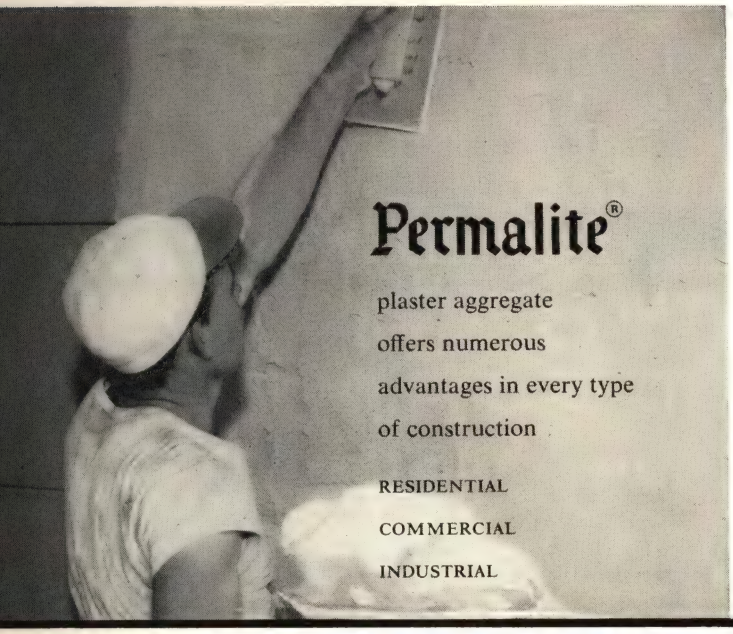
PERMALITE plaster and **concrete** aggregates offer you unsurpassed ease of handling, with ease and speed of application. A manufactured building product, it always is clean and uniform in quality. Packaged in 4 cu. ft. bags, weighing about 32 lbs., it always is easy to handle and easy to transport. Mixed by standard methods, it eliminates any guessing about mix ratio. Always dry, it can be handled throughout the entire year without danger of freezing. There never is any waste, because material left over can be transported easily to the next job. Off-street handling is simplified and speeded up. Ten times greater volume of PERMALITE can be stored on a given floor area than sand, without any danger of over-loading. Year-round uniform workability is the keynote of PERMALITE!

SAVES TIME because structural steel columns can be fireproofed with plaster much faster than they can be imbedded in heavy concrete forms.

SAVES MANPOWER because lightness in weight permits workmen to maintain optimum production throughout the entire working day—with much less effort.

SAVES MATERIALS because tremendous reductions in dead-weight permits great economies in the use of structural steel and other building materials.

SAVES MONEY because PERMALITE plaster and concrete aggregates, while saving time, manpower, and materials, gives you a better building at less cost to construct and less cost to maintain!



Permalite®

plaster aggregate offers numerous advantages in every type of construction

RESIDENTIAL

COMMERCIAL

INDUSTRIAL

GENERAL PLASTERING basecoat plaster for walls and ceilings. PERMALITE plaster aggregate, mixed with gypsum, is the ideal *base coat plaster for walls and ceilings.*

Lightweight, it is only ⅓ the weight of ordinary sanded plaster, saving in dead-weight about one ton per 100 sq. yds. ½-inch thick in residential buildings, and as much as two tons per 100 sq. yds. over metal lath in commercial buildings; requires less structural steel and less costly foundations; prevents unnecessary settling and cracking; and enables the plasterer to maintain optimum production throughout the entire day, with much less effort. Insulating, it adds three to four times more thermal insulation than ordinary plaster. Fire-resistant, it adds much greater fire protection, with the resultant potential cost reduction. Crack-resistant, it adds resiliency to walls, withstanding 42% more strain than ordinary plaster without cracking*, and permitting nails to be driven into walls without cracking or flaking. Better workability, easier handling, and faster application are additional values.

**Armour Research Report, "Standardized Lathing and Plastering Practices."*

PLASTER COVERAGE TABLE

BASED ON PERMALITE-ALEXITE PLASTER AGGREGATE

	MIX RATIOS 100 Lb. Bags Plaster to Cu. Ft. Permalite			ESTIMATED MATERIALS Required to Cover 100 Sq. Yds.	
	SCRATCH COAT	BROWN COAT	Plaster Thickness	4 Cu. Ft. Bags Permalite	100 Lb. Bags Gypsum Plaster
GYPSUM LATH BASE	Doubled back	1 to 2½	½″	7	11
	1 to 2	1 to 3	½″	7½	10½
METAL LATH BASE	1 to 2	1 to 3	Total ⅞″	13	19
MASONRY BASE	1 to 3	1 to 3	⅝″	9	12
	1 to 4	1 to 4	⅝″	10	10

These coverage figures are based upon the average yield obtained using PERMALITE-ALEXITE plaster aggregate. These approximate quantities are for solid coverage. Since the average job has 15% openings the quantities shown here will generally suffice for 115 yds. coverage. The specification and coverage tables shown above are intended as an aid for good plastering, but do not constitute any guarantee of workmanship or coverage.

MIXING INSTRUCTIONS

To realize the full benefit of PERMALITE plaster, the plasterer must mix the materials properly, as follows:

1. Pour into a clean mixer 80 per cent of the water to be used.
2. Pour (DO NOT DUMP) into the mixer one 100-pound bag of fibered gypsum plaster. Dumping may form lumps or balls of plaster.
3. After mixing 30 seconds, add the specified amount of PERMALITE plaster aggregate.
4. Add the remainder of the water sparingly and mix three to four minutes.
5. Where necessary, add standard gypsum accelerator in the amount of about ½ pound to the water of each mix of 100 pounds of gypsum. If no accelerator is available, add a shovel of hydrated lime (5 lbs), or a half shovel of lime putty, or a small handful (¼ pound) of Portland cement to each 100 pounds of gypsum plaster.

The amount of water will vary slightly according to the characteristics of the particular gypsum plaster used.

APPLICATIONS

1. PERMALITE PLASTER OVER METAL LATH (SCRATCH COAT)

Except over herringbone or rib lath, it is advisable to use a double-fibered plaster, properly accelerated. This first coat shall be cross scratched with a metal scratcher and be allowed to *set completely* before the second or brown coat is applied.

The brown coat shall be rodded to a level surface, to thickness specified, and left in a roughened condition satisfactory for the application of the finish coat.

2. PERMALITE PLASTER OVER PLASTER LATH

The scratch coat over plaster lath may consist of two cubic feet of PERMALITE to each 100 pounds of plaster, where three-coat work is specified; or not more than 2½ cubic feet of PERMALITE to each 100 pounds of plaster where two-coat, or the double-back method of plastering is permitted. In either case, this coat shall be applied tightly by sufficient pressure to assure a good bond.

In three-coat work the plaster in the scratch coat should be accelerated. This first coat should be cross scratched and permitted to set 24 hours before the brown coat is applied.

The brown coat shall consist of not more than 3 cubic feet of PERMALITE to each 100 pounds of plaster.

If the double-up method is used, the brown coat shall consist of 2½ cubic feet of PERMALITE for 100 pounds of gypsum plaster.

In either case, the brown coat shall be rodded level to uniform thickness, and be left in a sufficiently rough condition to insure a bond of the finish coat.

If the finish coat is to be acoustical plaster, or sand finish, it may be applied 24 hours after the brown coat application. If a white coat or interior stucco finish is specified, the brown coat must be dry, or almost dry, before application of the finish coat.

3. PERMALITE PLASTER OVER MASONRY

All masonry surfaces shall be completely dry before plastering. When PERMALITE with gypsum plaster is to be applied over Portland cement concrete surfaces, a reliable bonding agent shall be used prior to the application of PERMALITE plaster.

Over other masonry bases PERMALITE plaster may be applied in either two or three coats as specified by the architect. The scratch and brown coats shall consist of 3 cu. ft. of PERMALITE to 100 lbs. of gypsum plaster.

Over exceptionally high suction masonry areas, a mix of 3½ to 4 cubic feet of PERMALITE to 100 pounds of gypsum plaster may be used to avoid checking.

Send for complete data on properties, preparation, and application of PERMALITE plaster aggregate.



FIREPROOFING structural steel columns. PERMALITE plaster aggregate makes possible the superior modern building techniques for *fireproofing structural steel columns.*

It offers the lightest, thinnest, most economical means available for achieving 2, 3, and 4-hour fire protection for steel columns, beams, girders, partitions, and roof decks. Various types of plaster fireproofing construction, whereby steel columns are coated with plaster rather than encased in heavy concrete forms, offer tremendous reductions in dead-weight, savings in structural steel, and conservation of usable space.

For instance, the use of lightweight plaster to fireproof an 18-inch beam having a 25-foot span reduces the dead-weight by 200 pounds per lineal foot!

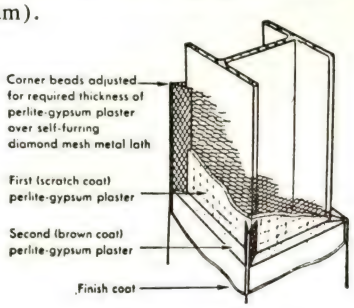
PERMALITE plaster, where used in buildings designed for its use, can save up to 80% of dead-weight*; provides additional usable space; and makes possible immense savings in structural steel, labor costs, and construction time!

** Where applied in modern lightweight design.*

MAXIMUM FIRE PROTECTION ... MINIMUM WEIGHT and THICKNESS

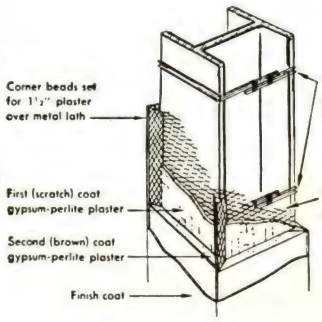
STEEL COLUMNS

PERMALITE-ALEXITE plaster, applied to steel columns and beams over metal lath, achieves fire ratings up to 4 hrs., while eliminating costly forms and saving up to 200 lbs. deadweight per lineal foot (18″ beam).



Perlite-gypsum plaster[1] over self-furring metal lath, corner beads adjusted for thickness. Two to 4 hr. rating, depending upon thickness of plaster. See UL 3187-5, 3187-7, and 3187-4 in table below.

[1]Scratch coat: 2 cu. ft. perlite, 100 lbs. gypsum. Brown coat: 3 cu. ft. perlite, 100 lbs. gypsum.



1½″ Perlite-gypsum plaster over metal lath with ¾″ cold-rolled furring channels at 2 ft. spacing. 4 hr. rating. See 3187-6 in table below.

FIRE RATINGS

Rating	Description	Testing Laboratory	Report No.
2 hrs.	Steel column. 1″ perlite-gypsum plaster over metal lath.	Underwriters' Laboratories	3187-5*
3 hrs.	Steel column. 1⅜″ perlite-gypsum plaster over metal lath.	Underwriters' Laboratories	3187-7*
4 hrs.	Steel column. 1¾″ perlite-gypsum plaster over metal lath.	Underwriters' Laboratories	3187-4*
4 hrs.	Steel column. 1½″ perlite-gypsum plaster over metal lath with ¾″ furring channels at 2′ spacing.	Underwriters' Laboratories	3187-6*

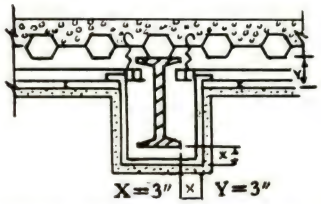
** Available through members of the Perlite Institute only.*

Write for details of various thicknesses and bases used in tests above and other tests completed or in process.

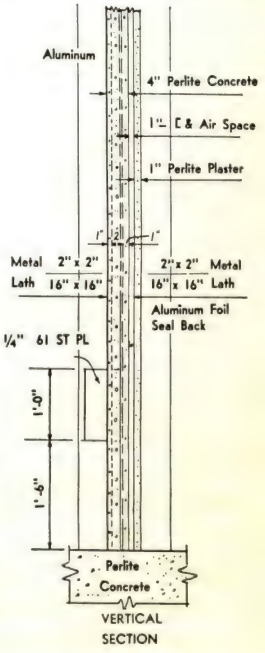
WALLS, PARTITIONS, AND CEILINGS

Fire ratings achieved are 1 to 4 hrs., according to construction type, for curtain walls, bearing and non-bearing walls or partitions and ceilings. Write for full specifications and authoritative reports of actual fire rating tests.

Non load-bearing panel or curtain wall 6″ thick (not incl. weather proof facade). 4″ perlite Portland cement concrete ext. separated from 1″ perlite-gypsum plaster int. Both on paper back wire lath. 4 hr. rating, UL Rep. 3302.



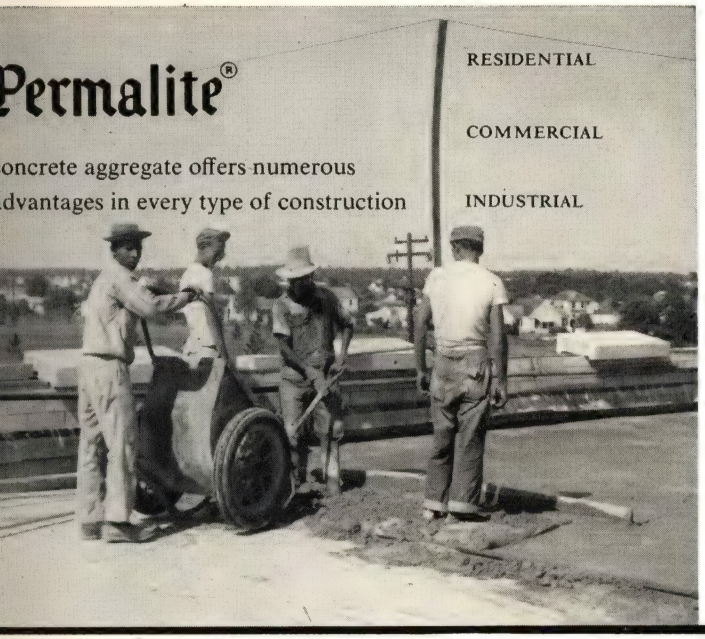
Cellular steel floor covered with 2″ of perlite concrete over a ceiling of 1″ perlite-gypsum plaster on metal lath. Minimum clearance of 3″ from structural members. 4 hr. rating, UL Retardant 2993.



FIRE RATINGS

Rating	Description	Testing Laboratory	Report No.
½ hr. Combustible	Interior finish on one face of wood studs.	Underwriters' Laboratories	2896
1 hr. Combustible	Hollow load-bearing partitions of 2 x 4 wood studs.	Underwriters' Laboratories	2896
2 hrs.	Solid partition, 2½″ total thickness.	Underwriters' Laboratories	3453*
4 hrs.	Panel or curtain wall, 6″ total thickness.	Underwriters' Laboratories	3302
4 hrs.	Suspended ceiling with air conditioning ducts.	Underwriters' Laboratories	3355*

** Available through members of the Perlite Institute only.*



LIGHTWEIGHT CONCRETE structural roof decks and non-structural roof fill. PERMALITE concrete aggregate is the ideal lightweight insulating concrete for *structural roof decks and non-structural roof fill.*

It is the lightest of all mineral concrete—so light that it actually floats on water! While ordinary sand-gravel concrete weighs 120 to 150 lbs. per cu. ft., PERMALITE concrete can be made from 20 to 50 lbs. per cu. ft.

PERMALITE concrete offers up to 20 times greater insulating value than ordinary concrete; 4 times greater fire-resistance; 10 times greater elasticity; plus better workability, easier handling, flexibility in mixes, and high strength-to-weight ratio.

Used as lightweight insulating concrete for structural roof decks, PERMALITE is poured monolithically and properly reinforced over paper backed welded wire mesh, ribbed metal lath, or other structural supporting forms. It also is used as lightweight insulating concrete for non-structural roof fill over structural roof decks of concrete, wood, steel, or other structural supporting forms.

PERMALITE LIGHTWEIGHT INSULATING CONCRETE—TYPICAL MIX DESIGN TABLE

For PERMALITE-ALEXITE Aggregate** Slump—4 to 6 inches

Typical Properties							Mix Proportions by Volume				Materials Required to Produce 1 Cu. Yd. Concrete			
Density (oven dry) lbs. per cu. ft.	Compressive Strength PSI 28 Days	Thermal Conductivity "K"	Coefficient of Thermal Expansion per unit per °F	Tensile Strength PSI 28 Days	Bond Strength to Steel PSI 28 Days	Modulus of Elasticity in Compression PSI 28 Days	Cement Sacks	Perlite cu. ft.	Water per sack cement Gals.	Air Entraining Agent Pints	Cement Sacks	Permalite-Alexite cu. ft.	Water Gals.	Air Entraining Agent Pints
35	450	.85	0.0000060	69	83	245000	1	4	9	1	6.5	26	58.5	6½***
29	270	.67	0.0000056	46	53	123000	1	5	11	1¼	5.2	26	57.0	6½
26	190	.59	0.0000048	32	23	114000	1	6	12	1½	4.33	26	52.0	6½
*23	130	.53	0.0000044	25	..	90000	1	7	14	1¾	3.7	26	52.0	6½
21	100	.50	0.0000041	17	..	68000	1	8	16	2	3.25	26	52.0	6½

**Data for 1-7 mix interpolated.*
***Tests conducted with aggregate weighing 8 lbs./cu. ft.*
****AEA is 14% neutralized vinsol resin solution.*

This table shows properties of low density insulating concrete only. Higher compressive strengths (to 2000 PSI and better) with somewhat poorer "K" values, may be obtained by using high density Permalite concrete aggregate and lower water/cement ratios, plus recommended admixes.

The various values and yield figures shown here are very conservative when compared to many tests conducted by recognized testing laboratories and various actual installations. In all instances a conventional blade-type mortar mixer was used.

These figures are presented as a guide for insulating concrete design only and are not to be construed as a guarantee. Consult your local Permalite producer for best equipment and job practice in your area. Insist that the wet yield percentage be measured frequently during the pour in order to obtain proper insulating values.

How to Select the Proper Mix Design

Two basic factors influence the choice of a proper mix design for the roof or floor job on hand:

1. The *insulation* value of PERMALITE concrete is directly related to the density. The lower the density the better the insulation value.
2. The *strength* of PERMALITE concrete is also directly related to the density. The higher the density the greater the strength.

Since these two factors oppose each other, some sort of a compromise is indicated. The best approach is to determine, first, the minimum compressive strength needed, then select the strength requirement.

Uses of the Various Mix Designs

THE 1:6 MIX: Concrete mixed in a ratio of 6 cubic feet of PERMALITE concrete aggregate to one sack of Portland cement is most commonly used in roof deck designs. It best meets average requirements of strength, weight, and insulation value.

THE 1:4 MIX: With higher strength requirements, a mix of 4 cubic feet of PERMALITE concrete aggregate to one sack of Portland cement is frequently used instead of the standard 1:6 mix. When used in place of the standard mix, the architect and engineer must consider the extra density of the cement and the need of increasing the thickness of the cement to maintain a given U value.

THE 1:5 MIX: This is not often used, except on some large areas, because it is more difficult to batch than the other two.

THE 1:7 MIX: Because of its low density, this concrete possesses excellent insulating properties and more than average strength for use as an insulation and drainage fill over structural roof decks. The compressive and indentation strengths of this mix are equal to, and in most cases, far in excess of, those of rigid insulation board. In addition, it forms an economical and exceptionally firm monolithic base for the built-up roof.

THE 1:8 MIX: This mix design, while having all of the limitation of the 1:7 mix, has a very low density and excellent insulation value. Its compressive and indentation strengths are equal to and exceed those of most of the rigid insulation boards. When used as an insulation and/or drainage fill over structural roof decks, it will provide an excellent monolithic base for the built-up roof. It is much more economical than most rigid board installations.



INSULATING CONCRETE floor slabs and floor fill. PERMALITE concrete aggregate, mixed with cement, is the ideal lightweight insulating concrete for *floor slabs and floor fill.* Used as floor slabs in basementless homes, or as base slabs for floor radiant heating systems, PERMALITE insulating concrete minimizes heat loss into the ground, and makes a very fine, efficient, permanent ground level floor slab. A moisture resistant vapor barrier is used, and a suitable wearing surface is applied.

Used as lightweight insulating concrete floor fill over cellular steel or pan type floors in multi-story buildings, PERMALITE lightweight concrete makes possible immense savings in dead-weight and permits great economies in the use of structural steel and other building materials.

PERMALITE concrete offers a combination of advantages which is unequalled in the construction industry: lightweight, insulating, fireproof, economical, permanent, quick curing, and national acceptance!

Mixing Procedure for Permalite Insulating Concrete:

While the "method" of mixing Permalite concrete is the same as it is for conventional sand and gravel concrete, the "procedure" for mixing differs considerably. It is very important that the mixing procedure outlined below is strictly adhered to:

1. Add to the mixer *all* of the necessary water.
2. With the mixer turning, add the required amount of liquid (never in powder form) Vinsol Resin.
3. With the mixer still turning, add the required amount of Portland cement and allow a slurry to form; continue mixing a few seconds.
4. Add the required amount of Permalite concrete aggregate.
5. Allow the batch to mix long enough to become plastic, then dump and place immediately. Always avoid excessive mixing and excessive handling.

*Note: In the case of mixers having skip loaders, it is suggested that the Portland cement be poured on the bottom of the skip and the Permalite aggregate on top of the cement. In such cases the cement and aggregate are dumped in the mixer at the same time.

Conveying and Placing

PERMALITE concrete can be conveyed from the mixer by any method that will not cause a segregation of materials. This includes all of the conventional methods and some types of pumps.

When properly mixed, PERMALITE concrete has a "cream of wheat" consistency and is very easy to handle and place. In placing, it should not be rodded or tamped or handled excessively. The purpose of this minimum handling rule is to avoid segregation of the materials and to prevent "knocking out" the air which has been entrained by the vinsol resin.

The surface of the insulating concrete used for roof decks and roof fill should be carefully screeded; it should never be steel troweled. The slight texture formed on the surface as a result of careful screeding makes an exceptionally good monolithic base on which to apply the built-up roof. The texture provides a mechanical key for the mopped-on felt to augment the normal adhesion.

Drying Time and Curing

PERMALITE concrete begins to set in about one hour after placing. It reaches its initial set in about four or five hours in normal drying weather. It takes from 36 to 48 hours to gain sufficient strength to withstand being walked upon without having the surface tracked. During this period, ranging from the initial set to the strength stage, curing should be employed to protect the concrete from hot sun or high winds. Covering or repeated fog spraying with water will bring about proper curing. Since the basic purpose of curing is to prevent too rapid drying, the amount of curing will depend upon weather conditions.

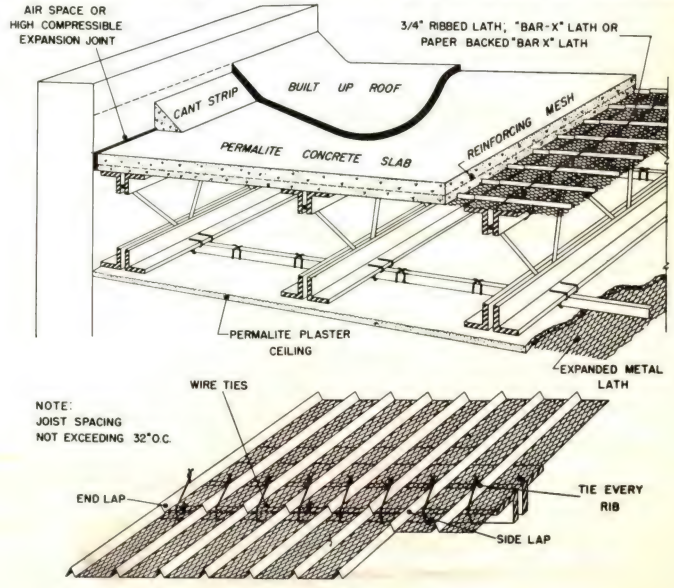
Built-up roofs should not be applied over PERMALITE concrete roof decks until it has dried thoroughly. The best method of determining the degree of dryness is to carve a small hole in the concrete with a knife (this can be done easily) and to check the moisture content visually. The concrete drys from the top down, and the moisture level can be seen easily.

Normally, from seven to ten days of good drying weather is sufficient. Rain will not injure the concrete after it has passed the initial set stage. It is not necessary to protect the roof from weather prior to roofing. However, in the event of rain, the roof should be allowed to dry thoroughly before the roofing is applied.

Restrictions on Cold Weather Pouring

All perlite concrete materials and reinforcement forms, fillers, and earth with which perlite concrete will come in contact should be free from frost. Whenever the temperature of the surrounding air is below 40°F., perlite concrete should not be placed, unless the mixing water is heated to at least 70°F., but not above 100°F. Adequate protection should be provided to enable the perlite concrete to set properly during freezing or near freezing weather.

Typical application of Permalite Concrete in a roof slab over metal lath



NOTE: PERMALITE concrete roof decks require compressible expansion joints or space for expansion at all exterior walls and at intervals of 100 lineal feet.

MANUFACTURERS AND DISTRIBUTORS OF

Permalite®

Perlite aggregate for better plaster and concrete

Permalite®

Perlite Aggregate is a building product produced by licensed franchisees from perlite ore mined by:

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Phone: MAdison 9-1611

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Los Angeles 22, California. Telephone: ANgelus 0588

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Denver, Colorado. Telephone: AComa 6111

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Telephone: PArkway 7-6020

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Cincinnati 17, Ohio. Telephone: Avon 9946

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Allentown, Pennsylvania. Telephone: COngress 4-2891

Perlite Manufacturing Company, P. O. Box 478
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Telephone: WAlnut 1-9200 (Pittsburgh)

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Telephone: 2-8181 (Irving) ; RAndolph 5354 (Dallas)

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Calgary, Alberta, Canada. Telephone: 2-7722

Perlite Industries, Reg'd., 500 Canal Bank
Ville St. Pierre, Quebec, Canada. Telephone: WAlnut 7098

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Permalite®

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NEW YORK CITY
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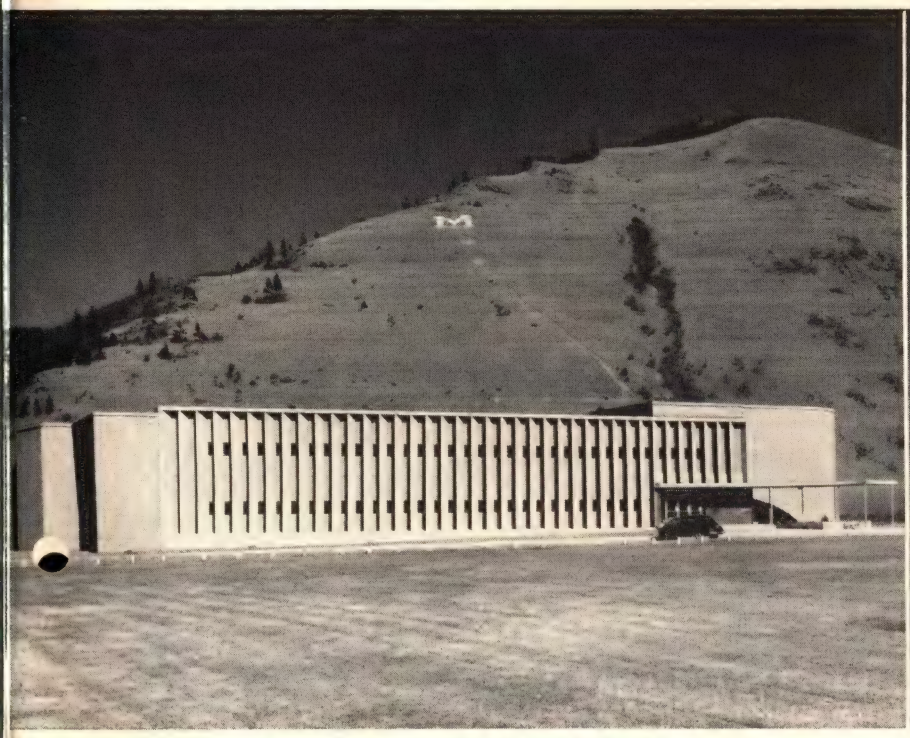
The Leading Perlite Aggregate for Better Plaster and Concrete

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ilco

INDIANA LIMESTONE



Montana State University, Missoula, Montana



Veterans Administration
Research Hospital, Chicago, Illinois



INDIANA LIMESTONE COMPANY, Inc.

THE NATURAL BUILDING STONE THAT ENHANCES MODERN OR TRADITIONAL ARCHITECTURE

Bedford, Indiana



the story of ilco INDIANA LIMESTONE

The story of Indiana Limestone began thousands of years ago when billions of minute marine animals died and their bodies were compressed by earth movements into what is known as "Oolitic" Limestone. Ilco Limestone is of this particular type and has become famous throughout the United States for its beauty, durability and distinctive appearance.

Found almost wholly within three Indiana counties: Lawrence, Monroe and Owen, Ilco Limestone has been used in the construction of many famous buildings—The Triangle Group in Washington D.C., Pentagon Building, Empire State Building, Chicago Tribune Tower, Radio City and Washington Cathedral are but a few of the architectural masterpieces. Practically every town in the United States contains at least one building made of Ilco Limestone.

PHYSICAL CHARACTERISTICS

1. COMPOSITION AND STRUCTURE

Indiana Limestone is the type of rock termed by geologists as Oolitic Limestone. It is a calcite cemented calcareous stone formed of shells and shell fragments, practically non-crystalline in character. It is characteristically a free-stone without cleavage plane, possessing a remarkable uniformity of composition, texture and structure and equality of strength in all directions regardless of the plane of its natural bed. It possesses a high internal elasticity, adapting itself without damage to extreme temperature changes and other prerequisites of permanence demanded in modern building structures.

2. The average analysis as developed by carefully prepared composite samples is given below.

	Buff	Gray
Carbonate of Lime	97.39	97.07
Carbonate of Magnesia	1.20	1.20
Silica	.69	.80
Alumina	.44	.68
Iron Oxide	.18	.12
Water and Loss	.10	.13
WEIGHT	100.00	100.00

3. The average weight of dry (seasoned) Indiana Limestone is 144 lbs. per cubic foot.

4. STRENGTH-RECOMMENDED VALUES

This data is taken from information developed by tests made at the Bureau of Standards in Washington.

a. Crushing strength. The crushing value for seasoned stone varies from about 4,000 to 7,000 lbs. per sq. inch, averaging close to 5,000 lbs. per sq. in. Taking this value at 4,000 lbs. per sq. in. for any of the grades is conservative and sufficiently close for all practical purposes.

b. Tensile strength. The tensile strength for seasoned stone varies from 300 to 715 lbs. per sq. in., averaging 535 lbs. per sq. in. Although stone seldom, if ever, is used in tension, using a factor of safety of ten (10) with the above average results gives a conservative working value of 50 lbs. per sq. in.

c. Transverse strength. The modulus of rupture varies from about 900 to 1,600 lbs. per sq. in., averaging approximately 1,250 lbs. On this assumption, with a safety factor of ten (10) a working stress of 125 lbs. per sq. in. is applicable to the design of lintels and similar "stone beams."

d. Shear. The shear tests were confined to representative samples of grades, based upon the crushing and other tests, that were sufficient to show a full range of the product. These tests were made on the stone in three directions and the average taken for the figures below. The shear developed ran from 900 to 2,300 lbs. per sq. in. for all grades tested, averaging 1,600 lbs. per sq. in.

e. Elasticity. The coefficient of elasticity has been established at 4,400,000 lbs. per sq. in.

f. Expansion. The coefficient of expansion has been established as .0000027 in. per degree Fahrenheit.

5. FIRE RESISTANCE

Indiana Limestone is to all intents and purposes fireproof. It calcines above 1,500° F. and it will not spall, crumble, split nor check when drenched with cold water.

6. COLOR

Indiana Limestone is marketed in two color-tones, each of varying shades called "Buff" and "Gray" and in an irregular mixture of the two called "Variegated."

GRAY — The Gray is a silvery gray stone with a slightly bluish cast.

BUFF — The Buff varies from a very light creamy buff or buff-gray to a distinct brownish-buff.

VARIEGATED — Consists of both buff and gray stone with some pieces containing both color-tones.

GRADES OF ILCO INDIANA LIMESTONE

The conventional grades of Indiana Limestone, Select, Standard and Rustic are classified by their fineness of grain. The cuts on this page show the limits of fineness separating Statuary, Select, Standard and Rustic. Statuary includes only the finest grain stone (A); all stone between the fineness A and B is graded Select; between B and C as Standard and between C and D as Rustic.

Variegated (E) is a mixture of buff and gray, ranging from Standard up through Select.

Old Gothic is a mixture of Rustic and Variegated and also includes some few stone having "Crowfeet" (F) and other marking not affecting the strength of the stone.

For complete description of these and other "Special" varieties of Indiana Limestone, write for our Specification Manual and/or samples of Ilco Indiana Limestone.



A



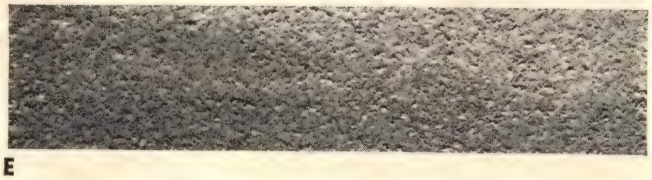
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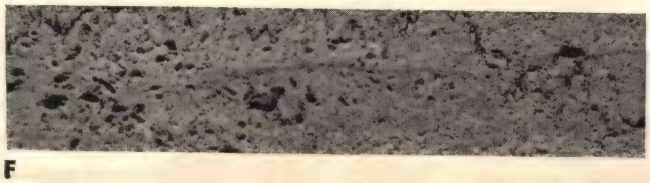
C



D



E



F

SURFACE FINISHES

Indiana Limestone in addition to the large range of grades of stone is adapted to a wide variety of standard machine and hand tooled finishes. New and special finishes are constantly being developed.

Following is a short description of the finishes most commonly used and their adaptability.

1. Sand-Sawed Finish

Description — The surface left as the stone comes from the gang saw. Moderately smooth, granular surface varying with the texture and grade of stone.

Adaptability — Adapted to the various types of ashlar or field work.

2. Rough Shot-Sawn or Chat-Sawn Finish

Description — A rough gang saw finish produced by sawing with coarse chat or chilled steel shot.

Adaptability — Particularly adapted to various types of ashlar of the coarser grades of stone.

3. Smooth Machine Finish

Description — The generally recognized Standard Machine Finish produced by the planers.

Adaptability — An economical finish where a smooth finish is desirable and appropriate.

4. Wet Rubbed Finish

Description — Sand and water or Carborundum and water rubbed for smoother finish.

Adaptability — For all parts whenever a smooth dirt and grime resisting finish is desired.

5. Honed Finish

Description — A superfine smooth finish.

Adaptability — Usually confined to fine interior work.

6. Machine Tooled Finishes

Description — Customarily are four, six or eight parallel, concave grooves to the inch.

Adaptability — Used principally on ashlar surfaces with mold work finished smooth.

7. Carborundum Finish

Description — Very smooth. Produced by a Carborundum machine instead of planer.

Adaptability — May be specified for flat surfaces and for moldings.

8. Plucked Finish

Description — Obtained by rough planing the surface of stone, breaking or plucking out small particles to give rough texture.

Adaptability — Often used as finish on cut stone trim with facing of Ilco Shot-Sawn.

9. Other Finishes

Many other machine and hand-tooled finishes are available. Complete information on these and much additional information on those listed is available by writing Ilco Service Department.

how to use ilco Indiana Limestone economically

All Indiana Oolitic Limestone regardless of Grade is equally strong for all practical purposes.

There is a grade, color and finish economically adapted to every class of work from the finest monumental structure to the simplest stone front. Proper selection of the grade is of paramount importance and in the exercise of good judgment in this respect lies great economy, with no lessening of beauty and permanence.



New State Department Building,
Washington, D. C.

rustic

The least expensive grade, owing to its varying texture and pleasing color variation, can be used to good advantage for many features, for complete facing, or for facing above "Standard" Stone. The use of "Rustic" for isolated sills, factory sills and coping is definitely practical. It is especially recommended where Shot Sawn or rough finish is desired. *Always* consider "Rustic" for a structure before specifying another grade.

variegated

Another less expensive grade, is sound and durable with distinct color tone and moderate range of texture variation. The possibility of its use is always recommended in combination where "Standard Buff" or "Standard Gray" Stone is used for entrances or features.



Dr. Pepper Company, Syrup Bottling Plant and Office,
Dallas, Texas

standard gray or standard buff

Has certain variations in density, color tone and texture. However, these variations are much less pronounced than in "Rustic" and "Variegated" Stone. Its use is recommended where general uniformity is desired as in entrances, other ornamental features and wall facing for first and second stories of buildings. Its use is not recommended for Shot Sawn or other rough finishes as "Rustic Buff" or "Rustic Gray" will give equal result.

select buff or select gray

Embraces the finest grained stone and it is recommended that it be used in special cases for entrance façades, carved and sculptured stone, or where cost is not a prime factor. *Remember* all Indiana Oolitic Limestone, regardless of grade or color is structurally sound and averages the same compressive and transverse strength. Careful selection will warrant the use of less expensive grades of stone in most cases, thus obtaining an equal result at the least cost.

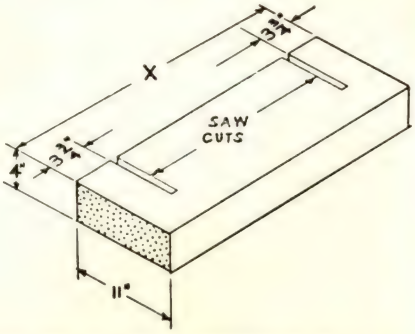


St. Columba's Church,
St. Paul, Minnesota

STOCK ITEMS

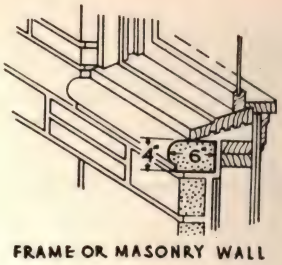
No. 1 DOOR SILLS

ilco door sills used in all types of construction add quality and durability to any architectural design.



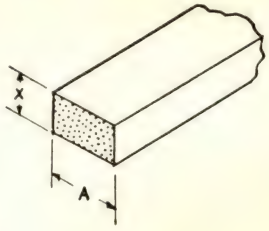
No. 6 BULL NOSE SILL

The **ilco** bull nose sill with its rounded face is more distinctive and neater in appearance.



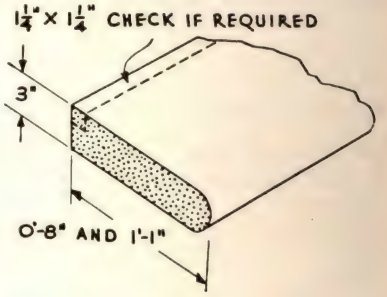
No. 2 SILL STOCK

Use for window sills, water table and belt courses. **ilco** sill stock is impervious to weather.



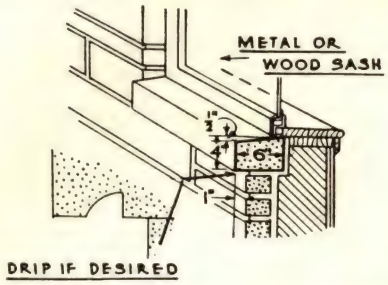
No. 7 BULL NOSE STEP

Use for a safe, long wearing, attractive tread. Perfect for mantels and shelves as well as steps.



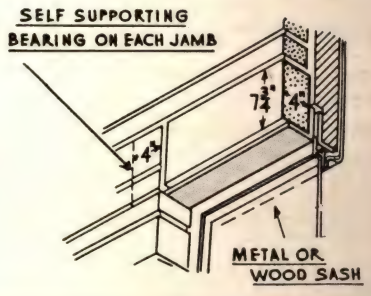
No. 3 WASH SILL

Machine dressed for use with metal or wood sash —drip if desired.



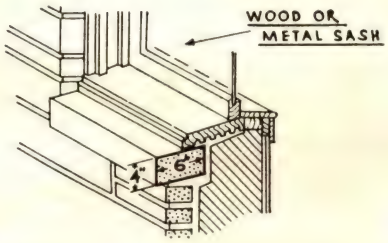
No. 8 LINTELS

Self-supporting or carried by steel angle, **ilco** lintels can be used with metal or wood sash.



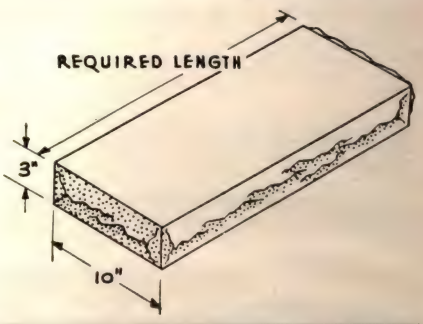
No. 4 BEVEL SILL

ilco bevel sills for use with wood or metal sash. Sets ½" slope top and bottom.



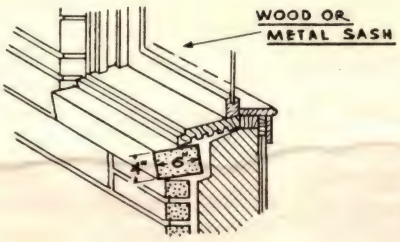
No. 9 MANTELS

ilco mantels, hand pitched on front and each end, are cut to the required length.



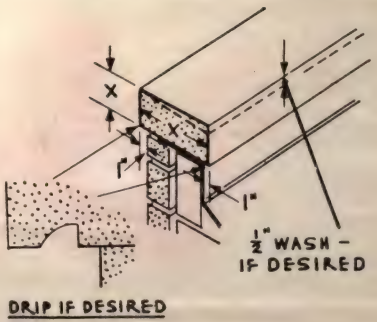
No. 5 RECTANGULAR SILL

Can be set at any desired slope.



No. 10 WALL COPING

ilco wall coping is available sawed or machine dressed and with wash and drip, if desired.



specifications for ilco *cut Indiana Limestone*

1. work included

The work under this contract shall include all labor and material for the furnishing of cut Indiana Oolitic Limestone in accordance with the drawings and as hereinafter specified.

2. description of stone

All Limestone specified or shown on drawings shall be Indiana Oolitic Limestone building stock, as quarried in Lawrence and Monroe Counties, free from all defects that would materially impair its strength, durability or appearance, and within the range of variation of color and texture represented by two samples approved by the Architect.

Stone shall be _____
(Specify Grade & Color)

grade, _____ finish.
(Specify Finish)

Specially graded stone, acceptable as to hardness and color, as per samples to be submitted, shall be employed where indicated on drawings,

for _____
(Specify Locations)

_____

and all other positions exposed to direct wear.

3. samples

The Contractor shall submit to the Architect, two samples about 4" wide x 7" long x 1" thick, which shall be typical of the extremes which the Contractor proposes to furnish, the finish specified to be indicated on the large faces.

4. standard practice

Insofar as these specifications pertain to the practice set out for the proper use of Indiana Oolitic Limestone, the standards established by the Indiana Limestone Industry are to govern. Bidders not familiar with these standards are cautioned to inform themselves regarding them.

The Architect reserves the right to approve the sub-contractor for Cut Stone before this portion of the work is awarded.

5. cutting and setting drawings

The Cut Stone Contractor shall prepare and submit to the Architect for approval, complete cutting and setting drawings, in triplicate, for all of the Limestone work under the contract. Such drawings shall show in detail the sizes, sections and dimensions of stone, the arrangement of joints and bonding, anchoring and other necessary details.

These drawings shall be based upon and follow the drawings and full-size details prepared by the Architect except where it is agreed in writing that changes be made. Each stone indicated on these drawings shall bear the corresponding number marked on the back or bed with a non-staining paint.

Projecting courses shall have beds in the wall at least 1" greater in depth than the projection, or be specially anchored to the structure as shown on setting drawings.

Provision for the proper anchoring, dowelling and cramping of work in keeping with standard practices, also for the support of stone by shelf angles and loose steel, etc., when required, shall be clearly indicated on the setting drawings.

6. carving and models

All carving shall be done under this contract by skilled carvers in a correct and artistic manner, in strict accordance with the spirit and intent of the Architect's sketches, or from models prepared or approved by the Architect.

7. cutting

All stone shall be cut accurately to shape and dimensions and full to the square, with jointing as shown on approved drawings. All exposed faces shall be cut true and out of wind. Beds and all joints shall be dressed straight and at right angles to the face, unless otherwise shown, and except where otherwise shown or noted on drawings, joints shall have a uniform thickness of ¼ inch.

Patching or hiding of defects will not be permitted and Lewis holes shall not be made on an exposed surface.

Washes shall be as deep as practicable and drips of sufficient width and depth to shed water shall be provided on all projecting stones and courses.

Raglets for flashing, etc., shall be cut in the stone where so indicated on the drawings.

Molded work shall be carefully executed from full-size details supplied by Architect, and must match perfectly at joints. All arrises shall be sharp and true.

8. back checking and fitting to structural frame

Stone coming in contact with structural work shall be back-checked as indicated on the general drawings. Stones resting on structural work shall have beds shaped to fit the supports.

Where stone facing adjoins steel columns and spandrel girders, the depth of stone shall be such that will allow not less than one inch between the back of the stone and face of fireproofing or reinforced structural members.

9. Lewis holes and cutting for dowels, anchors, cramps, etc.

Lewis holes shall be cut in all stones weighing more than 100 pounds. No Lewis or other holes shall come closer than 2 inches to the exposed face of the stone.

Holes and sinkages shall be cut in stones for all anchors, cramps, dowels, etc., called for under this specification or indicated on the cutting and setting drawings.

10. cutting and drilling for other trades

All cutting and drilling of stone necessary in connection with installation of work of other trades to be done by cut stone contractor only when necessary information is furnished in time to be shown on shop drawings and details and work can be executed before shipment.

11. loading and shipment

The Cut Indiana Limestone shall be carefully packed for transportation, with exercise of all customary practicable and reasonable precautions against damage in transit.

All cut stone under this contract shall be delivered promptly as ordered and in the sequence in which it is to be set.

ilco Limestone Veneer

Ilco Limestone Veneer is fabricated in random lengths ranging from one to six feet. Unselected for color or texture the stone combines varying shades of buff and gray.

Ilco Veneer is produced in three finishes: Splitstone, Shot-Sawn and Sand-Sawn. It is marketed in three standard heights which conform with brick courses. They are 2¼", 5" and 7¾". Other heights are available on order.

Splitstone is a rough, concave-convex finish and is approximately 3½" thick. One ton will provide about forty-five square feet of wall coverage.

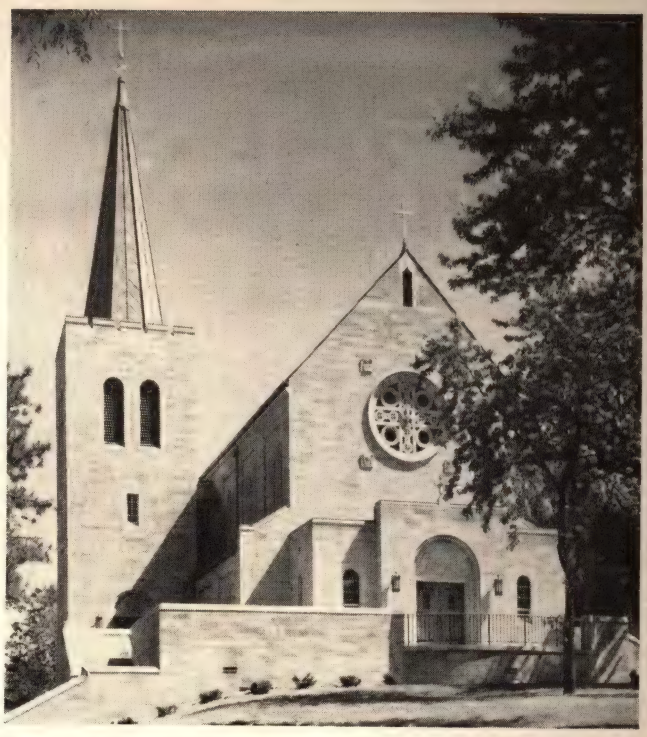
Shot-Sawn and Sand-Sawn are available in either 3" or 4" thickness. One ton of 3" will cover approximately fifty square feet of wall surface; the 4" about forty square feet.

The Shot-Sawn surface presents a series of horizontal grooves, or ripples, scored on the face of the stone by using chilled steel shot in the sawing process. Some pieces will be more or less uniformly roughened like a rough textured tapestry brick; the surfaces of other pieces will be irregularly corrugated, or rippled to a degree impossible to obtain in other materials.

Sand-Sawn is a smooth-surfaced Ilco Limestone Veneer. This surface is imposed on the face of the stone by using gritty sand as the cutting agent.

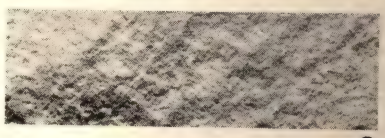
Either Shot-Sawn or Sand-Sawn finish has a further advantage of widening the range of color tone. The method of sawing permits a certain amount of rust stain to develop on the surface, adding the brown tones thus obtaining to the natural color variation of the stone.

Complete information, brochures and Mason's Guide describing the use and application of Ilco Limestone Veneer for use on residences, churches, schools, motels and commercial buildings, etc., are available without cost by writing Dept. SC-2, Indiana Limestone Company, Inc., Bedford, Indiana.



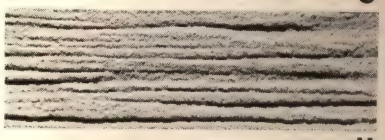
Immacolata Church,
St. Louis, Missouri

SPLITSTONE FINISH
Preserves the attractive natural appearance. Creates maximum play of light and shadow.



G

SHOT-SAWN FINISH
Emphasizes long horizontal architectural lines. Popular for ranch style designs.



H

SAND-SAWN FINISH
Smoothest, most uniform finish available. Tends to appear lightest of all finishes.



I



Residence of Ilco Splitstone

the company

INDIANA LIMESTONE COMPANY, INC., the exclusive producer of Ilco stone, is the largest quarrier and fabricator of natural stone in the world.

quarry capacity

The Ilco quarries have been in operation over 75 years. The quarrying capacity (proved ledges and equipment to produce) is over 10,000 carloads annually.

mill capacity

The finishing mills are large and well equipped with a capacity for handling the largest or smallest jobs promptly and efficiently.

sales and service facilities

Sales and service offices with experienced representatives in charge are established in principal cities.

Competent draftsmen and engineers are available to assist Architects and prospective builders on problems involving anchoring, jointing and other details of fabricating Ilco Limestone.

Under the supervision of research experts, methods of cleaning and waterproofing stone work are constantly being evaluated and information on the subject is available.

Samples of any grade and finish of the Company's product will be furnished promptly on request—without charge.

INDIANA LIMESTONE COMPANY, INC.
GENERAL OFFICE, BEDFORD, INDIANA

OTHER SALES OFFICES

ATLANTA, GEORGIA
2128 Piedmont Road, N.E.

CARTHAGE, MISSOURI
P. O. Box 162

CHICAGO, ILLINOIS
228 North LaSalle

NEW YORK, NEW YORK
420 Lexington Avenue

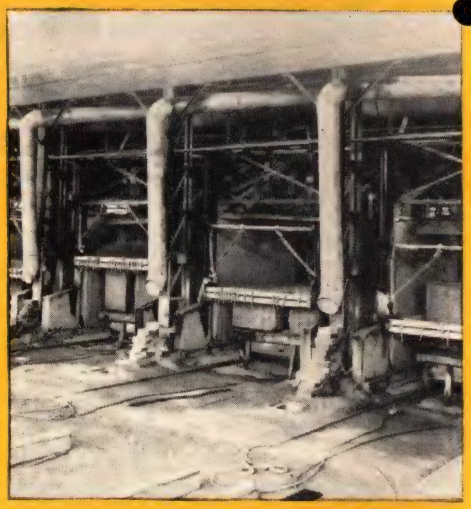
ROCHESTER 13, NEW YORK
181 Norman Street

ST. LOUIS, MISSOURI
9032 McKnight Woods

SAN FRANCISCO, CALIFORNIA
130 Lunado Way

WASHINGTON, D. C.
Trans-Lux Building
724 14th St., N.W.

TORONTO, ONTARIO
CANADA
15 St. Mary Street



Huge blocks of Ilco Limestone are cut into slabs of prescribed thicknesses by these gang saws.



Diamonds stud the cutting edge of this whirring circular saw cutting out slabs of stone.



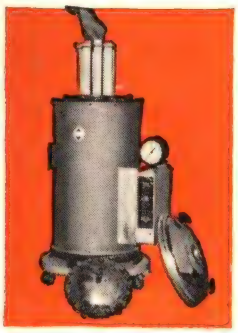
A skilled planerman turns out detailed finishing on this circular planer at one of the Ilco mills.



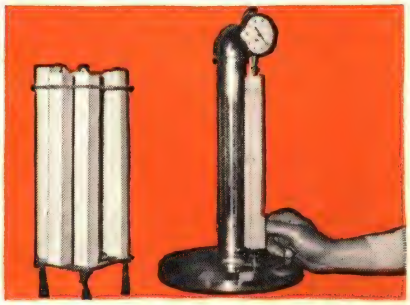
BRIXMENT FOR MASONRY AND STUCCO

BRIXMENT is a water-proofed masonry cement for every kind of brick, tile, concrete block or stone masonry, and also for stucco and plaster. Brixment complies with the requirements of the American Society for Testing Materials Specification C91 and the Federal Specification SSC-181 for Masonry Cement (both Type I and II). Specify one part Brixment, three parts damp sand.

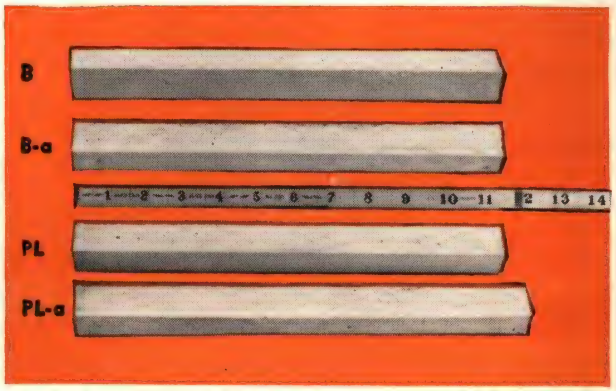
BRIXMENT MAKES SOUND MORTAR



The autoclave test requires the use of a high pressure steam chest (above). Neat cement bars approximately 1″ x 1″ x 10″ are exposed to 295 lbs. steam pressure, 420°F., for 3 hours.



The bars are measured before and after test, as shown above. Sound mortar expands very little, if any. Unsound mortar expands a great deal.



Above: Bars of Brixment, and of portland cement and a lime which does not meet the autoclave test. The expansion of the portland cement and lime bar, after autoclaving, is quite evident.

B—Brixment, not autoclaved **B-a**—Brixment, autoclaved

PL—Cement and lime mixture (1 part cement to 1 part lime) not autoclaved

PL-a—Cement and lime mixture (1 part cement to 1 part lime) autoclaved

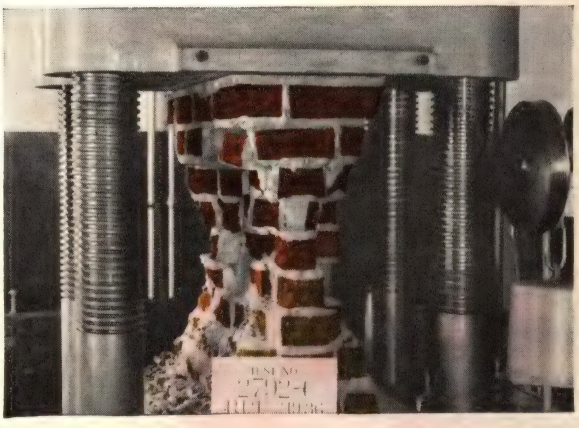
Sound mortar is essential for strong, durable brickwork. To be sound, mortar must be free of constituents which may cause abnormal expansion after long exposure to weather.

Unsoundness in mortar material is readily detected by the autoclave test. This severe test rapidly accelerates the chemical reaction of mortar materials, and the slightest unsoundness is immediately revealed by excessive expansion.

Brixment easily meets the requirements of the autoclave tests included in Federal and ASTM Specifications for Masonry Cement. Therefore, when Brixment is used, sound mortar and strong, durable brickwork are assured.

BRIXMENT MORTAR ASSURES STRONG WALLS

The strength of Brixment mortar is more than adequate for any type of brickwork. The strength of brick piers laid with Brixment mortar is approximately the same as the strength of piers laid with 1-1-6 cement and lime mortar. Brixment is therefore recommended for any kind of masonry—for foundations, load-bearing and parapet walls, for free-standing stacks—for every use where strength is required.



LOUISVILLE CEMENT COMPANY
Incorporated

GENERAL OFFICES: SECOND AND WALNUT STREETS, LOUISVILLE, KENTUCKY

NEW YORK CITY 17, N. Y.
101 Park Avenue

CHICAGO 1, ILL.
228 No. LaSalle Street

DETROIT 7, MICH.
1573 East Lafayette Street

CHARLOTTE 2, N. C.
116½ So. Church Street

MILLS: BRIXMENT, NEW YORK and SPEED, INDIANA

BRIXMENT MORTAR IS MORE DURABLE

For permanent strength and beauty, mortar must be *durable*—must be able to withstand the alternate freezing and thawing to which it is subjected many times each winter.

Brixment mortar *is durable.* This durability is due partly to the strength and soundness of Brixment mortar, and partly to the fact that an air-entraining, water-repelling agent is incorporated into Brixment during manufacture. This helps prevent the mortar from becoming saturated—therefore helps protect it from the destructive action of freezing and thawing.

Walls built with Brixment mortar therefore *retain* their original strength and appearance.



To compare the durability of two mortars, make a cylinder of each, let them "cure" for a month, then freeze and thaw them forty or fifty times, with a little water in the pan (the freezing unit of your electric refrigerator will do). See the difference with Brixment mortar!

NOTE TO THE SPECIFICATION WRITER

The following specification is intended as a guide for job specifications. It includes important requirements of materials and workmanship which we believe necessary to obtain dry, durable brick masonry construction.

MASONRY

SCOPE

This section includes masonry and related items required to complete the work indicated on the drawings, in accord with specification requirements.

MATERIALS

Materials shall conform to the following respective specifications:

a. MORTAR

(1) *Aggregates:* A.S.T.M. C144

(2) *Water* shall be clean and free from injurious amounts of acids, alkalis, organic materials or other deleterious substances.

(3) *Masonry Cement:* Federal Specification SS-C-181 or A.S.T.M. C91, type II

( ) *Brick (Clay or Shale):* A.S.T.M. C62 or SS-B-656

( ) *Brick (Sand Lime):* A.S.T.M. C73 or Federal SS-B-681

( ) *Concrete Masonry Units, Hollow Load Bearing:* A.S.T.M. C90 or Federal SS-C-621

( ) *Concrete Masonry Units, Hollow Non-Load Bearing:* A.S.T.M. C129 or Federal SS-C-621

( ) *Concrete Masonry Units, Solid:* A.S.T.M. C145

( ) *Concrete Brick:* A.S.T.M. C55 or Federal SS-B-663

( ) *Structural Clay Tile Load Bearing:* A.S.T.M. C34 or Federal SS-T-341

( ) *Structural Clay Tile Non-Load Bearing:* A.S.T.M. C56 or Federal SS-T-351

MORTAR

a. MORTAR PROPORTION

The mortar used in all masonry shall consist of 1 part (Masonry Cement) (Brixment) to not more than 3 parts damp loose sand, measured by volume. The method of measuring materials shall be such that these proportions can be accurately controlled and maintained throughout the progress of the work. The weights per cubic foot of material are considered to be as follows:

Materials	*Weight per cubic foot*
Masonry Cement . .	Weight printed on bag
Sand, damp & loose . . .	80 lb. for dry sand

b. MORTAR MIXING

The mortar shall be thoroughly mixed, and *only in such quantity as is needed for immediate use.* Mortar shall be mixed with a maximum amount of water consistent with satisfactory workability for the bricklayer. Overwetting of mixes shall be avoided. Only machine mixing shall be used, except for small jobs, when hand mixing is specifically authorized by the Architect.

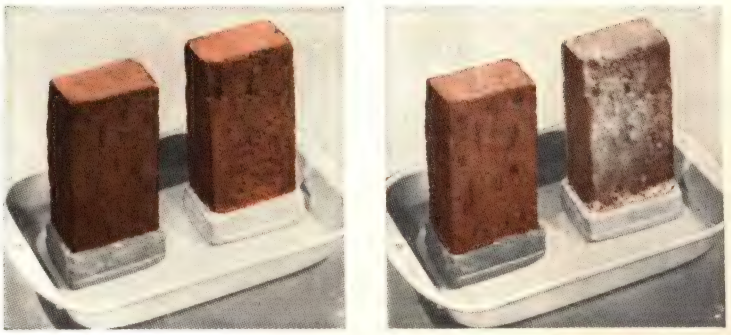
(1) *For Machine Mixing,* while the mixer is in operation, the mortar materials shall be batched in the following order: Add approximately ½ the required water, ½ the sand, all of the cement, then the remainder of the sand. Allow the batch to mix briefly and then add water in small quantities until satisfactory workability for the bricklayer is attained. Caution is urged to avoid overwetting of the mix. The mortar shall then be mixed a minimum time of 5 minutes after all materials have been added. The mixer drum shall be completely empty before recharging next batch.

(2) *For Hand Mixing,* the cement and sand shall be thoroughly mixed in the following manner, before water is added: Spread the sand in the box, spread the cement on top of the sand and mix well with the hoe from both ends of the box. Add about ½ the required water and mix until all materials are uniformly damp. Add water in small amounts and continue mixing until satisfactory workability for the bricklayer is attained. Allow the batch to stand approximately 5 minutes and remix thoroughly with the hoe, without additional water.

c. MORTAR CONSISTENCY

The mortar shall contain as much water as it can possibly carry and still provide satisfactory consistency for the bricklayer *at the time the masonry unit is laid in the wall.* It shall be retempered *on the board* as necessary to maintain this consistency. Retempering of the mortar

BRIXMENT MORTAR HELPS PREVENT EFFLORESCENCE



To test two mortars for resistance to efflorescence, "cap" two brick heavily with the mortars—let harden, and keep both brick for a few weeks in a shallow pan of water, as shown. See the difference with Brixment mortar!

Efflorescence is an outcropping of minute white crystals on brickwork. It is caused by soluble salts which are present in almost all masonry materials. When reached by water, these salts dissolve and may be drawn, by evaporation, to the surface of the wall.

Brixment helps prevent efflorescence. The air-entraining, water-repelling agent in Brixment helps to prevent water from saturating the mortar and dissolving the small amount of salts that it may contain. Moreover, Brixment mortar prevents water from percolating down through the wall, dissolving salts which may be in the brick, and carrying them to the surface.

in the mortar box shall be avoided.* In hot, dry weather, or cool, dry, windy weather, when the humidity is low, the mix shall be confined to batches which can be used within 2 hours. Mortar which has greatly stiffened or in which the cementing material has started to set, shall not be used.

* *Excessive retempering, with continual additions of water, tends to weaken the paste and the size of batches should be limited to avoid this requirement.*

d. ADMIXTURES

Anti-freeze compounds, or other admixtures will not be permitted in mortar without the specific approval of the Architect.

GENERAL CONSTRUCTION REQUIREMENTS

a. STORAGE OF MATERIALS

Handle and store materials in such manner as to prevent damage or intrusion of foreign matter. Store concrete units under a cover that permits circulation of air and prevents excessive moisture absorption. Store cement, lime, gypsum and air-setting mortars in tight sheds with elevated floors.

b. WETTING OF BRICK

Except in freezing weather, all brick shall be thoroughly wetted as necessary to reduce the *rate* of absorption of water at the time of laying to not more than 7/10 of an ounce (20 grams per minute) per brick when placed on its flat side (30 sq. inches) in ¼" of water for one minute. For a field check, deposit a quantity of water to the flat side of the brick to wet an area approximately the size of a $.50 coin. If the water disappears in less than 15 seconds, they shall be wetted.

c. WORKMANSHIP

All masonry units shall be laid plumb, level and true to line. Lay out all face coursing before setting to minimize cutting closures or jumping bond. All head joints and bed joints in both face brick and backup work shall be completely full of mortar. Mortar for the bed joint shall be spread thick, and the furrow in the mortar shall be shallow—not deep. Mortar spread on the wall shall be limited to that which can be covered before the surface of the mortar has begun to dry. Ample mortar for the head joint shall be placed on the end of each unit to insure that the cross joints will be completely filled, without slushing, when the unit is shoved into place.

When *hollow units*, such as concrete blocks, are used for foundations below grade, or pilasters, they shall be laid in a *full mortar bed* (mortar on face shells and webs). For other concrete block construction mortar shall be spread on the *face shells* only. Enough mortar shall be used to cause excess mortar to ooze out on both sides of the face shell in each head joint and bed joint.

d. JOINTS

All joints shall be of uniform thickness, approximately ⅜ inch unless otherwise specified. All exterior joints shall be cut flush and as the mortar takes its initial set, shall be tooled to provide a V-shaped or concave finish. A tool approximately twice the diameter of the joint shall be used. Head joints shall be tooled first. Sufficient pressure shall be applied during the tooling of the joints to compact the mortar firmly against the units and provide a neat smooth weathertight finished joint. Exposed interior masonry work, unless otherwise specified, shall have neatly cut flush joints.

e. BACKPLASTERING

The back of the exposed wythe of all exterior brick walls, except for brick veneer, shall be backplastered with mortar of not less than ⅜ inch thickness. If the backup units are laid first, the front of the backup shall be plastered, before the face brick are laid.

f. PROTECTION

No masonry shall be laid when the temperature is below 32° F on a rising thermometer or below 40° F on a falling thermometer, unless adequate precaution against freezing is provided. All masonry shall be protected against freezing for at least 48 hours after being laid. No masonry shall be constructed on or with frozen materials. All unfinished work shall be covered with waterproof paper or canvas, or other means satisfactory to the Architect. All masonry units stored in the open or stacked near the mortar boards shall be protected against excessive wetting when freezing may be expected.

BRIXMENT MORTAR IS MORE IMPERMEABLE



Prepare two slabs of mortar, one with Brixment and one with ordinary lime-and-cement mortar. After mortars have hardened, seal a lamp chimney to each of the mortar slabs, and fill with water.



After 24 hours, note how much water has gone into and through the non-waterproofed mortar, and how little water has gone into or through the Brixment mortar.

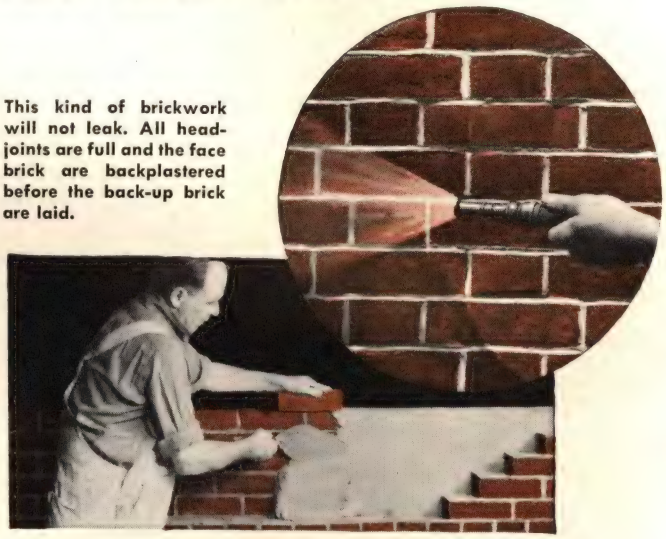
Impermeability is the ability of a mortar to withstand the passage of water. It improves the durability of the structure because it helps prevent the mortar from becoming saturated, and thereby helps protect it from freezing and thawing. It helps prevent efflorescence, because it checks the passage of water, and keeps it from percolating down through the wall. It helps prevent the absorption of harmful moisture up from the foundation, and into the wall.

Brixment mortar is more impermeable. It contains an effective water-repelling agent, so that even under pressure, water cannot readily penetrate Brixment mortar. Brixment meets the special requirements of the Federal Specifications for water-repelling masonry cements.

BRIXMENT MORTAR HELPS PREVENT LEAKY WALLS

Dry brick walls are much more a matter of good design and good workmanship than a result of the mortar materials used. When a wall leaks, water almost never passes through the brick or through the mortar. It works its way through cracks or openings between the brick and mortar. Even when full joints are secured, all cracks may not be eliminated. The best precaution, therefore, is to parge or backplaster the face brick with water-proofed mortar before the backup units are laid.

Brixment is waterproofed during manufacture. Therefore, if the face brick are backplastered with Brixment mortar, a water-repelling barrier is set up against the further penetration of any water which may have worked its way through cracks or voids in the outside four inches of the wall.



This kind of brickwork will not leak. All head-joints are full and the face brick are backplastered before the back-up brick are laid.

BRIXMENT MORTAR HAS BETTER WATER RETENTION AND GREATER PLASTICITY



Place a small amount of any two mortars on a brick. Wait a minute, then feel each mortar. The one that stays plastic longer will be the one having the highest water-retention. Feel the difference with Brixment mortar!

Water-retaining capacity is the ability of a mortar to retain its moisture when spread out on porous brick. Brixment strongly resists the sucking action of the brick and stays smooth and plastic longer when spread out on the wall. *This permits a more thorough bedding of the brick and a more complete contact between the brick and the mortar.* The result is better bond and hence a stronger and more watertight wall.

Brixment's exceptional plasticity has made it the most widely-used masonry cement in the field. Brixment mortar makes it easy for the bricklayer to secure neat, economical brickwork with the brick properly bedded and the joints well filled.

NATCO

NATCO QUALITY CLAY PRODUCTS SINCE 1889

...ALL THE BASIC STRUCTURAL PRODUCTS FOR QUALITY MASONRY CONSTRUCTION



NATCO "SCR" BRICK

NOMINAL FACE SIZE - 2⅔" x 12" BRICK FACE SIZE - 2-1/6" x 11½"

FURNISHED IN RED AND BUFF RANGES

Completely new and modern NATCO "SCR" Brick, developed by the Structural Clay Products Research Foundation, combines the beauty of the original Norman brick size with the utility and structural advantage of a single unit for nominal 6" masonry wall construction.

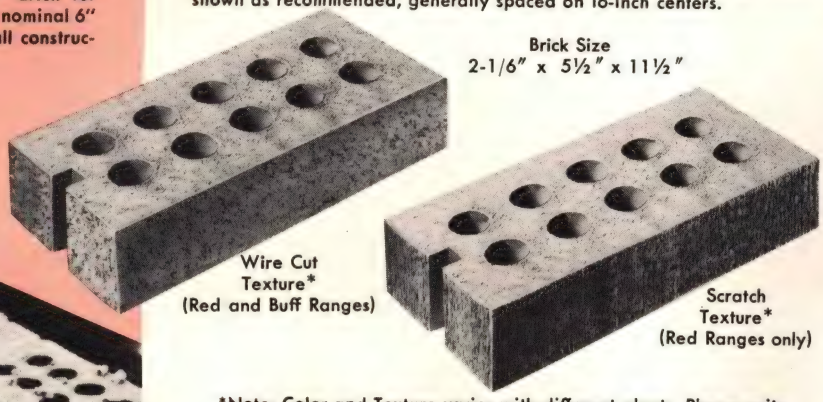
Designed primarily to meet the construction requirements of FHA and National Building Codes for one story, single family dwellings, where the wall height does not exceed 9 feet to the eaves or 15 feet to the peak of the gables. NATCO "SCR" Brick is also adaptable for use in many other types of construction.

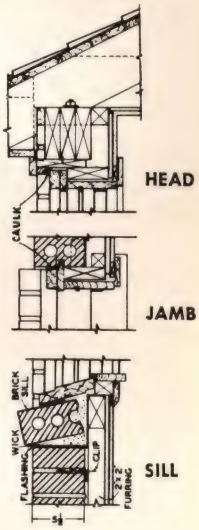
For descriptive and detail information please write for bulletins:
NATCO "SCR" Brick illustrated brochure — Bulletin 5R1252
NATCO "SCR" Brick Technical Notes — Bulletin SCPI, Vol. 4, No. 4



Actual job view at left shows method of handling and placing the new "SCR" Brick for single unit nominal 6" thru-the-wall construction.

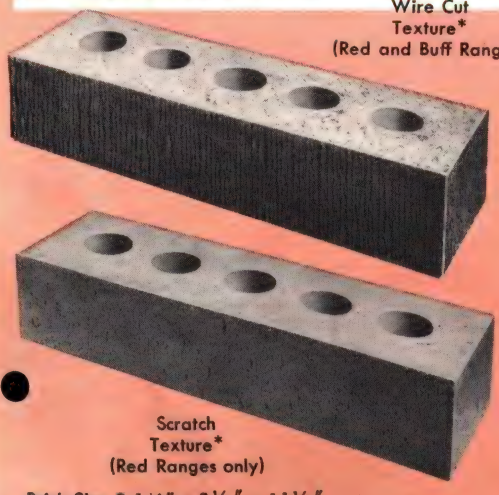
At right is shown a typical installation detail for wood double-hung windows. Note the use of the brick jamb slot for the blind stop extension. The nominal 2" x 2" furring strips for interior plaster, board or insulation application are shown as recommended, generally spaced on 16-inch centers.





*Note: Color and Texture varies with different plants. Please write for information.

Brick Size 2-1/6" x 3½" x 11½"



Brick Size 2-1/6" x 3½" x 11½"

NATCO NORMAN FACE BRICK

NOMINAL FACE SIZE 2⅔" x 12" BRICK FACE SIZE 2-1/6" x 11½"

FURNISHED IN RED AND BUFF RANGES

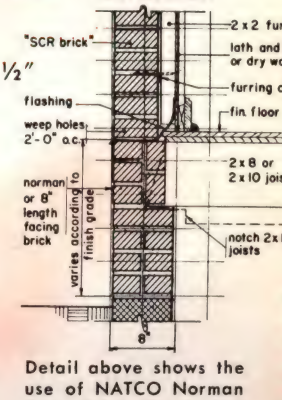
NATCO Norman Face Brick is especially appealing in modern industrial, commercial, home construction, etc., where brick facing is specified and strong horizontal lines are desired for architectural effect.

A Norman Brick is equivalent to one and one-half standard size brick and, therefore, provides for economy in erection costs as well as distinctive architectural treatments.

In connection with NATCO "SCR" Brick construction, NATCO Norman Brick having the same color, texture and face dimensions are used for facing foundation walls between the grade line and floor level, for window sills, lintels and chimneys.

*Note: Color and Texture varies with different plants. Please write for information.

FOUNDATION



Detail above shows the use of NATCO Norman Face Brick for facing foundation walls in "SCR" Brick construction. Note, also, the use of Norman Brick for sills in the above "SCR" Brick sill detail.

A.I.A. FILE No. 10A

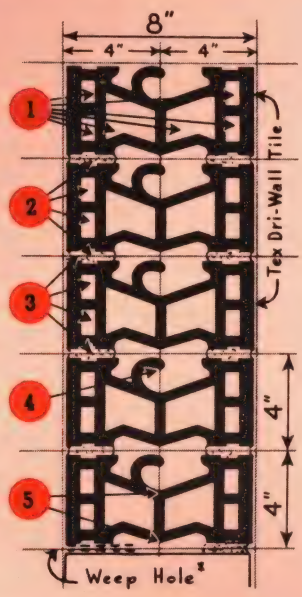


Typical home of NATCO Tex Dri-Wall Tile in Birmingham, Alabama.

MANY ADVANTAGES OF NATCO TEX DRI-WALL TILE ARE EXCLUSIVE

The illustration at the right, and the outline below, briefly describe these advantages.

1. CAPTIVE AIR SPACES—Walls are insulated against rapid changes in temperature. Completed buildings are cool in summer and warm in winter.
2. NON-THRU MORTAR JOINTS—Widely separated mortar joints very effectively resist moisture penetration through the wall.
3. WIDE DOUBLE SHELLS—Strong, secure mortar joints are assured, together with ample bearing, plus minimum wastage of mortar.
4. SMOOTH BUILT-IN HANDLE—Permits quick and easy handling—prevents cuts and abrasions to the mason's hands, so common in laying other materials. One hand for the tile—the other for the trowel. This results in more efficiency and greater economies in erection.
5. DRI-WALL FEATURE—The NATCO Dri-Wall feature consists of a series of interior troughs in which any small amount of moisture, that may penetrate through the exterior mortar joints, is directed to the open "V-type" channels. There it runs off through weep holes to the outside of the foundation wall instead of going through to the interior surface of the wall.



*Weep holes required on approximate 3' centers unless drainage pipes or vents are provided. Weep holes also required at sills, lintels, spandrels, and foundations above grade in connection with recommended flashing to direct moisture to exterior.

NATCO TEX DRI-WALL TILE

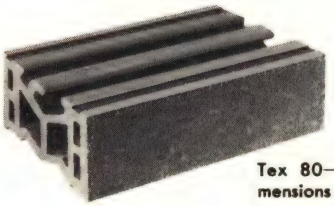
NOMINAL FACE SIZE - 4" x 12"
TILE FACE SIZE - 3⅝" x 11⅝"

Also available in the southeastern area in non-modular tile face size, 3¾" x 12"

FURNISHED IN RED RANGE - FLASHED RED RANGE - BUFF RANGE

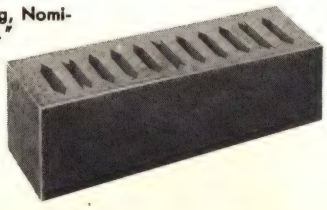
For attractive, durable, fire safe homes and other buildings, which are low in upkeep and reasonable in first cost, NATCO Tex Dri-Wall Tile are being used more and more every year. Due to its wire cut texture and brick proportions, completed walls of NATCO Tex Dri-Wall Tile have the appearance of high quality textured face brick.

Furnished in nominal 8" thickness for complete single unit wall construction and nominal 4" thickness double-shell horizontal cell stretchers for masonry veneer and cavity wall construction; and standard fittings as illustrated. Fire safe walls of NATCO Tex Dri-Wall Tile are proof against termites and vermin—do not disintegrate or decay. The small number of easily handled shapes required appeal strongly to architects, contractors and builders, to whom construction economy and appearance is important. Please write for additional information.



Tex 80—8" Stretcher, Nominal Dimensions 8" x 4" x 12"

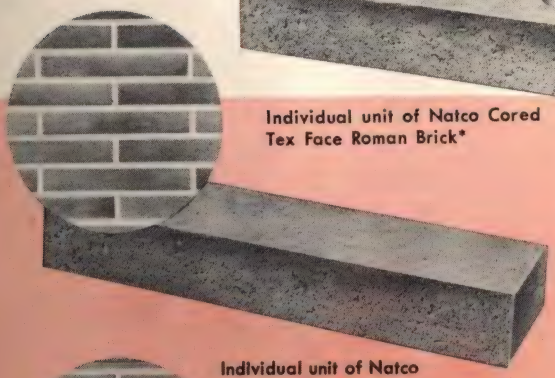
Tex 45—4" Standard Fitting, Nominal Dimensions 4" x 12" x 4"



NATCO ROMAN FACE BRICK

NOMINAL SIZE 2" x 4" x 12" BRICK SIZE 1⅝" x 3⅝" x 11⅝"

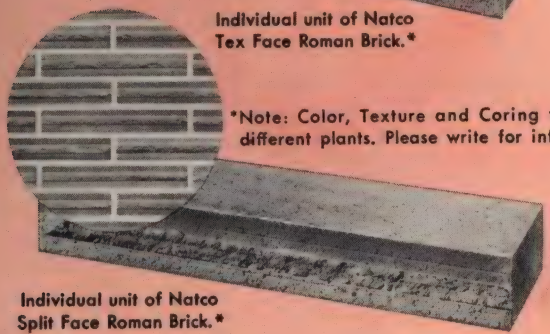
FURNISHED IN RED MINGLED, FLASHED RED AND BUFF MINGLED RANGES



Individual unit of Natco Cored Tex Face Roman Brick*

Individual unit of Natco Tex Face Roman Brick.*

*Note: Color, Texture and Coring vary with different plants. Please write for information.



Individual unit of Natco Split Face Roman Brick.*

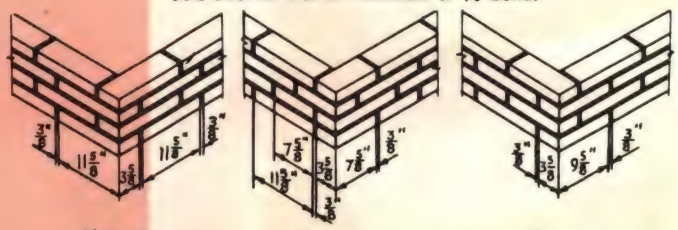


Typical home of NATCO Split Face Roman Brick in Glenshaw, Pa.

NATCO Roman Face Brick meets the requirements of the discriminating owner, architect and builder for a distinctive modern adaptation of the original roman type face brick. Appealing in color and texture as well as the feeling of comfort and safety only obtained in houses and buildings of hard burned clay masonry construction.

Furnished in pleasing red mingled, flashed red and buff ranges, NATCO Roman Face Brick are used not only for unusual exterior treatments, but also for fireplaces and modern exposed interior wall finishes with particular emphasis on horizontal lines desired for the modern house, rambler and ranch type, and a wide variety of commercial construction.

SUGGESTED BOND—Random or ⅓ bond.



⅓ bond (Staggered pattern)

⅓ bond (Step pattern)

½ bond (Conventional center bond)

NATCO MODULAR DRI-SPEEDWALL TILE

BUFF UNGLAZED - MANGANESE SPOT - SALT-GLAZED - RED TEXTURED

NATCO Dri-Speedwall Tile, made from selected clays by the de-airing process, is highly impervious to moisture and thoroughly fireproof. It is termite and vermin proof and cannot rot or decay. A wall of NATCO Dri-Speedwall Tile possesses great load-bearing strength and, because of its design and mortar interlocking feature, is highly resistant to lateral as well as vertical pressures. Walls of NATCO Dri-Speedwall Tile require no painting or repairs and are free from shrinkage and cracking. Colors and finishes, as described below, are as permanent and enduring as the tile itself.

NATCO Dri-Speedwall single 8-inch stretcher units are furnished on special order in the Buff Unglazed and Manganese Spot finishes, designated SS-8512D, also in the Salt Glazed finish designated ST-8512D, gauged to size with selected finish on both surfaces. These units are gauged at the manufacturing plants into lots which do not vary more than ⅛th-inch in thickness to provide a good mechanical wall. More than one lot size may be shipped on the job but they should be stacked separately and erected in different parts of building.

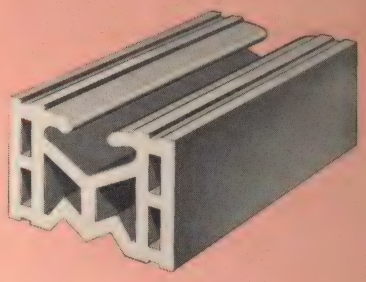
MANGANESE SPOT—A pleasing exterior finish with manganese spots in a mingled range of light cream and buff shades. Both interior and exterior wall surfaces are smooth. Tile face size, 5" x 11⅝".

BUFF UNGLAZED—A natural unglazed attractive buff finish, which is recommended where lighter colors are desired. Both interior and exterior wall surfaces are smooth. Tile face size 5" x 11⅝".

SALT GLAZE—A pleasing, sanitary, impervious salt glaze finish in mingled tan shades. Exterior face has wire cut texture, with interior face smooth for ease of cleaning. Tile face size 4 15/16" x 11⅝".

RED TEXTURED—Gives the appearance of high quality face brick. Both exterior and interior faces textured: Tile face sizes vary in different localities. Not available in gauged material.

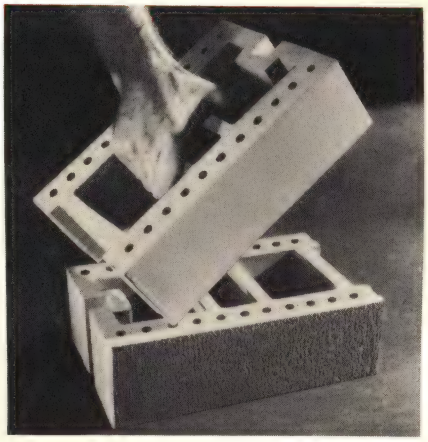
EXTERIOR WALL UNITS



Full Stretcher
Nominal Dimensions
8" x 5⅓" x 12"

For more specific information on NATCO Dri-Speedwall Tile, please write for catalogs:

NATCO Buff Unglazed and Manganese Spot Dri-Speedwall Tile — Bulletin DRI-18-B
NATCO Salt Glazed Dri-Speedwall Tile — Bulletin SG-2
NATCO Red Shale Textured Dri-Speedwall Tile — Bulletin RDS-2



NATCO UNIWALL FACING TILE

FOR SINGLE UNIT 8" WALL CONSTRUCTION FINISHED INSIDE AND OUT
NOMINAL FACE SIZE 4" x 12" TILE FACE SIZE 3⅝" x 11⅝"
BUFF RANGE RUGG-TEX EXTERIOR FINISH CERAMIC GLAZED INTERIOR FINISH

NATCO Uniwall Facing Tile is furnished in nominal 8" thickness for complete single unit wall construction. The exposed faces of the units, when in place, have unglazed rugg-tex exterior finish in a buff range, and ceramic glazed interior finish. A line of interior ceramic glazed units, furnished only to supplement exterior Uniwall units, is also available. Uniwall units are made of hard-burned deaired fire clay and conform to the requirements of A.S.T.M. and Federal Specifications for loadbearing structural clay tile as to number of cells, shell and web thickness, scoring and coring.

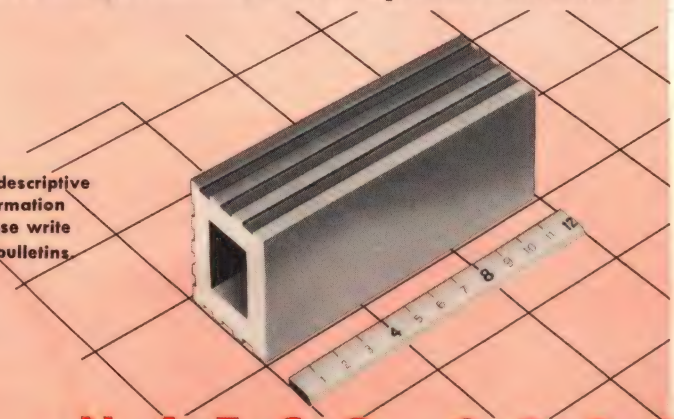
The small number of shapes required to provide a completely finished wall—inside and out—offer sizeable construction economies while giving the advantages of a ceramic glazed permanent interior finish and the appearance of a high quality face brick exterior.

For additional information, please write for:
NATCO Uniwall Facing Tile details—Bulletin UW-100.

NATCO MODULAR GLAZED VITRITILE

NOMINAL FACE SIZES: "8W" SERIES—8"x 16",
"6T" SERIES—5⅓"x 12", "4D" SERIES—5⅓"x 8"

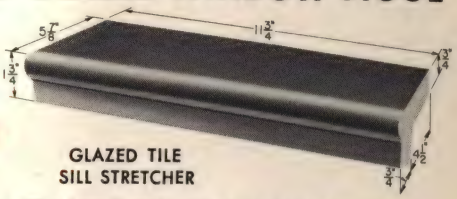
Furnished in nominal 2", 4", 6" and 8" wall thicknesses in ceramic and clear glazed finishes. In 8" x 16" face size supplied only in 2" and 4" thicknesses with ground edges and in ceramic glaze only. For interior walls and partitions of all types of buildings, Vitritile offers —durability, germ resistance, moisture proof, fire safety, cleanability, plus a wide range of functional colors in both plain and mottled shades.



For descriptive information please write for bulletins.

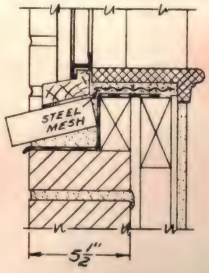
NATCO CERAMIC GLAZED WINDOW STOOL

FOR USE WITH WOOD OR METAL WINDOWS IN ALL TYPES OF MODERN CONSTRUCTION



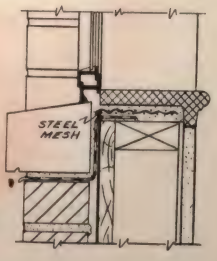
GLAZED TILE
SILL STRETCHER

NATCO Ceramic Glazed Window Stools, made of hard-burned deaired fire clay, are available in various solid colors including the popular NATCO Pastel Shades. These stools are permanent in their beauty, free of maintenance cost and easy to clean and keep clean. Their luster and color are impervious to sun and moisture. They are rot-proof, non-shrinking and non-warping. Please write for additional information.



AT LEFT
Detail For
"SCR" Brick
Construction

AT RIGHT
Detail For
Masonry Veneer
Construction



NATCO CORPORATION

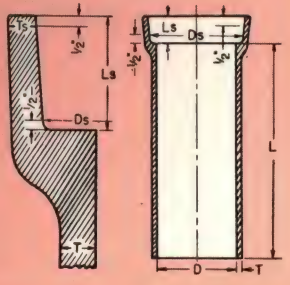
NATCO
QUALITY CLAY PRODUCTS SINCE 1889

NATCO CLAY SEWER PIPE



NATCO Clay Sewer Pipe is manufactured to conform to the requirements of the American Society for Testing Materials Specification C-13 for Standard Strength Clay Sewer Pipe and Specification C-200 for Extra Strength Clay Pipe and to the requirements of Federal Specification SS-P-361 a.

When ordering standard or extra strength NATCO Clay Sewer Pipe, give the size of pipe (internal diameter) and the laying lengths as shown in table at right.



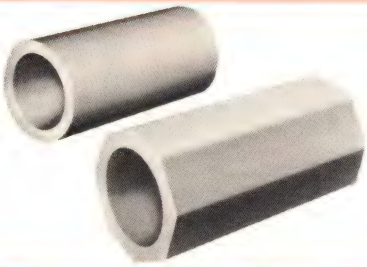
Length and Strength of Standard and Extra Strength Sewer Pipe

Pipe size, inches (D)	Laying length, nominal, feet (L)		Limit of minus① variation, inches per foot of length	Maximum difference in length of two opposite sides, inches	Minimum average strength,② pounds per linear foot	
	STANDARD STRENGTH PIPE	EXTRA STRENGTH PIPE			STANDARD STRENGTH PIPE	EXTRA STRENGTH PIPE
4	2	....	¼	5/16	1000	....
6	2	2,3	¼	3/8	1000	2000
8	2,3	3	¼	7/16	1000	2000
10	2,3	3	¼	7/16	1100	2000
12	2,3	3	¼	7/16	1200	2250
15	3	3	¼	½	1400	2750
18	3	3	¼	½	1700	3300
21	3	3	¼	9/16	2000	3850
24	3	3	3/8	9/16	2400	4400

①There is no limit for plus variation. ②By Three Edge Bearing Method.

NATCO DRAIN TILE

NATCO Clay Drain Tile will not deteriorate from action of acids or alkalies. They are strong and enduring — resist frost action. Their smooth, hard burned inside surfaces insure a rapid flow of water — also assure great drainage capacity. NATCO Clay Drain Tile, available in standard sizes, is preferred for use in residential, industrial and commercial construction of all kinds, as well as for drainage on the farm, highway and railroad. Please write for full information.



NATCO ROUND AND RECTANGULAR FLUE LINING



In both the round and rectangular types, Natco Flue Lining of hard burned clay acts as a heat and corrosion proof shell on the inside of the chimney. Adapted to all sizes and shapes of chimneys, Natco Flue Lining is low in cost when protection secured, fuel saved, maintenance eliminated and lifelong service are taken into consideration. Please write for further information.

NATCO Rectangular Flue Lining is furnished in the following sizes in 2 foot lengths:

4½" x 8½" 8½" x 8½" 8½" x 18" 13" x 18" 20" x 20"
4½" x 13" 8½" x 13" 13" x 13" 18" x 18"

NATCO Round Flue Lining is furnished in 6", 8", 10", 12" and 15" inside diameter sizes, all in 2 foot lengths.

A PARTIAL LIST OF OTHER NATCO CLAY PRODUCTS

FOR INTERIOR WALLS
- NATCO UNGLAZED FACING TILE
  Buff and Manganese Spot
- NATCO SALT GLAZED FACING TILE
  For low cost glazed interiors
- NATCO NON-LOADBEARING TILE
  Scored and unscored

FOR EXTERIOR WALLS
- NATCO COMMON AND FACE BRICK
  For all types of buildings
- NATCO SPEED-A-BACKER TILE
  For backing brick walls
- NATCO RAGGLE BLOCKS
  For roof and wall flashings
- NATCO SEGMENTILE AND SILO TILE
  For storage silos and bins
- NATCO LOADBEARING TILE
  Scored for plaster or stucco or unscored
- NATCO SPEEDTILE
  For loadbearing walls
- NATCO BAKUP TILE
  For backing brick walls
- NATCO COPING TILE
  For parapet walls

FOR FLOORS
- NATCO RADIANTILE
  For radiant heating
- NATCOFLOR
  For long span floors
- NATCO FLAT ARCH FLOOR TILE
  For monumental type buildings
- NATCO COMBINATION FLOOR TILE
  For tile and concrete floors

FOR FIREPROOFING
- NATCO BEAM, GIRDER AND COLUMN COVERING

OTHER NATCO CLAY PRODUCTS
- NATCO UNIFILTER UNDERDRAIN TILE
- NATCO CONDUIT

NATCO
QUALITY CLAY PRODUCTS SINCE 1889

NATCO CORPORATION

formerly

NATIONAL FIREPROOFING CORPORATION

GENERAL OFFICES: 327 FIFTH AVENUE, PITTSBURGH 22, PA., Telephone: GRant 1-9370

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Boston (16), Mass., 20 Providence St., Tel. HUBBARD 2-3549–2-3556
Chicago (6), Ill., 205 West Wacker Drive, Tel. FRANKLIN 2-5754
Detroit (2), Mich., 2842 W. Grand Blvd., Tel. TRINITY 3-0310
New York (17), N. Y., 205-17 E. 42nd St., Tel. MURRAY HILL 4-1922
North Birmingham (7), Ala., P. O. Box 5476, North Birmingham Station Tel. BIRMINGHAM 4-1881
Philadelphia (2), Pa., 1518 Walnut St., Tel. PENNYPACKER 5-5112
Pittsburgh (22), Pa., 327 Fifth Avenue, Tel. GRANT 1-9370
Syracuse (10), N. Y., 225 Kensington Place, Tel. SYRACUSE 76-1569
In Canada: NATCO CLAY PRODUCTS LIMITED, 57 Bloor Street, West; Toronto (5), Ontario

Printed in U.S.A.

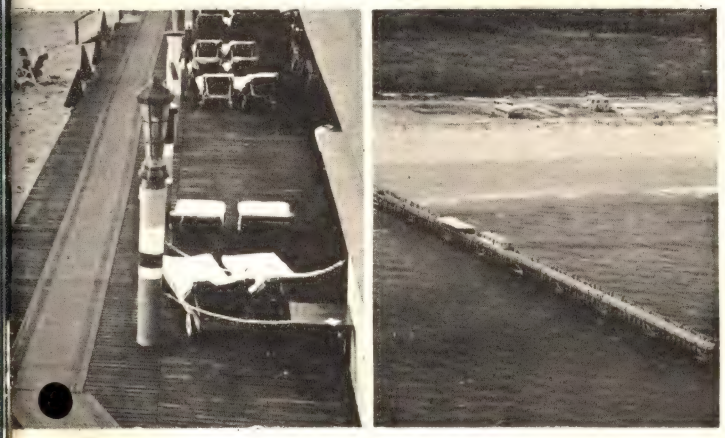
Copyright 1954



for residential buildings



for storage structures, refrigeration plants, farm buildings, etc.



for marine installations, shipboard woodwork



for bleachers, fences, stadiums, etc.

Celcure®

processed (impregnated) lumber

and wood preservative

time tested

for positive protection from:

- ✔ wood rot
- ✔ termites
- ✔ marine borers
- ✔ weathering

clean, odorless, paintable, non-leaching

American Celcure Wood Preserving Corporation

Celcure® treated lumber

general building applications









Celcure advantages

averts attack by agents of decay

Celcure process, unlike most wood preservatives, does not rely upon high toxity for protection. Instead of poisoning fungi and insects as they consume the wood, Celcure changes the chemical nature of the cellulose, eliminating its food value to wood parasites.

highly penetrating

Celcure wood preservative penetrates lumber all the way to the heartwood, which is as far as treatment can go.

non-leaching

Celcure treated lumber, impregnated by the Natural Vacuum Process, will retain ¾ lb. of Celcure (Acid Cupric Chromate) per cubic foot of lumber according to extensive tests by independent agencies. The retention per cubic foot can be increased or decreased depending on requirements.

clean, odorless, non-toxic

Celcure treated lumber is suitable for domestic interior construction as well as commercial construction such as breweries, cold storage plants, water tanks, etc., where contact with food, animal or plant life is occasioned, and where wood preserved with creosote, oil, and other toxic bases would not be practical.

not volatile

Celcure processed lumber exudes no oils or chemicals that are readily ignited. It will burn no more freely than ordinary lumber.

paintable

Celcure processed lumber is easily painted when dry and in many cases the preservative acts as a primer. It is also an attractive easily identified olive color when left unpainted.

Celcure Treated Lumber

natural vacuum method

the Celcure process

is a method of preserving wood by impregnation, patented by the American Celcure Wood Preserving Corp. It is a process whereby a solution of the compound Acid Cupric Chromate is induced into seasoned timber by the Natural Vacuum method. This solution is absorbed by the wood cells, and a chemical reaction follows which desposits insoluble salts permanently within the wood cells; this renders the celulose toxic to fungus (wood rot) and inedible to wood boring insects.

The simplicity of the Celcure Natural Vacuum Process affords greater production economies than the Pressure-Vacuum treatment, impregnation is just as thorough, and the net retention of dry chemicals per cubic foot of lumber is as great or greater than that obtained through costly pressure retorts. Since the cost of the new treating plant is a fraction of that of the old-fashioned pressure processs, additional plants are being rapidly established at strategic locations to make Celcure processed lumber readily obtainable at most local lumber yards.

fungi and insect tests

Celcure®

processed wood









test 1 In an extensive running test by the U. S. Forest Service, 95 Celcure treated fence posts were installed in varied conditions more than 17 years ago. In this time only 7 posts have been found to be unservicable, thus making it impossible to determine average life.

test 2 In a severe test by the Puerto Rican government, a Celcure treated piece of wood along with an untreated piece was placed in a termite nest for more than a year and a half. Results: Celcure treated piece was untouched—untreated piece was almost completely destroyed.

marine test by the U. S. Dept. of Public Health, Celcure treated timbers and untreated timbers were submerged in sea water for a period of 5 years. Treated lumber remained sound, while untreated timbers were almost completely destroyed by marine borers.

wood grade recommendations

Many architects, engineers, and purchasing agents specify "Long Leaf Yellow Pine" or "Yellow Pine" which implies Long Leaf. Long Leaf is scarce and commands a higher price. The Southern Pine Association rules indicate there is no greater structural strength in Long Leaf over Short Leaf and where treated lumber is to be used it is suggested that Dense short leaf, dense mixed leaf or just dense Southern Pine be Specified.

installations	recommended grade
heavy structural work—bridges, culverts, trestles, docks, factory framing, mill construction, etc. — for conserving space and structural weight.	dense structural or dense square edge & sound
heavy structural work as above, when space or structural weight need not be conserved.	square edge & sound or no. 2 common
residence framing — sill, joists, girders, bracing, bridging, etc.	square edge & sound or no. 2 common
subflooring, sheathing, etc.	no. 2 common
exposed finish flooring, porch work, exterior trim, cornices, etc.	no. 1 common b & better or verticle grain

specific construction applications

stadiums	ice compartments and slides
boardwalks	refrigerators
farm buildings	fence posts and rails
greenhouses	mine timbers
bridge timbers	observation towers
packing houses	outdoor signs
cold storage plants	bus and truck bodies
breweries	boats, ship interiors
water tanks	marine docks, bulkheads, ramps, etc.

treatment procedure

selection of lumber

Although most species of wood are practical for Celcure impregnation, southern yellow pine is generally specified for treatment due to its prime factors of strength, durability, ready availability and generally lower costs, as well as its excellent susceptibility to impregnation.

proper seasoning

is assured when lumber is treated by a licensed plant. Lumber must be either air dried or kiln dried to a maximum moisture content of 19% before processing.

natural vacuum method

is the new more economical method now most generally used for Celcure treatment. The lumber is impregnated by the natural vacuum method which briefly consists of heating the lumber to drive the air from the wood cells. The lumber is then flooded with cold Celcure solution and remains in the solution until complete penetration is accomplished. Scientific handling insures uniform penetration throughout according to rigid Celcure requirements.

Celcure solution for surface application

Celcure Wood Preservative in solution is also marketed nationally and is available in convenient containers according to the need. Whenever Celcure impregnated lumber is used in construction, it is advisable to have a quantity of solution on hand for the treatment of bored holes, cut ends of lumber, etc. This will assure absolute protection for all treated lumber.

use of solution

brush or spray

treatment has been found suitable for use on wood in danger areas as long as it is not in direct contact with the ground. Two drenching coats of full-strength solution are advised for adequate protection.



dipping

of the cut ends in a full strength Celcure Solution is advisable whenever possible, particularly in the case of treated lumber to be used in areas continuously exposed to dampness or the possibility of termites.



specifications

Celcure processed (impregnated) lumber

Treated lumber shall be Celcure Processed (impregnated) by Vacuum-Pressure or Natural-Vacuum processes (as specified,) by a plant operated or duly licensed by the American Celcure Wood Preserving Corporation, Jacksonville, Fla. Before treatment by either method the lumber shall be air seasoned or kiln dried to a moisture content not exceeding 19%. The treating solution shall be of sufficient concentration to insure a net retention of ¾ lb. of dry Celcure chemicals per cubic foot of lumber or more if desired. All surfaces cut or bored after treatment shall receive a drenching brush coat of full strength Celcure as furnished in the original package by the manufacturer.

note:

Celcure Processed Lumber is designated as TT-W-546 in the Federal Standard Stock Catalog (Section IV, Part 5) and Federal Specification TT-W-571C.

Celcure solution for surface application

The following lumber shall receive two drenching brush coats of full strength Celcure solution as supplied in the original package by the manufacturers. The first coat shall be so applied that all surfaces, including hidden surfaces and joints, shall be thoroughly treated. The second coat shall be applied after assembling and nailing, with special attention to any surfaces that are broken or cut after the first coat was applied.

note:

Efficient and thorough drenching by spray may be substituted for brush treatment. Somewhat better than good brush application is the immersion of lumber in air-temperature, full-strength Celcure solution, on the job after pieces have been cut to fit. Do not heat Celcure solution. This treatment is not recommended for underground installations or those in direct contact with the ground, nor is it suitable where mechanical wear or severe checking is likely to occur. In no case is it recommended as equal to impregnation.

engineering service

Our engineers and experienced research staff offer their services (without obligation) should you have a particular wood preserving problem that requires solution. Our many years of experience in this field, plus our modern laboratory and research facilities qualify us as experts in wood preserving techniques, and insure an accurate appraisal of any existing problem. For information or consultant assistance, contact the distributor nearest you, or write or call the main plant office of the American **Celcure** Wood Preserving Corporation.

Celcure sales offices and treating plants

GATE CITY SASH & DOOR
Ft. Lauderdale, Florida

AMERICAN CELCURE WOOD PRESERVING CORP.
Miami, Florida

JENKINS MANUFACTURING CO.
Tallahassee, Florida

PINELLAS LUMBER CO.
St. Petersburg, Florida and Clearwater, Florida

LONG LEAF LUMBER CO.
1094 Huff Road, N.W.
Atlanta, Georgia

WEAVER-LOUGHRIDGE LUMBER CO.
Boyd, Florida

E. D. COOK LUMBER CO.
Orlando, Florida

COOK LUMBER CO.
Tampa, Florida

CELCURE WOOD PRESERVING CO. OF LA.
New Orleans, La.
Mail: P. O. Box 566
Kenner, La.

F. BOWIE SMITH & SON
Baltimore, Maryland

WALLACE & TUCKER LUMBER CO.
Providence, Rhode Island

HODGES BUILDERS SUPPLY CO.
Albany, Georgia

WALKER-WILLIAMS LUMBER CO.
Hatchechubbee, Ala.

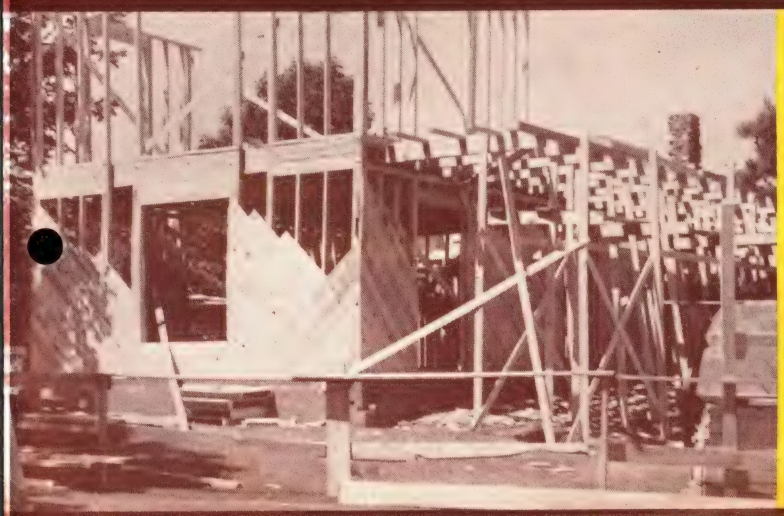
B. B. DOWNING LUMBER CO.
Silas, Alabama

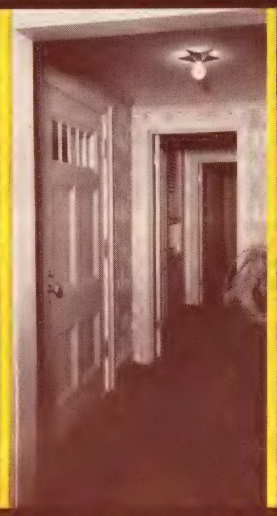
Look for the distinctive olive color of Celcure treated lumber at local lumber yards.

American *Celcure* Wood Preserving Corporation
1074 E. Eighth Street **Jacksonville, Florida** **Telephone 3-4376**

"Celcure" is a Trade Mark Registered in the U. S. Patent Office by the American Celcure Wood Preserving Corporation, Jacksonville, Florida

ARKANSAS
Soft Pine







HIGH INSULATION FACTOR SHEATHING • CERTIFIED STRESS VALUE FRAMING • SATIN-LIKE INTERIOR TRIM AND PANELING

ARKANSAS SOFT PINE TRADE MARK REGISTERED

ARKANSAS SOFT PINE BUREAU
LITTLE ROCK, ARKANSAS

INTERIOR TRIM AND MOULDINGS

Satin-like Interior Trim

Distinguishing characteristics of Arkansas Soft Pine upper grades, from which trim and mouldings are produced, are: freedom from pitch, close grain, elastic fiber, attractive figure. These qualify it, in particular, for interior trim, mouldings and paneling, because: freedom from pitch promotes even absorption of applied finish and avoids discoloration that often occurs when pitch is present; close grain dispenses with "pull" between summer and winter ring growth, preventing raised grain; elastic fiber springs back, all but covering counter-sunk finishing nails, thus minimizing putty spots on the finished surface; attractive figure provides decorative qualities brought out by transparent finishes.

Specified Moisture Content

These inherent advantages are further enhanced during manufacture by drying and seasoning, to specified moisture content. This refinement is accomplished in automatically controlled cross circulation dry kilns. By this method of conditioning, the natural "life" of the wood is retained, a factor essential to stabilized woodwork.

What Species It Is

Commercial southern pine is the general name for a number of closely related species comprising: Shortleaf, *Pinus echinata;* Longleaf, *Pinus palustris;* Loblolly, *Pinus taeda;* Slash, *Pinus caribaea.*

Where It Grows

Arkansas Soft Pine is the soft-textured, easily worked pine, produced from shortleaf (*Pinus echinata*) stands in southern and western Arkansas. It is identified by registered trade-mark stamped, labeled or tagged on the material.

Typical STANDARD PATTERNS

Identifying pattern numbers are those of the Standard 8000 Moulding List with which lumber dealers and millwork houses are familiar and from whom these and other patterns are conveniently available.

SCALE OF PATTERNS: ONE-HALF ACTUAL SIZE



INTERIOR PANELING

Mellow Pine Paneling

Here's what Uncle Sam says about the wood: "Shortleaf pine in Arkansas is of a higher grade than that grown in other regions. It is soft, of good quality, and the annual rings show well in the grain." It is these qualities which give Arkansas Soft Pine unique advantages as paneling. Arkansas Soft Pine paneling is available in a range of patterns and sizes of which those illustrated are indicative. Material is particularly suited to finishing in a range of transparent effects from blond to mellow honey color. Approved finishing specifications will be furnished promptly on request.

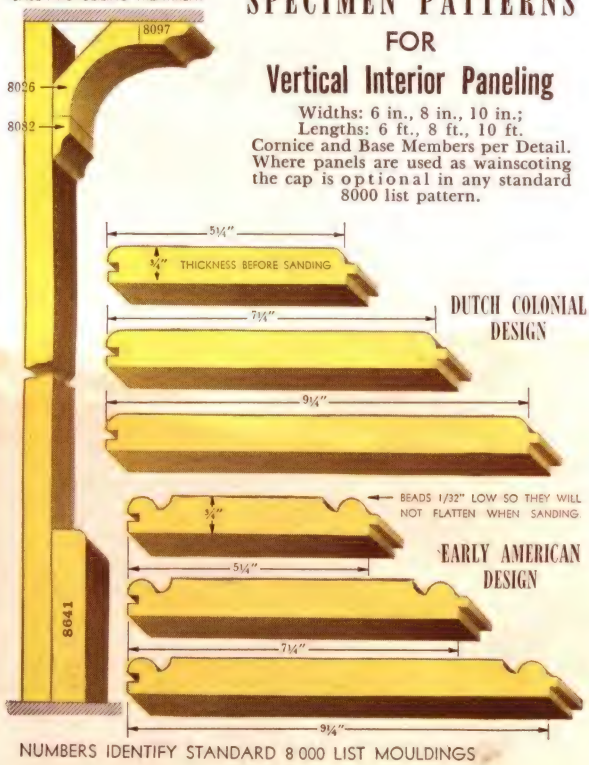


Typical installation of Arkansas Soft Pine Paneling in Dutch Colonial pattern.

CROSS-SECTION OF SUGGESTION FOR BASE AND CEILING TREATMENT

SPECIMEN PATTERNS FOR Vertical Interior Paneling

Widths: 6 in., 8 in., 10 in.;
Lengths: 6 ft., 8 ft., 10 ft.
Cornice and Base Members per Detail.
Where panels are used as wainscoting the cap is optional in any standard 8000 list pattern.



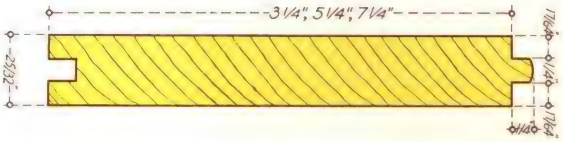
NUMBERS IDENTIFY STANDARD 8 000 LIST MOULDINGS

EXTERIOR SHEATHING

High Insulation Factor

Thoroughly seasoned wood, being a non-conductor of heat and cold, is a *natural insulation*. Example: On an outside wall, Arkansas Soft Pine sheathing of standard $\frac{25}{32}$" thickness keeps out as much heat as 5" of common brick, 9" of face brick, 12" of stone or 13½" of concrete.





Maximum Structural Stiffness

Available in center-matched standard lengths or center and end-matched in bundles.

Center-matched sheathing, which is surfaced two sides, is available in No. 2 and No. 3 grades. This is an Arkansas Soft Pine kiln dried material, running 20" and longer, furnished in bundles when end-matched; and in plain end random lengths, not bundled. Exercise care when using end-matched for subflooring or roof sheathing, to see that each board is nailed to at least two joists.



Center and End Matched Sheathing goes on in ⅓ less time, requiring no cut-back at stud centers. Result: an integrated wall of exceptional strength and high insulation value.

Grading and Grade-Marks

Each grade of lumber is more than the individual manufacturer's idea of the respective grades. Grading standards represent the composite opinion of all representative manufacturers within the region where the species is grown and produced. Application of grading and grade-marking, under long established practices, is supervised by an industry-wide authorized agency, in this instance, the Southern Pine Inspection Bureau, New Orleans, Louisiana. All Arkansas Soft Pine is graded and grade-marked in accordance with the requirements of that organization. Arkansas Soft Pine qualifies for Federal Specifications MM-L-751b.

Specimen Official Grade Mark



Left to right, symbols are initials of the Southern Pine Inspection Bureau, grade, stress value, identifying number of the mill producing the stock.

GRADES TO SPECIFY**	
Use	**Grade Recommended**
Sills on foundation wall, floor more than 18" above ground	No. 1 Dimension
Sills on foundation wall, floor within 18" of ground	No. 1 Dense Dimension (*) or (†)
Sills on posts or piers, floor more than 18" above ground	No. 1 Dense Timbers
Sills on posts or piers, floor within 18" of ground	No. 1 Dense Timbers (*) or (†)
Basement posts or columns	No. 1 Dense Timbers
Girders	No. 1 Dense Timbers, No. 1 Dense Dimension, or No. 1 Dense Laminated
Floor joists over 18" above ground	No. 1 Dense Timbers
Floor joists within 18" of ground	No. 1 Dense Dimension or No. 2 (††)
Roof rafters and ceiling joists	No. 1 or No. 2 Dimension (††)
Studding	No. 1 Dense, No. 1 or No. 2 Dimension (††)
Sub-flooring and sheathing	Arkansas Soft Pine Center-Matched, Square Edge Boards or Shiplap in No. 2 or No. 3 Grade
Finish flooring exposed	B & Better Edge Grain End-matched or Random length Plain end
Finish flooring to receive linoleum or carpet	No. 1 Common or No. 2 Common Flat Grain $\frac{9}{16}$" thickness
Porch flooring	B & Better Heart Edge Grain Plain End or B & Better Flat Grain Plain End, treated
Drop siding, interior trim, exterior trim, window and door frames	B & Better
Exterior trim	B & Better (Back-primed with white lead or aluminum paint)

†All Heart. *Preservative treated. **Arkansas Soft Pine is graded according to the Standard Grading Rules of the Southern Pine Inspection Bureau, New Orleans, La. ††Conforms to the higher stress values for No. 2 Dimension, established by the Inspection Bureau in 1948. Grading Rules will be furnished on request to the Arkansas Soft Pine Bureau.

STUDS, JOISTS AND RAFTERS



Representative examples of grade-marked No. 1 and No. 2 dimension.

Cost Economies with No. 2 Dimension

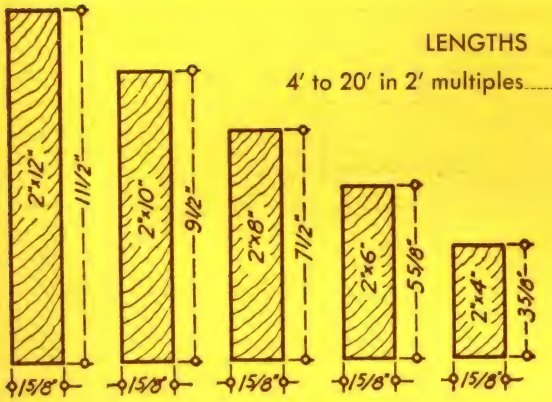
Worth-while savings are recommended through the use of lower-priced grades for framing material which afford adequate strength, i. e., use of the right grade in the right place. Example: the southern pine industry, through the Southern Pine Inspection Bureau to which Arkansas Soft Pine manufacturers subscribe, recently increased official stress values of No. 2 grade for 2x4, 2x6, etc. *This grade, now of closer grain than formerly, provides ample strength for floor joists, studding and rafters at a substantial saving below the price of No. 1.*

Load Bearing Strength

Arkansas Soft Pine possesses adequate strength for all stresses and loads to be expected in the construction of residences, apartments, and commercial buildings of moderate size. Grades below conform to American Lumber Standards for Dense material.

Grade	Unit Shear*	Bending Extreme Fibre	Modulus Elasticity	Perpendicular Compression
Dense Select Structural ..	120	2,000	1,600,000	380
Dense Structural	120	1,800	1,600,000	380
Dense Structural SE&S	120	1,600	1,600,000	380
Dense No. 1 Structural ..	100	1,200	1,600,000	380

*Shear values of 150 or 175 lb. may be obtained in any grade by so specifying, without changing any other feature of the grading rule.



LENGTHS

4' to 20' in 2' multiples.....All Sizes

ARKANSAS SOFT PINE PRODUCTS

Arkansas Soft Pine is manufactured by representative, major enterprises exclusively. Production embraces all standard soft wood items, notably small timbers, dimension, boards, sheathing, siding, flooring, finishing, mouldings, trim and paneling.

NOTE TO SPECIFICATION WRITERS

MANDATORY—All material furnished under these specifications shall bear the ARKANSAS SOFT PINE trademark. Complete technical data, structural details and illustrated grades are included in the Arkansas Soft Pine Handbook, mailed on request together with Grading Rules.

STRESS VALUES FOR STUDS, JOISTS AND RAFTERS

SPAN	2 x 12—1700 F Grade SPACING ON CENTERS					2 x 10—1700 F Grade SPACING ON CENTERS					SPAN	2 x 8—1700 F Grade SPACING ON CENTERS					2 x 6—1700 F Grade SPACING ON CENTERS				
	12"	14"	16"	18"	20"	12"	14"	16"	18"	20"		12"	14"	16"	18"	20"	12"	14"	16"	18"	20"
10 ft.	400	343	300	267	240	272	233	204	181	163	6 ft.	476	408	357	317	286	266	228	200	177	160
11 ft.	329	282	247	219	197	224	192	168	149	134	7 ft.	348	298	261	232	209	192	165	144	128	115
12 ft.	276	237	207	184	166	182	156	137	121	109	8 ft.	266	228	200	177	160	128	110	96	85	77
13 ft.	234	201	176	156	140	142	122	107	95	85	9 ft.	209	179	157	139	125	89	76	67	59	53
14 ft.	202	173	152	135	121	113	97	85	75	68	10 ft.	155	133	116	103	93	64	55	48	43	38
15 ft.	164	141	123	109	98	90	77	68	60	54	11 ft.	115	99	86	77	69	47	40	35	31	28
16 ft.	134	115	101	89	80	74	63	56	49	44	12 ft.	88	75	66	59	53	35	30	26	23	21
17 ft.	110	94	83	73	66	61	52	46	41	37	13 ft.	68	58	51	45	41	27	23	20	18	16
18 ft.	93	80	70	62	56	50	43	38	33	30	14 ft.	54	46	41	36	32	x	x	x	x	x
19 ft.	77	66	58	51	46	42	36	32	28	25	15 ft.	43	37	32	29	26	x	x	x	x	x
20 ft.	66	57	50	44	40	35	30	26	23	21	16 ft.	35	30	26	23	21	x	x	x	x	x

Safe loads are **net** safe loads per square foot—weight of joists themselves has been deducted. Stresses used are for **No. 1 Dense** Dimension—1,700 lbs. Horizontal shear—150 lbs. Loads all fall within shear limits. Loads below heavy line are governed by E=1,600,000 and will produce deflection less than span "/360.

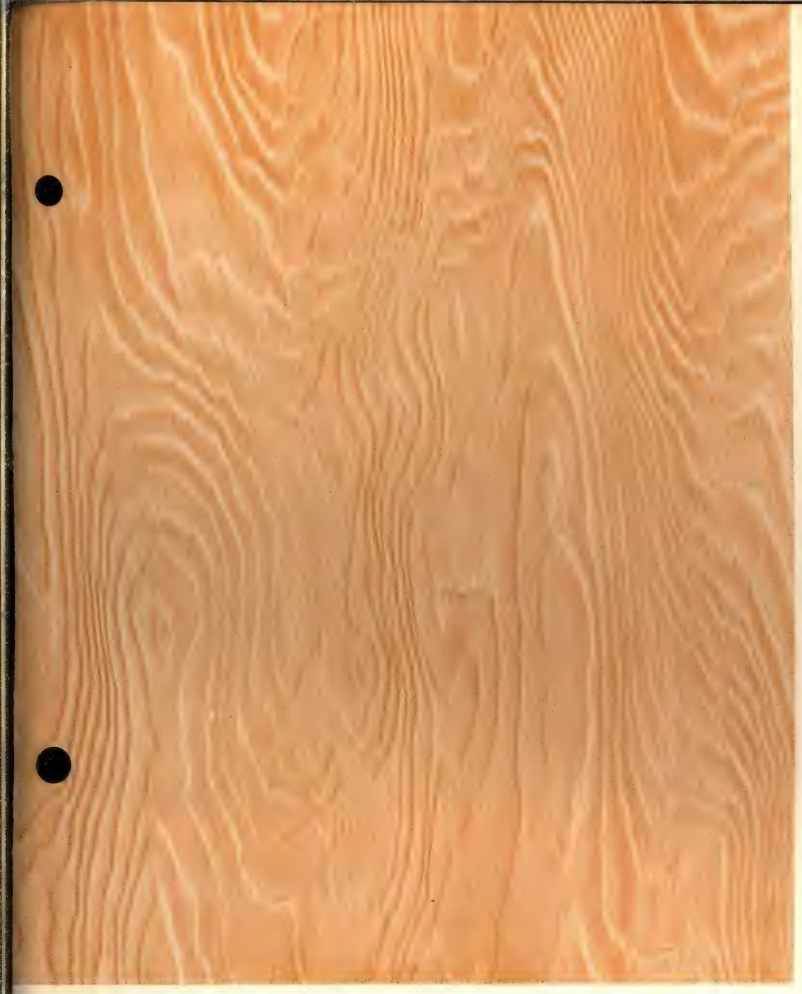
WHERE TO BUY . . .

Arkansas Soft Pine is carried regularly by responsible retail lumber dealers and planing mills east of the Rockies. Elsewhere, it may be secured through special orders placed with local suppliers.



ARKANSAS SOFT PINE TRADE MARK REGISTERED

ARKANSAS SOFT PINE BUREAU BOYLE BUILDING LITTLE ROCK, ARKANSAS



8

Plywood Products
for Architects
and Builders
from

**ASSOCIATED
PLYWOOD
MILLS, INC.**







There Is a Size, Type and Grade of APMI Product for

EVERY BUILDING NEED

Associated Plywood Mills is a pioneer and one of the largest manufacturers in the fir plywood industry, with experience dating from 1921.

The company has plywood plants at Eugene and Willamina, Oregon and extensive timber holdings in the rain forests of central and southern Oregon.

In addition to excellent natural resources, company mills are modern and well equipped. Associated policies in research and new product development have resulted in a reputation for quality, not only in interior and exterior plywood, but in a constantly growing line of specialty products for architects, builders and home owners.

Warehouse stocks of APMI plywood products are located in major population and building areas, and are sold also through selected independent jobbers and retail lumber and building materials dealers from coast to coast.



Fir Plywood

Interior and Exterior

In standard sizes to 48″ x 96″. Other widths and lengths on special order. Standard thicknesses are ¼″ and ⅜″ (3 ply) and ½″, ⅝″ and ¾″ (5 ply). Thickness in excess of ¾″ on special order. Interior-type is bonded with highly improved, moisture-resistant (but not waterproof) glue. Exterior-type is bonded with completely waterproof phenolic resin adhesive.





Construction Plywood

Interior and Exterior

In standard sizes to 48″ x 96″. Standard thicknesses are 5/16″ and ⅜″ (3 ply) and ½″, ⅝″ and ¾″ (5 ply). Other widths, lengths and thickness on special order. Widely used for concrete form work and in construction of all kinds.





Texture One-Eleven

Exterior-type panels combining line and texture in a pattern of deep parallel grooves, a slightly rough (unsanded) surface and natural wood characteristics such as small knots and knotholes. Sizes: 16″ x 96″; 16″ x 108″; 16″ x 120″ (grooves 2″ or 4″ o.c.); 32″ x 96″; 32″ x 108″; 32″ x 120″ (grooves 4″ o.c. only). Panels are rabbeted both edges. Thickness ⅝″, 5-ply construction.



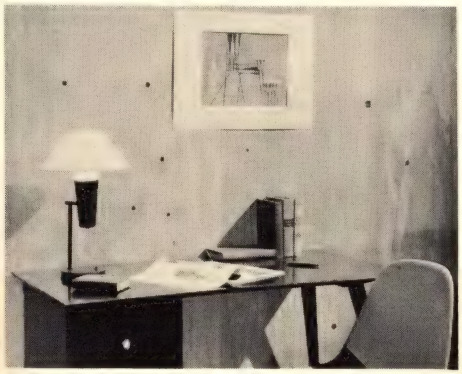


Select Sea Swirl®

Decorative Fir Plywood

Interior and Exterior. 48″ x 96″ size, 5/16″ thickness. Interior also available in squares 12″ x 12″, 16″ x 16″, 24″ x 24″. Other sizes and thicknesses on special order. By a special manufacturing process the soft growth is removed, with natural grain patterns forming pleasing swirls and contours. Used for remodeling and new construction.

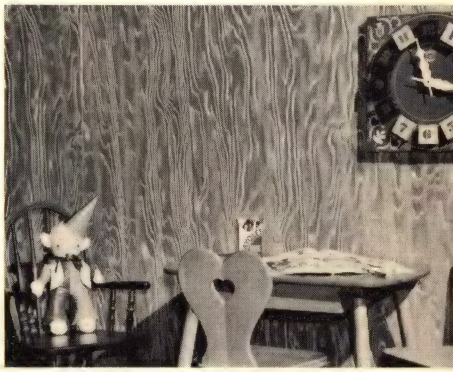




Knotty Sea Swirl®

Decorative Fir Plywood

Interior and Exterior. Available in standard 48″x96″ panels, 5/16″ thickness. Other sizes and thicknesses on special order. Made by the same process as used for select *Sea Swirl*, with three dimensional surface accenting the natural grain pattern. Easy to handle, apply, finish. For remodeling and new construction.





Unselected
Birch Veneer
Decorative Plywood

Interior. In standard sizes 48″ x 96″; 48″ x 84″; 48″ x 72″. Other sizes on special order. Net sanded thickness: ¼″ (3 ply); ⅜″ and ½″ (5ply); ⅝″ and ¾″ (7 ply). Panels are made from unselected Birch veener overlay on solid core inner plys of fir plywood. For home, office building and modernization; cupboard doors, radio, television cabinets and other types of wood work.





Knotty Pine Veneer
Decorative Plywood

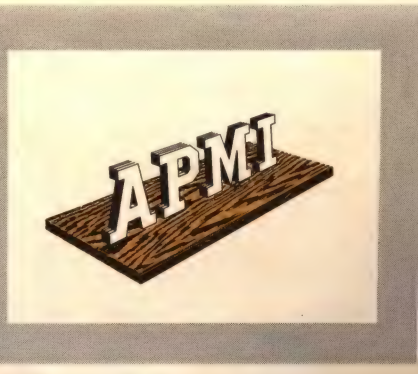
Interior and Exterior. Available in standard 48″x96″ panels, ¼″ (3 ply) and ¾″ (7 ply) thickness. Other sizes and thicknesses on special order. Made from select Idaho White Knotty Pine veneer overlay on solid core inner ply of fir plywood. ¼″ panels for home and office building and modernization. ¾″ panels for cupboard doors, radio and television cabinets and other types of wood work.





Philippine Mahogany Veneer
Decorative Plywood

Interior. Standard sizes up to 48″ x 96″. Other sizes on special order. Thickness: ¼″ (3 ply); ⅜″, ½″, ⅝″ (5 ply); ¾″ (7 ply). Panels are solid core inner ply fir plywood with ribbon-sliced faces of clear, selected Philippine Mahogany; #2 backs of solid-sliced; #3 backs of utility-sliced Philippine Mahogany. For new building and modernization plus various types of wood work.





ASSOCIATED PLYWOOD MILLS, INC.

GENERAL OFFICES: Eugene, Oregon

SALES WAREHOUSES:

SAN FRANCISCO . . . . . 925 Toland Street
CHARLOTTE, N. C. . . . . 1026 Jay Street
GREENVILLE, S. C. . . . . Worley Road
RALEIGH, N. C. . . . . Wake Forest Road
DALLAS . . . . . 4814 Bengal Street, 9
HOUSTON . . . . . 4003 Coyle Street, 3
ST. LOUIS . . . . . 4268 Utah Street, 16
EUGENE and WILLAMINA, OREGON

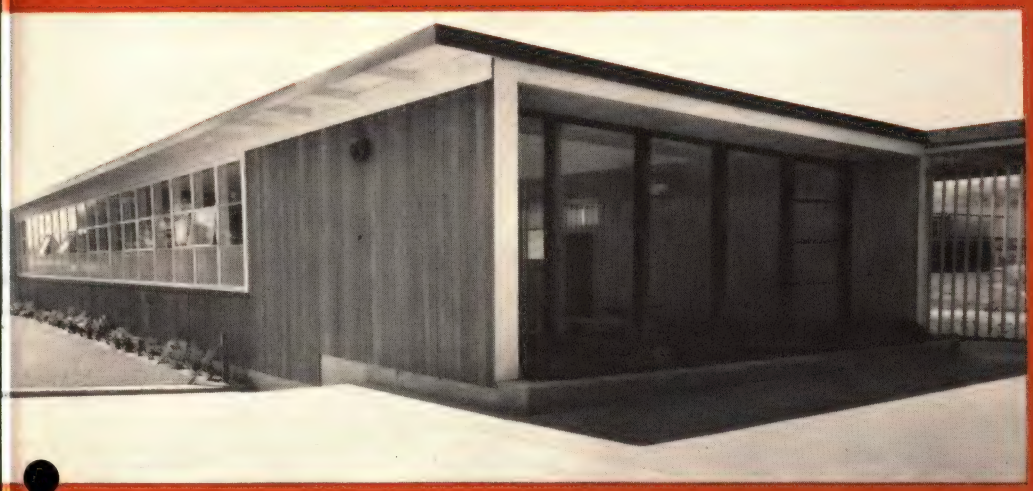
PLYWOOD MILLS at
Eugene, Oregon
Willamina, Oregon

LUMBER MILL at
Roseburg, Oregon

SALES OFFICES at
31 State St., Boston, Mass.
595 E. Colorado St.
Pasadena, California

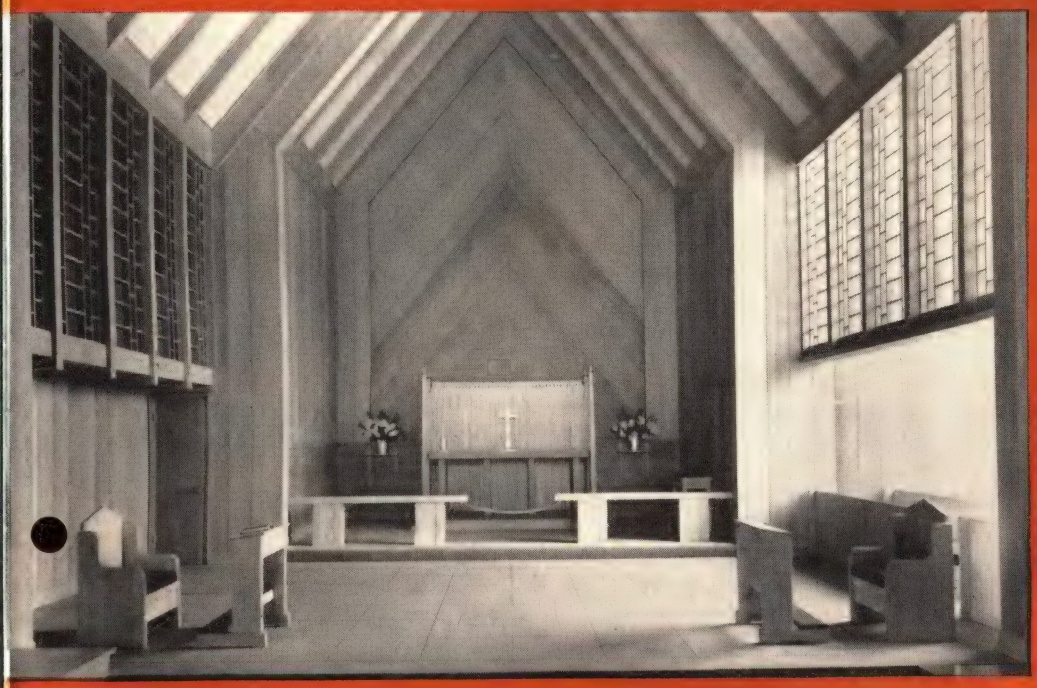
1d
Ca

California Redwood Association



for schools

Bamberger & Reid, architects



for churches

Kingsford Jones, Wm. Simrell, architects



for residences

Barancik, Conte & Associates, architects

uses of redwood

California redwood is an unusually versatile species. It serves more varied uses than most other materials at the architect's command because of its combination of special properties.

The principal architectural uses of redwood are for siding and exterior trim, interior paneling and woodwork, and for garden structures for which the unusual durability of redwood heartwood is important.

properties

The characteristics listed below are found in all grades and sizes of redwood lumber. They need not be covered in the specifications. Additional details may be obtained by requesting the appropriate data sheet:

Low Shrinkage	Sheet 2D2-3
Paint Retention	Sheet 4B5-1
Insulation	Sheet 3D5-1
Workability	Sheet 2A2-2
Gluing	Sheet 2A2-3
Light Weight	Sheet 2D2-4
Nail and Screw Holding	Sheets 4A1-1, 2

The following properties vary with different grades and different cuts of the log. They are subject to specification:

Strength—For working stresses see Data Sheet 2D2-2.

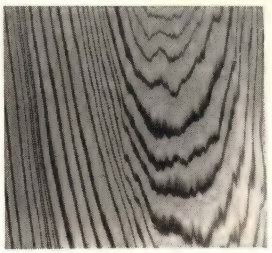
Durability—Specify an all heartwood grade if decay hazard is an important factor. See Data Sheet 2D2-1.

Colors—Heartwood is cinnamon red to brown. Sapwood is cream-colored.

Grain figure—Vertical grain has a subdued, uniformly lined pattern, and weathers exceptionally well. Flat grain has a more highly figured and decorative pattern. All grades normally may contain both vertical and flat grain pieces.



Vertical Grain



Flat Grain

Texture—Specify "Surfaced" for smooth finish; "Resawn Face" for lightly roughened; or "Rough" for texture produced by the sawmill, a rougher surface than resawn.

Moisture content—Specify "CRA-Certified Dry" or "Kiln-dried" redwood for siding, interior paneling, and finish.

yard grades

The yard grades of redwood lumber are divided into two general classes: (1) the finish grades, which are free from knots and are used primarily for high quality interior and exterior finish; (2) the construction grades, which contain knots of various sizes, as well as other characteristics which distinguish them from the finish grades, but which do not detract from their value for many general and specialized types of construction. In redwood, the grades are also divided into those which are all heartwood, and those which contain sapwood. All heartwood grades are in the left column; sapwood grades in the right:

ALL HEARTWOOD	FINISH GRADES	MAY CONTAIN SAPWOOD
VERTICAL GRAIN CLEAR ALL HEART—A specially selected grade for use in construction of highest possible quality. Standard grade for sidings only. CRA V.G.CLEAR HEART REDWOOD MILL MARK		CRA V.G.-A GRADE REDWOOD MILL MARK **VERTICAL GRAIN A-GRADE**—A selected grade for interior and exterior surfaces. Contains clear sapwood. Standard for sidings only.
CLEAR ALL HEART—A superior grade used for exterior siding and millwork. Also used for interior paneling and trim. CRA CLEAR HEART REDWOOD MILL MARK		CRA A REDWOOD MILL MARK **A-GRADE**—Contains clear sapwood and is an excellent material for interior paneling and exterior surfaces.
ALL HEARTWOOD	**CONSTRUCTION GRADES**	**MAY CONTAIN SAPWOOD**
SELECT HEART—Finest of the heartwood construction grades, especially adaptable to high quality construction where wood comes in contact with the ground. CRA SELECT HEART REDWOOD MILL MARK		CRA UTILITY REDWOOD MILL MARK **UTILITY**—Boards and strips containing sapwood, adapted for barn siding, garage rustic, and similar uses.
CONSTRUCTION HEART—Excellent all-purpose heartwood grade of lumber for garden, farm, and industrial structures, and for many applications where decay hazard exists. CRA CONSTN HEART REDWOOD MILL MARK		CRA SAP COMMON REDWOOD MILL MARK **SAP COMMON**—Similar to Construction Heart except that it will contain sapwood. For low cost construction under conditions where decay resistant heartwood is not required.
		CRA 3 COM REDWOOD MILL MARK **No. 3 COMMON**—The lowest of the construction grades, it furnishes a volume of material for low cost construction, and may be utilized without excessive waste.

Note:—For complete details, see Data Sheet 2B1-2, or Standard Specifications for Grades of California Redwood Lumber.

for commercial work

Designed by Paul Laszlo



specifications

Specifications for redwood should include:

a. Size—1x8, 6x6, etc.

b. Working—S4S, Rough, S1S Resawn face exposed, etc.; or Pattern—T&G Pattern 132 EE, etc.

c. Dryness, if desired (Kiln-dried).

d. Grade—Clear All Heart, A-Grade, etc.

e. Grade mark, if desired. Grade marked redwood, when available, gives assurance that the grade furnished is as specified. As a convenience for specifiers and job inspectors, redwood grademarks include "Certified Dry" designations for the finish grades, in addition to the standard grademarks. When so marked, it is evidence that the lumber has been kiln-dried at the mill and graded under CRA supervision. Examples of such grademarks are reproduced below:

CRA CERTIFIED DRY - V.G. CLR-RWD MILL MARK

CRA CERTIFIED DRY CLR-RWD MILL MARK

specifications for accessories

a. Nails and fastenings—For exterior uses specify aluminum or hot-dipped galvanized nails, screws, etc. See Data Sheets 4A1-1 and 4A1-2.

b. Application—For general application and finishing of siding, see Data Sheet 3A4-1. For specific types—Board & Batten, 3A4-2; Shiplap & Rustic, 3A4-3; Bevel & Bungalow, 3A4-4; Anzac, 3A4-5; Tongue & Groove, 3A4-6. For interiors, 3A7-1 and 3A7-2.

c. Finishes—Specify by brand name and manufacturer. For list of natural exterior finishes, see Data Sheet 4B3-1. For maintenance, Data Sheet 4B5-1. For interior finishes, 4B4-1.

sizes

The standard net sizes for surfaced yard grades are shown below. Thicknesses apply to all widths, and widths apply to all thicknesses.

Rough Thickness	Finish, Boards, Strips, Dimension S1S or S2S (a)	Rough Width	Boards, Strips, Dimension S1E or S2E (b)	Dry Finish S1E or S2E (c)
1"	25/32"	3"	2 5/8"	2 5/8"
1 1/4"	1 1/16"	4"	3 5/8"	3 1/2"
1 1/2"	1 5/16"	5"	4 5/8"	4 1/2"
2"	1 3/4"	6"	5 5/8"	5 1/2"
3"	2 5/8"	8"	7 1/2"	7 1/4"
4"	3 5/8"	10"	9 1/2"	9 1/4"
		12"	11 1/2"	11 1/4"

(a) Surfaced thicknesses for all yard grades, green or dry.

(b) Surfaced widths for green Clear All Heart and A-Grade, and for all other yard grades, green or dry.

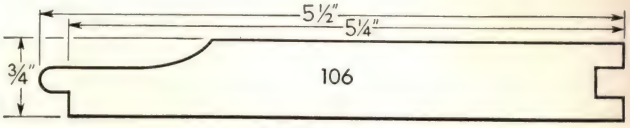
(c) Surfaced widths for Dry Clear All Heart and A-Grade, 3" or less in thickness.

Squares S4S—all yard grades, green or dry:

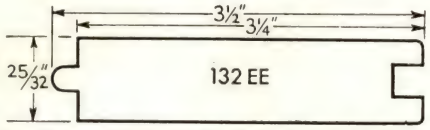
3" x 3" to 2 5/8" x 2 5/8"
4" x 4" to 3 5/8" x 3 5/8"
5" x 5" to 4 5/8" x 4 5/8"
6" x 6" to 5 5/8" x 5 5/8"
8" x 8" to 7 1/2" x 7 1/2"
10" x 10" to 9 1/2" x 9 1/2"
12" x 12" to 11 1/2" x 11 1/2"

patterns

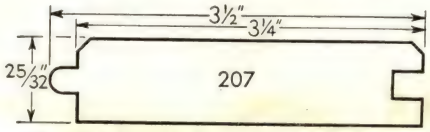
The following standard milled patterns are the most widely used. Both over-all and exposed, or laid-up, widths are shown. *For details see Pattern Book No. 4.*



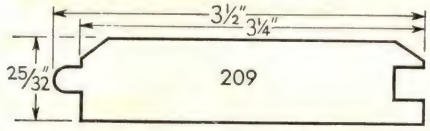
1"x6" T&G Drop Siding



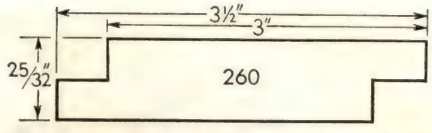
1"x4" T&G with eased edges. 1"x6" is Pat. 133 EE. Patterns 132 and 133 are similar except square edged.



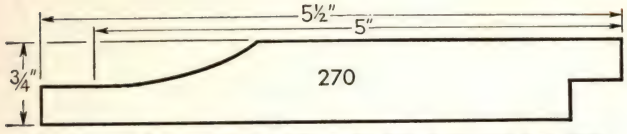
1"x4" T&G—V1S. Pattern 208 is 1"x6".



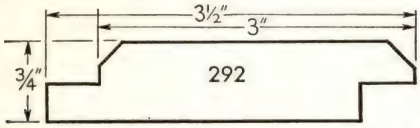
1"x4" T&G—V1S. Other widths—6" Pat. 211; 8" Pat. 212; 10" Pat. 213.



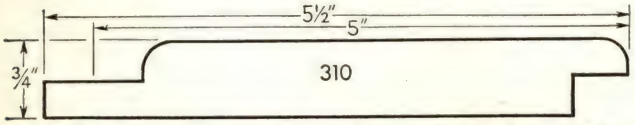
1"x4" Plain Shiplap. Other widths—6" Pat. 261; 8" Pat. 262; 10" Pat. 263; 12" Pat. 264.



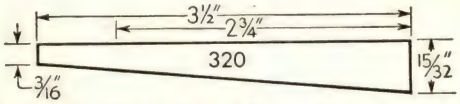
1"x6" Cove Rustic. Other widths—8" Pat. 271; 10" Pat. 272.



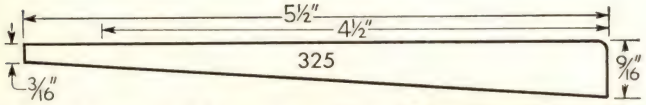
1"x4" V-Rustic. Other widths—6" Pat. 293; 8" Pat. 294; 10" Pat. 295; 12" Pat. 296; ⅝"x6" Pat. 290; ⅝"x8" Pat. 291.



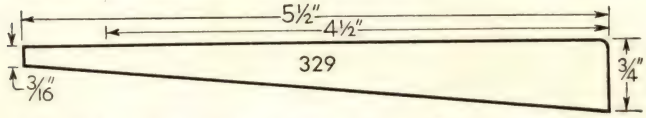
1"x6" Boston Pattern Rustic. Other widths— 8" Pat. 311; 10" Pat. 312; 12" Pat. 313.



½"x4" Plain Bevel Siding. Other widths—5" Pat. 321; 6" Pat. 322; 8" Pat. 323.

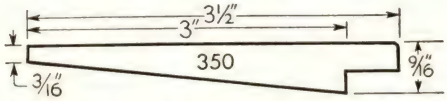


⅝"x6" Bungalow Siding. Other widths—8" Pat. 326; 10" Pat. 327.

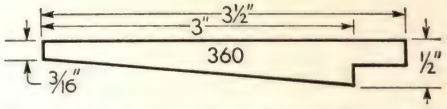


¾"x6" Bungalow Siding. Other widths—8" Pat. 330; 10" Pat. 331; 12" Pat. 332.

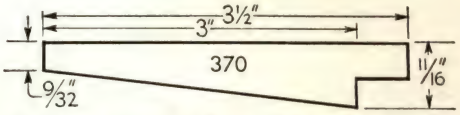
Note: Plain Bevel and Bungalow patterns are usually lapped ¾" on 4" widths; 1" on 6" widths; 1½" on 8" and wider.



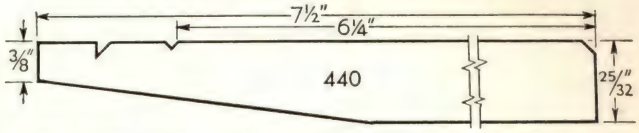
⅝"x4" Rabbeted Bevel Siding. Other widths—6" Pat. 352; 8" Pat. 353.



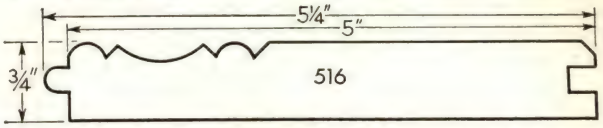
½"x4" Rabbeted Bevel Siding. Other widths—6" Pat. 362; 8" Pat. 363.



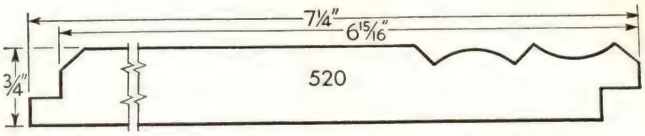
¾"x4" Rabbeted Bungalow Siding. Other widths—6" Pat. 371; 8" Pat. 372; 10" Pat. 373; 12" Pat. 374.



1"x8" Anzac siding. Other widths—10" Pat. 441; 12" Pat. 442.



1"x6" Paneling. Other widths—8" Pat. 517; 10" Pat. 518; 12" Pat. 519.



1"x8" Paneling. Other widths—10" Pat. 521; 12" Pat. 522.

detailed information

Technical information on redwood may be obtained by writing to the California Redwood Association. Architects and engineers who have continuous need for detailed information on redwood may obtain a copy of the Architect's Redwood File upon request. This file contains all of the data sheets referred to above, with the exception of the Pattern Book and the Standard Specifications for the Grades of Redwood Lumber. These two publications will also be sent upon request.

member sales offices

ARCATA REDWOOD COMPANY
P. O. Box 218, Arcata, California

EUREKA REDWOOD LUMBER COMPANY
P. O. Box 1002, Eureka, California

HAMMOND LUMBER COMPANY
417 Montgomery Street
San Francisco 6, California

HOLLOW TREE REDWOOD COMPANY
110 West Ocean Boulevard
Long Beach 2, California

HOLMES EUREKA LUMBER COMPANY
405 Montgomery Street
San Francisco 4, California

HULBERT & MUFFLY
P. O. Box 356
Cloverdale, California

M & M WOOD WORKING COMPANY
2301 N. Columbia Blvd.
Portland 17, Oregon

NORTHERN REDWOOD LUMBER COMPANY
Korbel, Humboldt County, California

THE PACIFIC COAST COMPANY
P. O. Box 611
Willits, California

THE PACIFIC LUMBER COMPANY
100 Bush Street
San Francisco 4, California

ROCKPORT REDWOOD COMPANY
818 Crocker Building
San Francisco 4, California

SIMPSON LOGGING COMPANY
405 Montgomery Street
San Francisco 4, California

UNION LUMBER COMPANY
620 Market Street
San Francisco 4, California

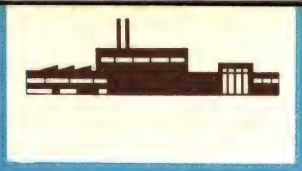
WARM SPRINGS REDWOOD COMPANY
P. O. Box 177
Willits, California

WILLITS REDWOOD PRODUCTS COMPANY
Hobbs-Wall Lumber Co., Sales Agent
405 Montgomery Street
San Francisco 4, California

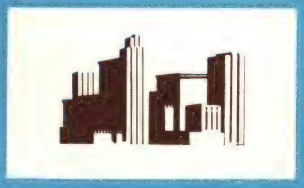
WOLF CREEK TIMBER COMPANY, INC.
P. O. Box 603
Willits, California

California Redwood Association
576 Sacramento Street • San Francisco 11, California

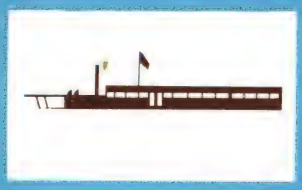
A.I.A. File No. 19-F







DFPA®
TESTED
QUALITY



fir plywood

Guide for ARCHITECTS, BUILDERS, and BUILDING CODE OFFICIALS

The "all-purpose" structural panel for every kind of building, fir plywood is also a basic, standard wood panel available everywhere. Fir plywood grades are described in U. S. Commercial Standard 45-55, a recorded voluntary standard of the trade. Plywood is grademarked to certify strict conformity with this standard and to serve as positive identification of quality in both glue-line integrity and appearance grade.

A.I.A. File No. 19-F

DOUGLAS FIR PLYWOOD ASSOCIATION
TACOMA 2, WASHINGTON, U.S.A.



CROSS-LAMINATION GIVES PLYWOOD **2-WAY** STRENGTH

Introduction

here is condensed basic information about fir plywood for specifiers and users. Additional data, including U. S. Commercial Standard 45-55, minimum FHA requirements, manuals on plywood concrete forms and plywood sheathing, and detailed finishing practices will be provided on request. Of particular interest to architects and engineers is the DFPA handbook "Technical Data on Plywood." Names and addresses of DFPA Field Representatives, who help specifiers and users obtain the best possible plywood performance in service, are given on Page 4.

plywood QUALITY is controlled by continuous inspection and research, and identified by registered grade-trademarks

®EXT-DFPA TESTED QUALITY

®INT-DFPA TESTED QUALITY

two basic types. DFPA-affiliated mills produce fir plywood in two basic types: **Exterior** and **Interior** (depending on the adhesive used to bond the plys).

Several panel grades, thicknesses and sizes are standard.

Exterior-type fir plywood is made with 100% waterproof glue for permanent exposure to weather, water and abnormal moisture conditions.

Interior-type fir plywood is made with glue that is not waterproof but is highly moisture-resistant and fortified with mold-inhibiting chemicals.

STANDARD STOCK SIZES AND GRADES OF EXTERIOR-TYPE AND INTERIOR-TYPE MOST COMMONLY AVAILABLE FROM DISTRIBUTORS

GRADE-TRADEMARKS®*	Face	Back	Width (Feet)	Length (Feet)	Thicknesses (Inches)
					¼ 5/16 ⅜ ½ ⅝ ¾ ⅞ 1
EXTERIOR-TYPE					
EXT-DFPA • A-A	A	A	4	8	• • • • • • •
EXT-DFPA • A-B	A	B	4	8	• • • • • • •
EXT-DFPA • PLYSHIELD	A	C	4	8	• • • • • • •
EXT-DFPA • UNDERLAYMENT	C**	C	4	8	• • • • •
EXT-DFPA • SHEATHING	C	C	4	8	• • • • •
EXT-DFPA • PLYFORM	B	B	4	8	• • •
INTERIOR-TYPE					
INTERIOR • A-A	A	A	3, 4	8	• • • • • •
INTERIOR • A-B	A	B	3, 4	8	• • • • • •
PLYPANEL	A	D	3, 4	8	• • • • • •
PLYBASE	C**	D	4	8	• • • • • •
PLYSCORD	C	D	4	8	• • • • • •
INTERIOR PLYFORM	B	B	4	8	• • •

*NOTE: These U.S. Pat. Off. registered grade-trademarks identify fir plywood grades inspected by DFPA. Sizes listed are those most commonly available from distributors. Other sizes are standard, to meet building and industrial requirements, but not normally stocked. See p. 4 for description of faces. **Repaired.

plywood SIDING

EXT-DFPA PLYSHIELD, with 100% waterproof glue, is the siding grade, either as flat-panel siding, with inset moldings, or as lap siding with deep or shallow shadow lines. For panel siding, ⅜" minimum thickness recommended (F.H.A. required if walls not sheathed). ¼" can be used. Use ½" or thicker for single wall construction. For lap siding, use ⅜" Plyshield on studs to 16" o.c.; ½" on 20" and ⅝" on 24" stud spacing. If laps are wider than 12", use shingle strips at all stud bearings with intermediate nail spacing no more than 8". Butt vertical joints over a shingle and center on a stud, unless wood or plywood sheathing is being used. Cover the outside corners, or butt against corner molding.

nail type and spacing. Use non-corrosive (hot-dipped galvanized or aluminum) nails; 6d box or casing for ⅜" and 8d for thicker. Nail siding to each stud along bottom edge. Space nails not over 4" along vertical joints. Nails must penetrate studs at least 1" or through wood or plywood sheathing.

building paper is not needed when Plyshield siding is applied over plywood sheathing. If specified, should be non-vapor barrier type.

medium density overlaid plywood siding provides an ideal paint base.

RECOMMENDED THICKNESS FOR PLYSCORD ROOF SHEATHING
(Plywood Continuous Over 2 or More Spans; Grain of Face Plys Across Rafters)

PLYWOOD THICKNESS	Max. Spacing of Supports, c. to c., in. 20 psf	30 psf	40 psf	Nail Size
5/16" rough	20 (1)	20	20	6d Com.
3/8" rough	24 (1)	24	24	6d Com.
1/2" rough (2)	32 (1)	32	30	6d Com.
5/8" rough (2)	42 (1)	42	39	8d Com.
3/4" (2)	48 (1)	47	42	8d Com.

(1) It is recommended that these spans shall not be exceeded for any load condition because of possible effect of concentrated loading.

(2) Provide blocking or other suitable edge support when span exceeds 28 inches for 1/2"; 32 inches for 5/8"; and 36 inches for 3/4".

(NOTE: For special cases involving continuous beams, plywood spans can be increased as noted under (1), above.

For deflection limited to 1/240 of span.

Plyscord SHEATHING

Plyscord is the unsanded sheathing and subflooring grade of fir plywood.

application. Wall sheathing: Speed construction by covering large, unbroken areas first. For extra stiffness, install with face grain across studs. No building paper is needed except behind brick veneer, stucco and asbestos shingles. Thicknesses: 5/16" for 16" stud spacing and ⅜" for 24" spacing. Use 6d common nails for 5/16", ⅜", and ½" Plyscord and 8d on ⅝" thickness. Space nails 6" at panel edges and 8" on intermediate bearings. **Roof sheathing:** Install plywood with face grain across rafters. Ventilate attics well. At exposed eaves, cornices, and rakes use starter strip of Exterior plywood, lumber or flashing to protect Plyscord edges. See table for recommended thicknesses. ¾" plywood on rafters spaced 48" o.c. produces exceptional economy and has been approved by FHA on field-office request. Special ring-shanked nails are recommended to apply

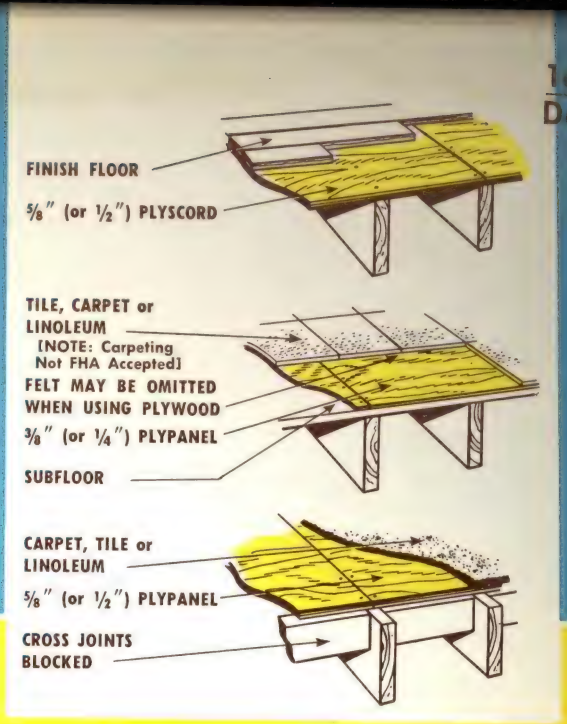
(Continued on next page)

© 1954 DOUGLAS FIR PLYWOOD ASSOCIATION

(Continued from previous page)

asbestos shingles over Plyscord. **Subfloors:** Lay Plyscord subflooring with face grain across joists for maximum stiffness. Usually, Plyscord is installed over joists 16″ o.c., but 24″ spacing is satisfactory with ½″ plywood when 25/32″ strip finish floor is used. Space nails 6″ at panel edges and 10″ on other bearings. Use 6d common nails for ½″ thickness; 8d for ⅝″. Set nails in green joists. **Underlayment:** ring-shanked or cement-coated nails are preferred. Space 6″ on edges; 8″ each way throughout panel. Specify **Plypanel** or **Plybase** as underlayment or to gain extra savings as combination subflooring and underlayment. If finish floor is to be resilient, set nails slightly to avert show-through when green joists shrink.

Write for a free Plyscord slide rule calculator and latest Plyscord Manual, and *Engineering News Record* reprint which provides design data for extreme lateral loads (as from hurricanes and earthquakes).



plywood PANELING

Plypanel, the many-purpose, "one side" material, is the interior paneling grade of fir plywood. Inexpensive fir plywood paneling is particularly popular in schools because it resists denting, cuts maintenance to a minimum, and contributes substantial structural strength. **application.** Install vertically or horizontally — latter provides extra rigidity. ⅜″ panels recommended over 16″ studs o.c. Backing (usually provided by firestop) recommended at horizontal and vertical joints. Fasten ⅜″ panels with 6d finish or casing nails, spaced 6″ o.c.; ¼″ panels (for economy) installed with 4d finish nails. Write for detailed finishing recommendations.

plywood CONCRETE FORMS

Exterior Plyform can be re-used until the wood itself is literally worn away. EXT-DFPA PLYFORM, branded in the panel edge, plus the diamond-bar trade-mark, identify Exterior Plyform. It is bonded with 100% waterproof adhesives.

Interior Plyform (with newly fortified, water-resistant adhesives) usually provides 12 to 15 re-uses when properly cared for. It is identified by diamond face-stamp and edge-sealed with distinctive green sealer.

application. Desired smoothness of finished wall affects form application. Height, rate of pour, and fluidity affect pressure and spacing of studs or joists. For thickness guide see accompanying table. Write DFPA for a free Plyform Manual and slide rule calculator.

Plyform Thickness	Stud Spacing	Deflection Permissible	Load
5/8″	12″	1/270 of Span	880 lbs./sq. ft.
5/8″	16″	1/270 of Span	375 lbs./sq. ft.
3/4″	12″	1/270 of Span	1,330 lbs./sq. ft.
3/4″	16″	1/270 of Span	560 lbs./sq. ft.
5/8″	12″	1/360 of Span	660 lbs./sq. ft.
3/4″	16″	1/360 of Span	420 lbs./sq. ft.

MINIMUM FHA REQUIREMENTS

In general, FHA requirements are the same as DFPA recommendations. For **wall sheathing,** FHA permits the omission of building paper for most siding materials. For **roof sheathing,** apply face grain across rafters. FHA requires nailing strips for wood shingles unless ½″ plywood is used. In **subflooring,** no blocking is required if finished floor is 25/32″ wood strip; blocking is required for non-structural finish flooring. For **underlayment,** ¼″ plywood is accepted. For **interior finish,** ¼″ accepted if studs are 16″ o.c. Stud spacing may be 24″ o.c. if ⅜″ plywood used. (See table for thicknesses and spacings accepted on various uses.)

THICKNESSES AND SPACINGS ACCEPTED BY FHA

APPLICATION	Min. Thickness (Inches)	Max. Stud, Rafter or Joist Spacing (Inches o.c.)	Roofing Material or Finish Flooring
SIDING (Applied without Sheathing)	3/8	16	
	1/2	20	
	5/8	24	
WALL SHEATHING	5/16	16	
	3/8	24	
ROOF SHEATHING	5/16	16	Wood and Asphalt Shingles
	3/8	24	
	1/2	16	
	1/2	20	Slate, Tile and Asbestos Cement
	5/8	24	
	3/8	16	
	1/2	20	Flat Roof (Slope 3/12 or Less)
	1/2	24	
SUBFLOORING	1/2*	24	25/32″ wood strip, laid across joists
	1/2*	20	25/32″ wood strip, laid parallel to joists
	1/2	20	25/32″ wood strip, laid across joists
	1/2*	16**	Less than 25/32″, wood or other finish
	5/8*	20**	Less than 25/32″, wood or other finish
	3/4*	24**	Less than 25/32″, wood or other finish
INTERIOR PANELING	1/4	16	
	1/4***	20	
	3/8	24	

*Installed with outer plies at right [illegible] to joists.
**25/32-inch, or less, wood [illegible] applied in either direction.
***Any long dimension or [illegible] bearing members.

FINISHING fundamentals that lower costs, improve surface quality

(1) A good primer coat is essential to a good finish (as on any raw wood). (2) Follow paint manufacturer's recommendations. (3) If both surfaces are exposed, apply equal coats to both surfaces. (4) No finish will mask a poorly prepared surface . . . The fact that plywood is uniformly sanded contributes to lower finishing costs and improved finish quality.

exterior finishing. The best paint for regular wood siding also is best for Exterior fir plywood. Top quality TLZ house paints perform well on plywood. Specify compatible prime and finish coats. High grade exterior aluminum house paint makes a fine primer and edge sealer on plywood, provides a first-class base for conventional house paints. It is important to seal all edges with a heavy application of high-grade exterior primer, aluminum paint or heavy lead and oil paint.

interior finishing. Light stain-glaze finishes subdue grain contrast, preserve the natural beauty of Plypanel walls.

For details on these and other basic recommendations for interior and exterior finishes, write to DFPA.



SPECIAL PRODUCTS for versatility, durability, and architectural effects

special panels include: Overlaid plywood, Plyron (hardboard faced plywood), brushed, striated or embossed plywood and Texture One-Eleven. Made with both high and medium density overlays, **overlaid plywood** provides unique properties for concrete forms, freezer lockers, cutting and sorting tables, store and restaurant counters, drain boards, vats, bins, etc. Used as siding or for signs, **medium density overlays** provide the ideal paint base. **Plyron** combines wearing qualities and toughness of tempered or treated hardboards with plywood's extra-strong, rigid backbone. It makes superior cabinet doors, exterior siding, multi-use concrete forms and snagfree table tops.

Brushed plywood under several brand names is produced by removing softer portions of the grain in face veneers to enhance the decorative surface grain. **Striated** plywood has a fine, regular texture cut into the surface by knives. **Embossed** plywood is made in a special surface pattern created by passing the panels between rollers.

Texture One-Eleven offers high style and low cost in one panel which meets the architectural trend to textured, vertical-grooved wood surfaces indoors and out.

other softwoods: Plywood from other western softwoods include cedar, redwood, Western white pine, spruce, West Coast hemlock and Noble and white firs. Both Exterior and Interior types are manufactured in accordance with U. S. Commercial Standard CS122-49, and may be identified by the registered industry trade-grademarks.

SPECIFICATIONS easily written for plywood

The 4′ x 8′ panel dimensions (75% of all plywood) are multiples of any practical working module in house construction. Panels edge-branded EXT-DFPA are for exterior use; INT-DFPA plywood is for interior use only. The veneers used in the various fir plywood grades follow: **A** symbolizes highest standard appearance quality veneer. May be of more than one piece, well joined and reasonably matched. Neat repair patches, shims, streaks and sapwood permitted but no open defects. A-faced panels are smooth and paintable. **B** veneer similar to "A" but permits circular plugs, edges of which may be slightly rough; knots up to 1″ if sound and tight, tight splits and slightly rough grain. Smooth and paintable. **C** permits knotholes up to 1″, small borer holes, splits $\frac{3}{16}$″ or less, tight knots to 1½″, various repair patches. All Exterior grades and Interior Plyform have "C" inner plys. **D** permits knotholes up to 2½″, pitchpockets, limited splits, various repair patches. Used only in Interior panels.

Douglas Fir Plywood Association
TACOMA 2, WASHINGTON, U. S. A.

D.F.P.A. FIELD REPRESENTATIVES COVER ALL MAJOR TRADING AREAS

ATLANTA TERRITORY
William T. Robison
2714 Plantation Drive
East Point, Georgia
Tel: Fairfax 5440
(Atlanta Exchange)

Delbert P. Schwab
2719 Plantation Drive
East Point, Georgia
Tel: Fairfax 6553
(Atlanta Exchange)

BOSTON TERRITORY
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P. O. Box 25
Kenmore Station
Boston 15, Massachusetts
Tel: Lafayette 3-4660

Thor J. Henricksen
4 Edwards Street
Belmont 78, Massachusetts
Tel: Belmont 5-6621
(Boston Exchange)

CHICAGO TERRITORY
John M. Hess
W. D. Page
Douglas Fir Plywood Association
848 Daily News Building
Chicago 6, Illinois
Tel: Randolph 6-2537

Vernon D. Haskell
10 Hudson Street
South Fort Mitchell, Kentucky
Tel: Dixie 5369
(Cincinnati Exchange)

George R. Godfrey
5119 Aldrich Avenue South
Minneapolis, Minnesota
Tel: Regent 9427

CLEVELAND TERRITORY
Darwin C. Boblet
210 East Summit Street
Kent, Ohio
Tel: Orchard 3-7311

DALLAS TERRITORY
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4130 Beaverbrook Lane
Dallas 9, Texas
Tel: Dixon 9582

Gerald R. Crossen
8107 Westchester
Dallas, Texas
Tel: Forest 8-5496

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Albert E. Powell
3211 Lettie Street
Ames, Iowa
Tel: 597

DETROIT TERRITORY
Ben T. Cardinal
1728 Charlton Street
Ann Arbor, Michigan
Tel: Normandy 2-6019

LOS ANGELES TERRITORY
Robert J. Weston
1329 North Ogden Drive
Los Angeles 46, California
Tel: Hollywood 2-3685

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R. Stuart Williamson
Don W. Lockridge
Douglas Fir Plywood Association
500 Fifth Avenue
New York 36, New York
Tel: Bryant 9-7076

ST. LOUIS TERRITORY
Charles E. Hamlin
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Kirkwood 22, Missouri
Tel: Yorktown 5-5803
(St. Louis Exchange)

TACOMA TERRITORY
Stanley A. Taylor
Bruce R. Jones
Len G. Schroeder
Douglas Fir Plywood Association
1119 A Street
Tacoma 2, Washington
Tel: Broadway 2283

WASHINGTON, D. C., TERRITORY
Paul G. Nystrom
Douglas Fir Plywood Association
1232 Shoreham Building
Washington 5, D. C.
Tel: Republic 7-0770

MEMPHIS TERRITORY
R. Paul Kay
1332 Marcia Road
Memphis, Tennessee
Tel: 34-9057

PHILADELPHIA TERRITORY
Albert S. Mowery
30 Golf View Road
Providence Village
Wallingford, Pennsylvania
Tel: Media 6-5686

SAN FRANCISCO TERRITORY
W. L. Griebeler
3444 Murdoch Court
Palo Alto, California
Tel: Davenport 2-2852

Earl R. Pennington
3314 Bryant Street
Palo Alto, California
Tel: Davenport 3-0620

Form No. S-55

EZ-WAY



FOLDING STAIRWAYS

Model 18
Model 22

SLIDING STAIRWAYS

Model 20

DISAPPEARING LADDERS

Model 15

safe, easy to use, economical
access to attic storage space

EZ-WAY Sales, Inc.
DIVISION OF MINNESOTA WOOD SPECIALTIES, INC.
St. Paul Park, Minnesota

AIA FILE NO. 14-D

EZ-WAY
folding stairways

The need for more space

High construction costs make it necessary to utilize every dollar's worth of space in the home. Small homes and basementless homes particularly need additional storage space. Eliminate cluttered main floor closet and living space by using the attic area—the most practical and economical place for additional living and storage space! EZ-Way Folding Stairways ensure safe and convenient attic storage for seasonal belongings. EZ-Way eliminates the need of expensive conventional attic stairways and saves valuable floor space. The modern solution for additional storage area—EZ-Way Folding Stairways!

The economical solution

The cost of installing an EZ-Way Stairway and materials to provide a storage area will be as little as 31¢ per square foot! Just a fraction of the $12 plus per square foot cost for the main floor area. This storage space, at a nominal cost, will be a popular selling feature to your home.

FEATURES

• Safe and smooth operation

Spring operated mechanism drops stairway gently and holds stairway firmly in position when not in use. Sections unfold and lock in position. Treads are dovetailed into stringers. Non-slip "Safty-walk" is applied to each tread. Spring mechanism aids folding and unfolding of two lower sections.

• Sturdy yet attractive

Stairway is manufactured from select vertical grain Douglas fir. Stairway is stained light brown color—except for bottom side of fir panel which can be finished to blend in with ceiling or woodwork. Sturdy hardware, neat in appearance, assures safe operation! Built to last for the life of your house!

• Shipped and installed as a unit

The EZ-Way Stairway is completely assembled including jamb and panel. Each unit carton-packed—your assurance of complete and undamaged delivery!

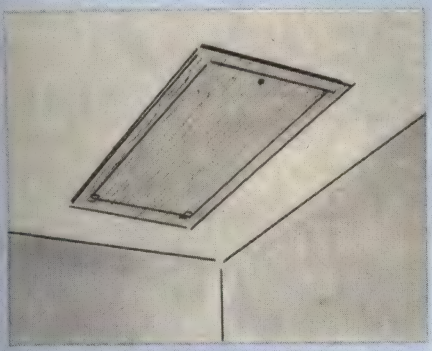
• FHA approved

EZ-Way Stairways meet FHA requirements and will increase the loan value of the home. Storage area made available by an EZ-Way Stairway can be included in the storage requirements for an FHA loan.

• No clearance in the attic

EZ-Way Stairways, Model No. 18 and No. 22, fold in sections and set within the jamb when the stairway is in a retracted position. No vertical or horizontal clearance is required in the attic, making installation possible where clearances are limited.

Operation

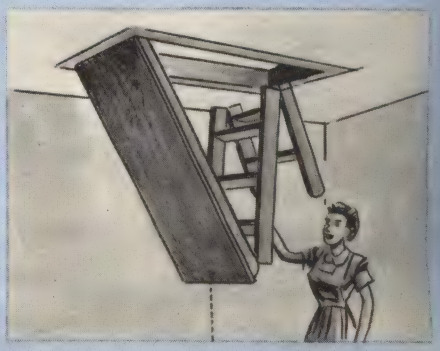


CLOSED—The panel is installed flush with the ceiling and blends harmoniously with ceiling and woodwork. Air-tight when closed, preventing drafts, dust or dirt from seeping through. Strong long-life springs hold this unit tightly to the ceiling opening!



TO OPEN—Simply pull down, unfold and EZ-Way is ready for immediate use!

TO CLOSE—Simply refold, push upward lightly and the counterbalance springs return this compact unit to its original position and hold it there!



PARTIALLY OPENED—EZ-Way sections are easily unfolded. Simple operation converts the attic into a definite functional part of the house.

folding stairways

Model No. 18

for openings 26″ x 54″, ceilings to 9′ high

Designed to provide convenient and safe access to the attic. Model No. 18 is competitively priced and is most satisfactory for attics in homes, in garages and lake cottages. Please note three different sizes of Model No. 18—Model No. 18-C-8 is used in the average home.

Installation

EZ-Way Stairways are completely assembled ready for installation. Make a rough opening 26″ x 54″ (this allows ½″ on each side of opening to shim square). Bolt hangers together and nail jamb to joist. Only twenty minutes required by two men. No cutting of stringers is necessary—simple adjustment on hangers will compensate for different ceiling heights within the range of each unit. Detailed instructions are included with each unit. Trim is not included.

MODEL NO.	CEILING HEIGHT	ROUGH OPENING	RISE	STEPS	STRINGERS	RUN	SHIPPING WEIGHT LBS.
18-C-7	7′ to 7′6″	26″ x 54″	9″	4″ x 18″	4″	5″	54
18-C-8	7′6″ to 8′4″	26″ x 54″	9″	4″ x 18″	4″	5″	57
18-C-9	8′4″ to 9′	26″ x 54″	9″	4″ x 18″	4″	5″	60

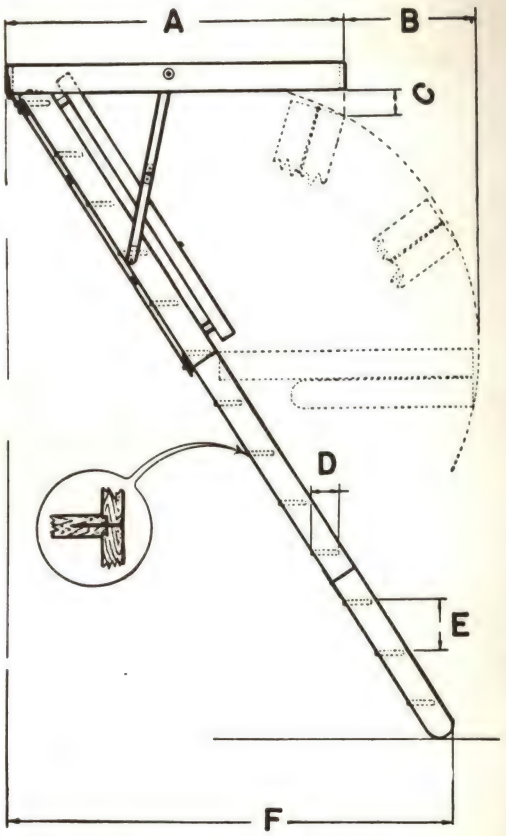
Model No. 22 for heavy duty

Rough opening 30″ x 62″

Recommended for commercial installations for garages or homes where the stairway will be used frequently to carry bulky loads to the attic. Similar in construction and design to Model No. 18.

MODEL NO.	CEILING HEIGHT	ROUGH OPENING	RISE	STEPS	STRINGERS	RUN	SHIPPING WEIGHT LBS.
22-C-7	7′ to 7′9″	30″ x 62″	9″	5″ x 22″	5″	6″	76
22-C-8	7′9″ to 8′6″	30″ x 62″	9″	5″ x 22″	5″	6″	80
22-C-9	8′6″ to 9′3″	30″ x 62″	9″	5″ x 22″	5″	6″	84
22-C-10	9′3″ to 10′	30″ x 62″	9″	5″ x 22″	5″	6″	87

Clearance diagram



Model	A	B	C	D	E	F
*18	53⅜″	13½″‡	15″	4″	9″	58″‡
†22	61⅜″	25″‡	5″	5″	9″	76″‡

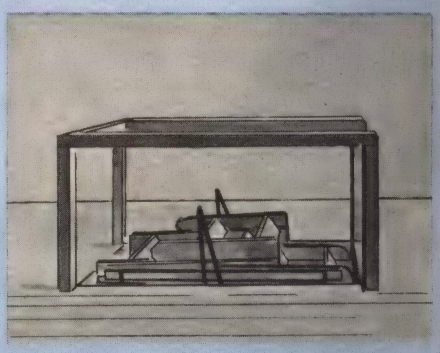
*8′ Ceiling
†for 10′ Ceiling
‡Figures will vary according to ceiling height



READY FOR USE—Solid and firm footing is assured when EZ-Way is unfolded. Sections lock into place—your assurance of a sturdy stairway to that extra storage area so badly needed.



IN USE—Sturdy construction and quality workmanship allows you to mount this stairway with ease and comfort. Hand rail at the side for your convenience. Built for the life of your house—The EZ-Way Folding Stairway—A home addition that costs so little for so much!



THE EZ-WAY FOLDING STAIRWAY does not require vertical or horizontal clearance beyond opening. Installation can be made where low pitch roof or partitions would prevent installation of other type units. EZ-Way Folding Stairways—the answer to the persistent demand for more storage and living space in the modern home.

EZ-WAY sliding stairway model No. 20

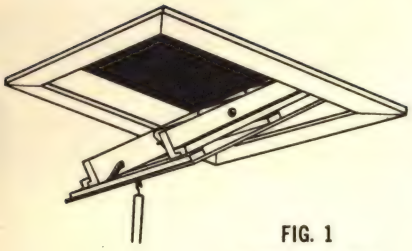


FIG. 1

Hooked-end dowel brings unit into easy reach.

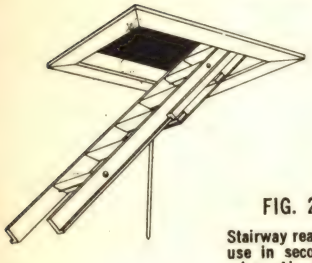


FIG. 2

Stairway ready for use in seconds—when through, simply lift to close.

For finished openings 24″ x 36″ maximum floor to floor height—9′

Features

Low priced for the budget-minded builder. This unit is self-counterbalanced, simply pull down to use—push up to close. Hooked end operating dowel furnished with unit. A metal catch prevents stairway from sliding down until released by operator. The unit can be easily removed from panel in seconds and serve as a general purpose ladder.

The panel can be cut down to 20″ x 35″. Other sizes available in large quantities for openings up to 36″ wide and 42″ in length.

Simple Installation—complete, packaged unit!

1. Bolt hand rail to stringers
2. Fit panel to opening
3. Screw hinges to finished jamb

Specifications
Model No. 20

Finished opening—24″ x 36″.
Steps—15″ wide, 4′ deep, 10″ rise
Stringers—1⅛″ x 3⅝″
Maximum floor to floor height—9′
Maximum vertical clearance in attic—4′6″
Clearance on attic floor—6′1″

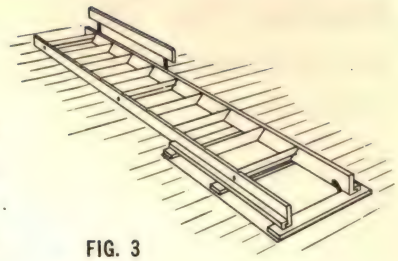
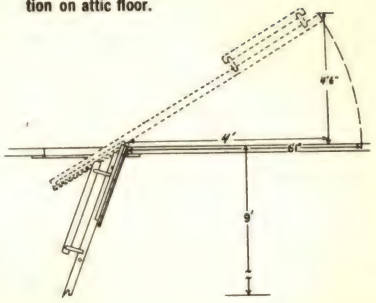


FIG. 3

Storage position of the Sliding Stairway unit—stairway lies in ready position on attic floor.



EZ-WAY disappearing ladder model No. 15



FIG. 4

Ladder is easily lowered by use of operating dowel.



FIG. 5

Ladder counterbalances itself for easy operation.

For opening 18″ wide or wider maximum floor to floor height—9′ 2″

This ladder costs only slightly more than a large stepladder. Model No. 15 was designed specifically for homes with small attic openings. No alterations are necessary, can be used in any opening 18″ wide or wider. Suggested minimum length —24″.

Operation

EZ-Way Folding Ladder is operated with a wooden dowel. A steel rod protrudes from the end of the dowel and fits into the lower tread of the ladder. The ladder is counterbalanced by its own weight, allowing a woman or child to operate it. The dowel is used to guide the ladder up and down; and also to open and close scuttle door.

Features—

- No alterations
- Simple installation
- Any size opening 18″ wide or wider
- Low price

Installation—

1. Screw wooden blocks into attic floor
2. Hinge scuttle door to swing just past vertical position as shown

Specifications

(a) Maximum floor to floor height—9′2″.
(b) Maximum vertical clearance in attic—4′7″.
(c) Clearance on attic floor—4′1½″.
If floor to floor height is less than 9′2″ the vertical clearance (see b) required in attic will be reduced. Also the floor clearance (see d) will be reduced.

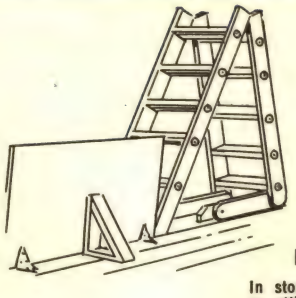
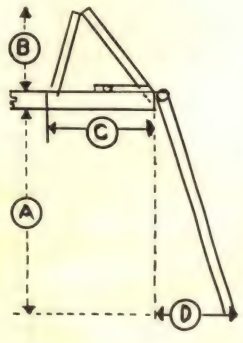


FIG. 6

In storage position on attic floor. Unit can be installed in a few minutes. Present scuttle door can be used without alteration.

FIG. 7

B Vertical	For Floor to Floor Height
4′7″	9′2″
4′7″	9′1″
4′6″	9′
4′6″	8′11″
4′5″	8′10″
4′5″	8′9″
4′4″	8′8″
4′3″	8′7″
4′2″	8′6″
4′2″	8′5″
4′1″	8′4″



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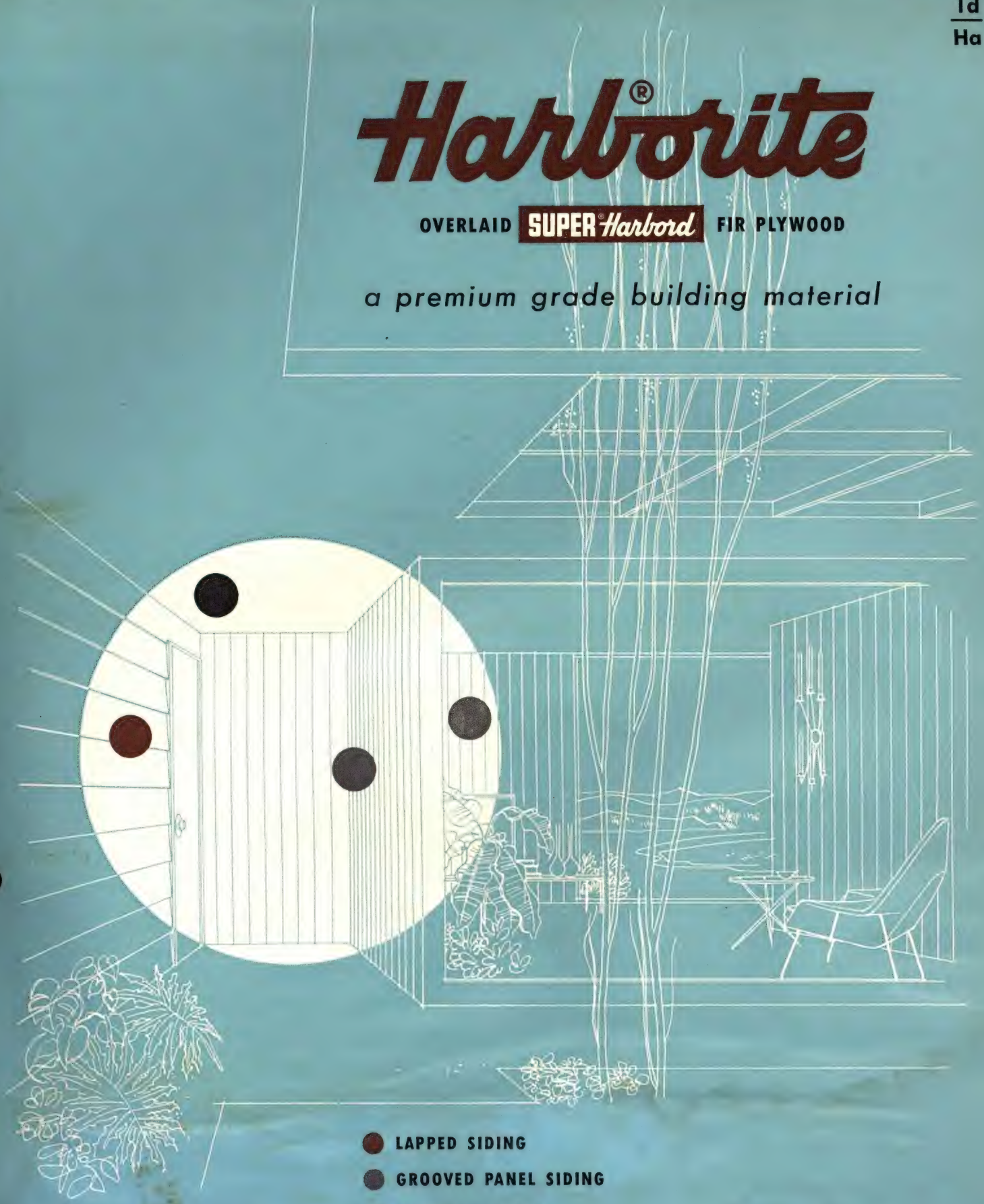
EZ-WAY SALES, Inc., Box 300, St. Paul Park, Minnesota

DIVISION OF MINNESOTA WOOD SPECIALTIES, INC., PHONE LASALLE 9761

Harborite®

OVERLAID SUPER® Harbord FIR PLYWOOD

a premium grade building material



- LAPPED SIDING
- GROOVED PANEL SIDING
- SOFFITS, GABLES
- GROOVED INTERIOR PANELING

MANUFACTURED ONLY BY HARBOR PLYWOOD CORPORATION, ABERDEEN, WASHINGTON

Harborite®

CHARACTERISTICS

Harborite is the trade name for overlaid SUPER-Harbord—the original boat hull plywood. Harborite is a premium grade construction material that weathers like glass, does away with paint checking, takes advantage of plywood's tremendous strength with light weight. Each panel is manufactured in accordance with U. S. Commercial Standard CS45, and exceeds U. S. Navy requirements for boat hull plywood. Each panel of Harborite is inspected by the Douglas Fir Plywood Association and bears the edge brand—EXT-DFPA.

TOUGH, GRAINLESS OVERLAID FACES

Medium density overlays are composed of Harbor's phenol type resin-impregnated fiber. They are permanently bonded to the SUPER-Harbord core with the same waterproof Harbor glue that prevents veneers from ever coming apart. Color is a rich reddish brown (illustrated); completely hides wood grain. Surface holds paint far better than wood, eliminates paint checking.

ALL HEARTWOOD VENEERS

Heartwood is the most durable, decay-resistant part of the tree. Only prime Douglas fir heartwood is used throughout the panel. Result—flawless panel with added life.

SOLID INNER PLYS

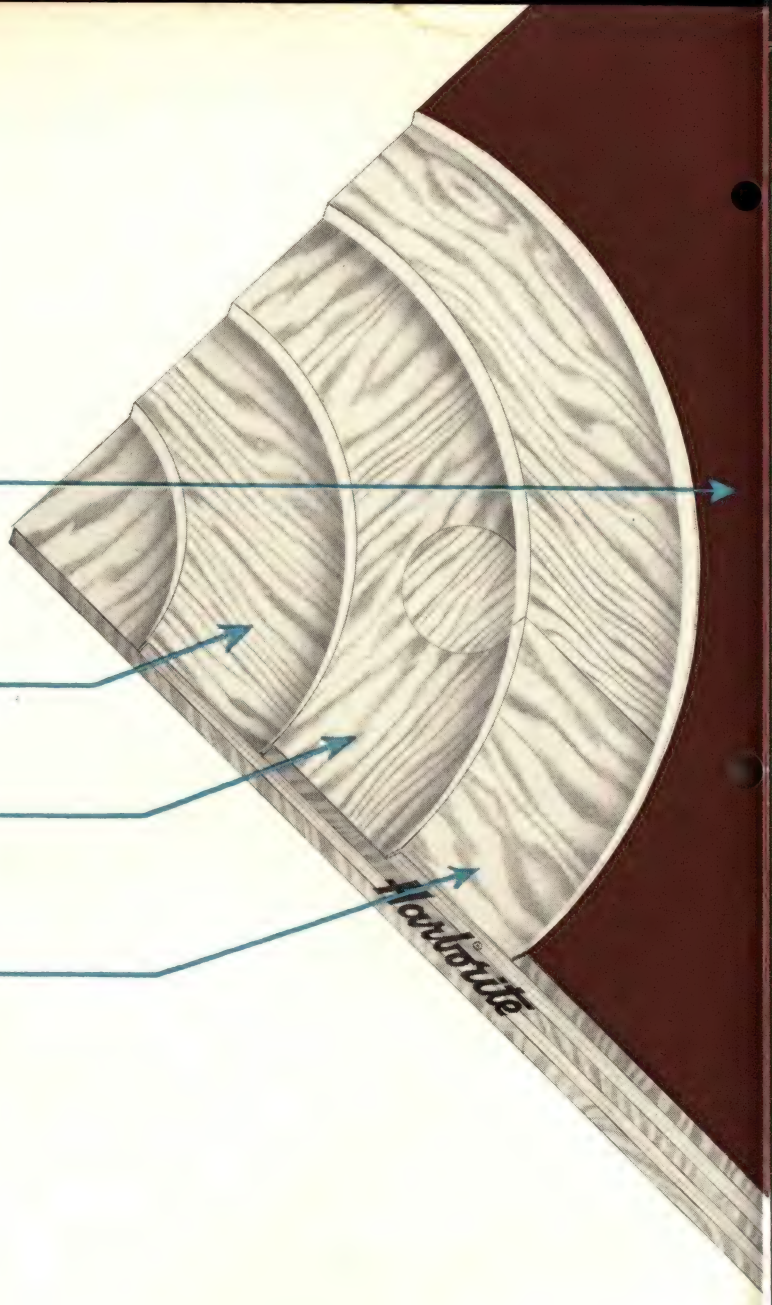
There are no "minimum" size knotholes or flaws in Harborite's core. *All* knotholes are removed and replaced with solid heartwood plugs in the core veneers. There is no possibility of surface punctures showing up later.

EDGE-JOINTED INNER PLYS

Repaired core veneers are machine-edged and carefully butted square together. Result—solid wood from front to back of panel. Every nail, every screw bites into solid, strong wood.

REHUMIDIFICATION

In the manufacture and drying of plywood veneers, natural wood moisture is inevitably reduced. Only Harbor, with an exclusive pressure process, restores natural wood moisture to the completed panel. This prevents Harborite from unevenly absorbing moisture on the job or in storage—the primary reason for warping in plywoods.



Harborite®

ADVANTAGES

WEATHERING

Tough overlaid surfaces in combination with careful manufacture and rehumidification give Harborite unmatched weathering qualities. Millions of square feet in use under the most severe conditions—PT boat hulls, tugboats, refrigerator cars, outdoor signs—provide conclusive proof of Harborite's weathering characteristics.

STRUCTURAL

Harborite takes advantage of all plywood's basic structural advantages—large size, 2-way strength, splitproofness, light weight, dimensional stability, building code acceptance—and adds its own exclusive advantages as described above.

STRUCTURAL ADVANTAGES OF OVERLAYS

Reports of tests conducted by the Housing and Home Finance Agency at the Forest Products Laboratory, U. S. Department of Agriculture, indicate that resin-impregnated overlays of the type used on Harborite improve bending strength, stiffness, abrasion resistance and dimensional stability of veneers. The tests further showed that these overlays greatly help to reduce the passage of water vapor through the panel.

FHA REQUIREMENTS

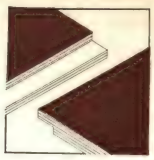
FHA requirements permit the use of Harborite for all finish parts of the house—lapped siding, panel siding, soffits, gable ends, interior paneling—provided minimum thickness requirements for each use are met. These are: lapped siding—3/8″; plain panel siding—3/8″; grooved panel siding—5/16″; when applied over plywood or lumber sheathing. When used without sheathing, over building paper, increase thickness 1/8″. For interior paneling, 5/16″ Harborite is recommended on studs 16″ o.c., although FHA allows 1/4″. Use 3/8″ on studs 24″ o.c.

WORKABILITY

Harborite is pleasant and clean to handle and work. Its fine, tight grain cuts sharp and clean. Solid cores eliminate repair time. Tough, smooth overlaid surface prevents splintering and snagging. Only ordinary woodworking tools are needed. Overlays prevent back splintering when sawing or drilling. Full 4′ x 8′ panels go up fast, reduce application time over conventional siding as much as 40 percent.

CUSTOM MANUFACTURING

Harborite can be ordered in special lengths and widths, special joint treatments and thicknesses to fill specific needs.

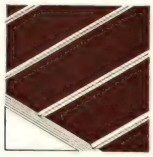


1/2" shiplap makes joining easy and accurate, provides a weathertight, dust-free seal on siding.



LAPPED SIDING

Harborite has been used as lapped siding for over fifteen years—in every type of climate. Precut siding is manufactured in standard lengths of 96½" with ½" shiplapped ends; in widths of 12", 16" and 24". 5/16" thickness does not have shiplapped ends. When painted, Harborite lapped siding gives a smooth, even exterior appearance, free of grainy blemishes. Special joint and edge treatments are available.



Grooves are 3/16" wide; 1/16" deep; can be ordered on 4", 5", 7", 10" or random centers.



GROOVED PANEL SIDING

Developed to fit the current trend towards vertical texture on home exteriors, grooved panels add interest, expensive looks to moderate priced homes. Big 4′ x 8′ panels are easy to handle, go up fast, save application time. Hard finish, smooth overlays hold paint far better than wood, *keep* a house new looking. One prime and one finish coat cover well under normal conditions.



SOFFITS, GABLES

Big Harborite panels make ideal soffit and gable covering, provide the same superior paint surface to match siding. Workability of Harborite makes it easy to cut to irregular shapes, easy to apply. Solid core construction assures nail holding. Consistently even appearance assures a better-built look in the finished home.



INTERIOR PANELING

Use grooved Harborite panels to add rich, warm texture in tune with modern decorative trends. Ideal in dens, playrooms, clubs, restaurants . . . wherever walls are apt to get hard wear. Natural earthy surface color contrasts with the open wood of the grooves, requiring only a protective coating of wax or clear varnish to maintain panel beauty.

Harborite®

SPECIFICATIONS

GROOVED PANEL SIDING

Exterior siding shall be Harborite Grooved Panels (thickness) faced on both sides with phenol type resin-impregnated fiber as manufactured by Harbor Plywood Corp., Aberdeen, Wash.

LAPPED SIDING

Exterior siding shall be Harborite Lapped Siding (thickness and width) faced on both sides (65/65) with phenol type resin-impregnated fiber, as manufactured by Harbor Plywood Corp., Aberdeen, Washington. Ends shall be shiplapped 1/2″ to allow full 96″ coverage except on 5/16″ thicknesses. Planks shall be lapped 1″ to 2″ at builder's discretion.

RECOMMENDED APPLICATION OF LAPPED SIDING

SHEATHED WALLS

LENGTH	WIDTH	THICKNESS		
		STUD SPACING		
		16″	20″	24″
96″	12″	5/16″	5/16″	5/16″
96-1/2″	16″	3/8″	3/8″	3/8″
96-1/2″	24″	3/8″	3/8″	1/2″

UNSHEATHED WALLS

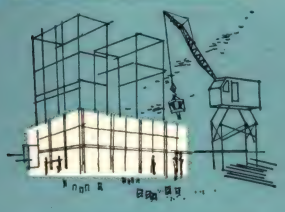
LENGTH	WIDTH	THICKNESS		
		STUD SPACING		
		16″	20″	24″
96-1/2″	12″	3/8″	1/2″	5/8″
96-1/2″	16″	3/8″	1/2″	5/8″
96-1/2″	24″	1/2″	5/8″	5/8″

RECOMMENDED APPLICATION OF GROOVED PANELS

SOFFITS, GABLES	SHEATHED WALLS	UNSHEATHED WALLS	INTERIOR WALLS
5/16″ over sheathing 7/16″ otherwise	5/16″ thick	7/16″ thick	5/16″ thick

Harborite®

OTHER USES



HEAVY CONSTRUCTION

Used as concrete forms, Harborite's durable, water-repellent overlaid surface gives low-cost-per-use with re-uses running as high as 30 or 40. Stripping is easy, finished surface is smooth and regular, ready for painting.



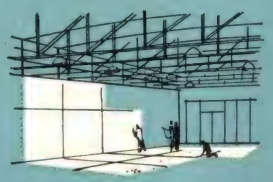
MARINE

Originally manufactured for marine use, Harborite has been widely used for outer and inner hulls, planking, bulkheads, framing, decks, superstructures—for any part of the boat subject to rough wear. Exceeds U. S. Navy standards, proved in PT boats, tugs, fishing and pleasure boats.



LIGHT CONSTRUCTION

A premium building material for siding, soffits, gable ends, paneling, decks, built-ins, ceilings, cabinets, table tops, doors, counter tops. Provides a superior paint surface that eliminates checking and grain raise. Especially good in kitchens, bathrooms, laundries.



INDUSTRIAL

Hard, tough surface resists abrasion, chemicals. Use it for freezer lockers, signs, refrigerator cars, snag-free work surfaces, partitions, tool bins, ducts, cutting tables, trucks and trailers, plating tanks.

Harborite®

IS MANUFACTURED ONLY BY

HARBOR PLYWOOD CORPORATION

ABERDEEN, WASHINGTON

SALES OFFICES AND WAREHOUSES:

ABERDEEN, WASHINGTON
Harbord Mercantile
P. O. Box 940

CHICAGO 8, ILLINOIS
1444 West Cermak Rd.

JACKSONVILLE, FLORIDA
2355 Dennis Street

ATLANTA, GEORGIA
1161 Ridge Ave., S.W.

CINCINNATI, OHIO
511 Baymiller Street

SEATTLE, WASHINGTON
34th & Fremont Streets

TAMPA, FLORIDA
802 North Rome Ave.

INDIANAPOLIS 7, INDIANA
1001 East New York Street

LOS ANGELES 12, CALIFORNIA
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SAN FRANCISCO, CALIFORNIA
3095 Third Street

5 MALARKEY REDWOOD PLYWOODS

with all the color and glamor of the California Redwoods

M&M



M and M WOOD WORKING COMPANY
2301 NORTH COLUMBIA BOULEVARD
PORTLAND 17, OREGON

5 CHOICE REDWOOD PLYWOODS



MALARKEY FIGURED GRAIN



MALARKEY PLYWEAVE



MALARKEY RUSTICWOOD

PROPERTIES OF MALARKEY REDWOOD PLYWOODS

Malarkey redwood panels radiate all the rich tones, texture and cheeriness so favored in redwood. And they embody a durability found in no other wood. Centuries-old forests of giant California redwoods are outstanding examples of this natural longevity. Redwood beams hewed some 175 years ago still stand solid and sound in old California missions. Now Malarkey redwood plywoods make available the many desirable qualities of redwood in a stronger, easier-to-handle, more versatile form.

DURABILITY

Malarkey redwood plywoods are unaffected by weather, insects, or decay. Waterproof phenolic resin glues enable these redwood panels to withstand the most severe moisture conditions. Natural chemical compounds, found in no other wood, armor redwood against attacks by wood-destroying insects and decay fungi.

STRENGTH

Laminated cross-ply construction of Malarkey redwood plywood adds amazing new strength to this choice wood. For with each ply bonded at right angles to adjacent plies, with-the-grain strength is evenly distributed across both the length and width of each panel.

LIGHT WEIGHT

Malarkey redwood plywood is 20% lighter than fir plywood. This weight reduction is especially valuable for commercial and industrial remanufacturing, where important freight and handling savings may be made.

LOW SHRINKAGE

Redwood has the least volumetric shrinkage of any commercial American wood. U.S. Department of Agriculture tests with redwood indicate a shrinkage of only two per cent in a radial direction (across the vertical grain) and 3.3 per cent in a tangential direction (across the flat grain), in drying from a green, unseasoned condition to a 6- to 7- per cent moisture content. This relative stability, plus the added control of cross-ply lamination, make Malarkey redwood plywoods particularly suitable for all applications subjected to alternate wet and dry conditions.

LOW HEAT CONDUCTIVITY

Redwood's low specific density makes it an excellent insulating material. U.S. Forest Products Laboratory tests show a value of redwood for this property of 0.76 BTUs per hour per square foot, with a temperature gradient of 1°F. per inch of thickness. For dwellings, refrigerated cars and cold-storage plants, greenhouses and many other areas of use, this low thermal conductivity inherent with Malarkey redwood plywoods is obviously important.



MALARKEY RIFT GRAIN
(natural and planked)



MALARKEY SHADOWOOD
(natural and planked)

Malarkey Shadowood and Rift Grain Redwood Plywoods Are Available in These Two Attractive Face Patterns

Natural faces refer to Malarkey redwood panels which are *not* planked.

Planked faces are available in *rift grain* and *Shadowood* redwood panels only. The unusual planked pattern is simulated by small vee grooves, running the length of each panel every 5, 11, 7, 9, 10, and 6 inches. Consequently, every second groove falls 16 inches on center . . . to help the builder quickly and easily locate wall studding. Nails are virtually hidden in the grooves, when driven with a normal deep set. The edges of every panel are beveled slightly, so that where the panels join, another groove is formed. And thus every joint becomes part of the planked pattern.

WORKABILITY

Redwood *plywood* overcomes the limitations of lumber in nail-holding strength. Because of its cross-ply construction, redwood plywood will not split. It holds nails securely, as close as ⅜ of an inch from the edge. It can be readily glued, and worked with ordinary hand or power tools.

GOOD FINISHING PROPERTIES

Malarkey redwood plywood takes a variety of finishes well. It can be painted, stained, varnished, waxed, lacquered or bleached to fit any decorative plan. It takes paint better and holds it better than many other softwoods.

BENDING

The adaptability of Malarkey redwood plywoods to curved surfaces adds another quality that makes it wonderful for modern buildings, displays and fixtures. A continuous rounded backing, such as bandsaw framing, contributes to a better job and reduces the risk of rupturing.

Panel thickness	Approximate minimum radius when bending across surface grain	Approximate minimum radius when bending parallel to surface grain
¼″	15 inches	24 inches
⅜″	36 inches	54 inches
½″	6 feet	8 feet
⅝″	8 feet	10 feet
¾″	10 feet	12 feet

SPECIFICATIONS

ONE TYPE OF PLYWOOD FOR ALL USES

All Malarkey redwood plywoods are bonded with completely waterproof phenolic resin glue. You can use this *one type* of redwood plywood for *all* types of jobs—wet or dry, indoors or out—with never a problem of delamination.

CORE CONSTRUCTION

Inner plies are either redwood or fir, at mill option. Panels of 100% redwood heartwood are available upon special order.

How to Specify	Grade	Face	Back	Glue	Inner Ply Specie	Width[1]	Length[1]	Thickness[1]	No. Plies	Approx. Wt. Per M. Ft.
Malarkey FIGURED GRAIN Redwood Plywood	A-A	A	A	phenolic resin (water proof)	redwood or fir at mill option[2]	48″	96″	¼″	3	600 lbs.
	A-B	A	B					⅜″	3	850 lbs.
	A-C	A	C					½″	5	1175 lbs.
								⅝″	5	1425 lbs.
								¾″	5	1900 lbs.
Malarkey RIFT GRAIN Redwood Plywood	A-A	A	A	″	″	″	″	¼″	3	600 lbs.
	A-2	A	2					⅜″	3	850 lbs.
	A-3	A	3					½″	5	1175 lbs.
	A-C	A	C Rotary					⅝″	5	1425 lbs.
								¾″	7	1900 lbs.
Malarkey Redwood PLYWEAVE	A-C	Special	C	″	″	48″	96″	Same as above		
Malarkey Redwood SHADOWOOD	Special	Special	D	″	″	″	″	5/16″	5	1425 lbs.
Malarkey Redwood RUSTICWOOD	Special	Special	D	″	″	″	″	⅝″	5	1425 lbs.
Malarkey Redwood SHEATHING	CD	C	D	″	″	″	″	5/16″	3	725 lbs.
								⅜″	3	850 lbs.
								½″	5	1175 lbs.
								⅝″	5	1425 lbs.

NOTE: [1]Available in other sizes and thicknesses on special order.
[2]100% redwood *heartwood* available on special quotation.

Malarkey Redwood Plywood

GRADE DEFINITIONS

Shadowood and Plyweave panels:

"*Special*" *grade* face veneers contain *no* patches, and only small, inconspicuous shims. In addition, Shadowood face veneers are carefully selected for their pleasing grain patterns.

Figured grain and sheathing panels:

GRADE A—Grade A shall be of one or more pieces of smoothly-cut veneer, reasonably matched for color. Tight burls and pin knots (characteristic of redwood), mineral streaks and patches shall be admitted. Knots other than pin knots, worm holes and sapwood shall not be admitted.

GRADE B—Grade B shall present a solid surface, free from open defects. In addition to characteristics admitted in grade A veneer, neatly made circular plugs, as well as synthetic plugs that present solid, level surfaces shall be admitted. Also admittable shall be sapwood, knots up to one inch if both sound and tight, tight splits, slightly rough but not torn grain, and other minor sanding and patching defects.

GRADE C—Grade C may contain knotholes not larger than one inch in their least diameter, open pitch pockets not wider than one inch, splits not wider than $\frac{3}{16}$ inch (if they taper to a point), worm or borer holes not more than $\frac{5}{8}$ inch wide or $1\frac{1}{2}$ inches long, knots (if tight and not more than $1\frac{1}{4}$ inches in least dimension), plugs, patches, shims, sanding defects, and other characteristics in number and size that will not impair the serviceability of the panel.

GRADE D—Grade D shall contain no knot-holes greater than $2\frac{1}{2}$ inches in maximum dimension, no pitch pockets more than 2 inches wide by 4 inches long (or equivalent area if of lesser width), no splits wider than $\frac{1}{4}$ inch. Splits $\frac{1}{4}$ inch wide at the widest point may be one-fourth panel length. Those not more than $\frac{1}{4}$ inch wide at the widest point may be one-half panel length. Those splits not more than $\frac{3}{16}$ inch wide may be full panel length, but *all* splits shall taper to a point at one end. And number of plugs, patches, shims, worm or borer holes, sanding defects, and other characteristics are permitted provided they do not seriously impair the strength or serviceability of the panel.

SHEATHING GRADE—All Malarkey redwood sheathing is produced as C-D paneling, in compliance with the specifications outlined above for these two grades.

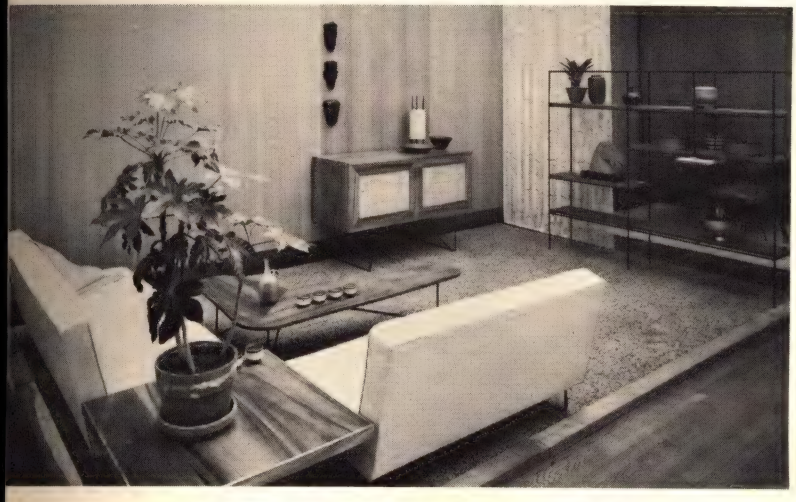
Rift grain panels:

GRADE A—Grade A shall be of one or more pieces of smoothly cut veneer, reasonably matched for color. Tight burls and pin knots (characteristic of redwood) and shims shall be admitted. Knots other than pin knots, worm holes, sapwood, mineral streaks and patches (except shims) not permitted.

GRADE "2"—Not matched for color or grain. Natural discoloration, stains, mineral streaks, sapwood, and patches shall be admitted. Sound tight knots to $\frac{3}{4}$ inches, sound tight burls to $1\frac{1}{2}$ inches, and knotholes to $\frac{3}{8}$ inch shall also be admitted. Patched or filled worm holes and minor sand-through on ends or edges shall not be considered defects.

GRADE "3"—Reject, and may contain any amount of brashwood, shake, compression failures, dote and loose or rough cutting. Open knotholes shall be limited to $1\frac{1}{2}$ inch diameter. Splits or open joints and sand-through shall be admitted.

Malarkey REDWOOD Plywoods . . . *for beauty and durability*



Rich background paneling for store windows and settings



Exterior siding

MALARKEY

M and M WOOD WORKING COMPANY

Home Office:
2301 N. COLUMBIA BLVD., PORTLAND 17, OREGON

For information on Malarkey Plyweave and Shadowood plywoods, see other Sweet's Files, numbered $\frac{4b}{Ma}$ and $\frac{1d}{Ma}$. Or write to the M and M representative nearest you:

New York 17, New York
2042 Grand Central
Terminal Building

Chicago 26, Illinois
1791 Howard Street
Room 508

Memphis, Tennessee
627 Sterick Building

Denver 6, Colorado
Post Office Box 7024

San Mateo, California
23 Second Avenue

A. I. A. No. 23-I

1d
Ma



MALARKEY

PLYWEAVE

REDWOOD AND FIR PLYWOOD
WITH EMBOSSED WOVEN TEXTURE



for walls, ceilings,
siding, cabinets, displays

M and M WOOD WORKING COMPANY
PORTLAND 17, OREGON

A. I. A. 23-I

PLYWEAVE MALARKEY'S EXCLUSIVE

PLYWOOD WITH THE EMBOSSED WOVEN TEXTURE

Use Malarkey Plyweave indoors and out—with either redwood or fir faces.

- *All* Redwood Plyweave is bonded with completely waterproof phenolic resin glue.
- Fir Plyweave is available with *either* waterproof exterior (at slight extra cost) or moisture resistant glue bonds.
- For greatest endurance, all exterior paneling should be edge-sealed and back-primed prior to installation.



MALARKEY FIR PLYWEAVE

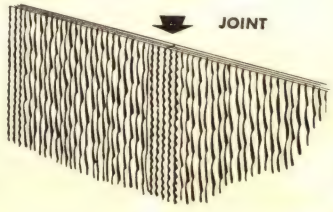


MALARKEY REDWOOD PLYWEAVE

Plyweave features . . .

UNUSUAL DRAMATIC APPEARANCE. Plyweave is a specialty member of the famous Malarkey plywood family. Its unusual woven texture is embossed under heat and pressure right into the plywood surface. This permanent pattern cannot fade, rub off, or otherwise become obscured—and may be finished in many intriguing fashions. Plyweave panels are extra tough, too. Wood fibres are tightly compressed by the embossing process, to harden and seal the panel surfaces.

PLYWEAVE SPEEDS BUILDING AND REMODELING. Large 4x8 foot panels are quickly applied. A slightly more distinct beading reoccurs every eight inches across each panel, to serve as an accurate stud-nailing guide. And simple butt joints are hidden in this beaded pattern. When driven with a normal deep set, finishing nails require no filling. Nails virtually disappear in the beaded Plyweave pattern.



Like all other famous Malarkey plywood products, Plyweave provides the remarkable strength of cross-ply lamination . . . the building speed of large panels . . . and the unmatched beauty of genuine wood.



SCIENTIFIC TESTS PROVE . . .

1. *Flexural strength* of fir Plyweave falls within the average range of values for ordinary fir plywood (at 5% moisture content).

2. *Impact strength* also lies within the general range of values for ¼-inch fir plywood (the dimension tested).

3. *Weathering* tests, which created accelerated weathering equivalent to seven months' outdoor exposure, indicated the following characteristics:

A. Neither sunlight nor moisture adversely affect the Plyweave pattern. For in this process the Plyweave pattern is permanently embossed into the wood. This unusual wood texture can't fade or wash away.

B. Plyweave panels with natural tones (unfinished and varnished) very effectively mask any surface checking, because of the textured surface and varying light and dark tone.

C. Surface checking is more visible on painted Plyweave surfaces, but the embossed design tends to reduce its prominence.

PRODUCT CHARACTERISTICS

FACES: *Redwood:* Pattern applied to selected rift grain redwood panels with patch-free faces. Inconspicuous shims permitted. *Fir:* Selected figured grain Douglas fir veneers. May contain inconspicuous patches and narrow shims.

BACKS: Grade C veneers.

CORE: Selected solid fir or redwood core.



Scuff-resistant Plyweave is ideal for schools, public buildings

PLYWEAVE SPECIFICATIONS

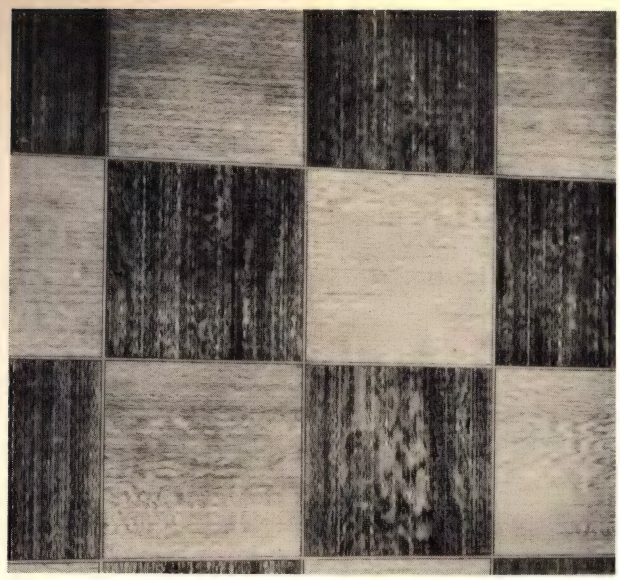
Interior Use
"Malarkey Redwood Plyweave," or "Malarkey Fir Plyweave"

Exterior Use
"Malarkey Redwood Plyweave," or "Malarkey Fir Plyweave EXTERIOR"

	FIR PLYWEAVE					REDWOOD PLYWEAVE				
Face	Selected: figured grain fir veneers.					Selected: **patch-free rift grain redwood veneers.**				
Back	C					C				
Width	48 inches					48 inches				
Length	96 inches					96 inches				
Thicknesses	¼"	⅜"	½"	⅝"	¾"	¼"	⅜"	½"	⅝"	¾"
Plies	3	3	5	5	5	3	3	5	5	7
Wt. per M ft. (approximate)	790 lbs.	1125 lbs.	1525 lbs.	1825 lbs.	2225 lbs.	600 lbs.	850 lbs.	1175 lbs.	1425 lbs.	1900 lbs.
Inner ply specie	Fir					Redwood or fir at factory option[2]				
Glue bond	Moisture resistant (for interior use) or phenolic resin[1] (waterproof exterior)					Phenolic resin (waterproof exterior)				

[1] At slight extra cost

[2] 100% redwood heartwood panels available at slight extra cost.



These matched Plyweave squares demonstrate just one of the many unusual techniques possible. Alternately grained, alternately stained fir blocks create an attractive checkerboard design which can be proportioned to fit any room.



Plyweave finds wide use for commercial interiors. This hotel coffee shop entrance is framed with fir Plyweave to offer an interesting, inviting contrast with the walnut wall paneling.

A MALARKEY PLYWEAVE FINISH *is really just the beginning for tasteful decoration*

Two colors. The base color is brushed or sprayed over resin sealer or primer coat. Then a contrasting hue or harmonizing tone is applied with a paint roller or brushed on, to be wiped off high surface points with a coarse cloth. No preliminary sanding is required because of Plyweave's hard, smooth finish. Countless pleasing effects are possible with this technique.

Single color. The light-and-shadow texture of Plyweave gives richness and depth to any single color, too.

Natural finishes. The native tones of genuine redwood and fir may be preserved simply by applying one or two coats of a quality wallpaper lacquer.

Stain finishes. Regular liquid stains may be used, although the subdued natural wood grain in Plyweave tends to reduce their value. A more satisfactory agent is the wax stain, the tone intensity of which may be accurately controlled by the amount of wax retained in the Plyweave surface depressions. Clear liquid wax over any type of stained or bleached Plyweave will add to its beauty and durability.

MALARKEY

M and M WOOD WORKING COMPANY

Home office:

2301 North Columbia Boulevard
PORTLAND 17, OREGON

Chicago 26, Illinois
1791 Howard St.,
Room 508

Memphis, Tennessee
627 Sterick
Building

San Mateo, California
23 Second Ave.

New York 17, New York
2042 Grand Central
Terminal Building

Denver 6, Colorado
P.O. Box 7024

For information on Malarkey Redwood and Shadowood plywoods see other SWEET'S FILES numbered $\frac{4b}{Ma}$ and $\frac{1d}{Ma}$. Or write our representative nearest you:

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1d
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Malarkey

SHADOWOOD

REDWOOD AND FIR PLYWOOD

WITH A HARD, DECORATIVE, THIRD-DIMENSION SURFACE





for walls, ceilings, siding,

cabinets, fixtures, displays

M and M WOOD WORKING COMPANY

PORTLAND 17, OREGON

A. I. A. No. 23-I

SHADOWOOD A MALARKEY DELUXE PLYWOOD

● Shadowood has a three-dimensional, accentuated grain pattern. Soft summer growth is brushed from panel faces, leaving the swirling hard winter growth in bas relief. ● Malarkey *Redwood* Shadowood is bonded inseparably with waterproof phenolic resin glue. This permanent bond can be used inside or out, under any moisture conditions. ● *Fir* Shadowood, normally bonded with *moisture-resistant* glue, is also available with phenolic resin bonding for exterior use, at slight extra cost. Specify "Malarkey Fir Shadowood, EXTERIOR."

Malarkey SHADOWOOD is available in either Redwood or Douglas Fir... bonded for both interior and exterior applications.



MALARKEY FIR SHADOWOOD



MALARKEY REDWOOD SHADOWOOD (Natural)



MALARKEY REDWOOD SHADOWOOD (Planked)

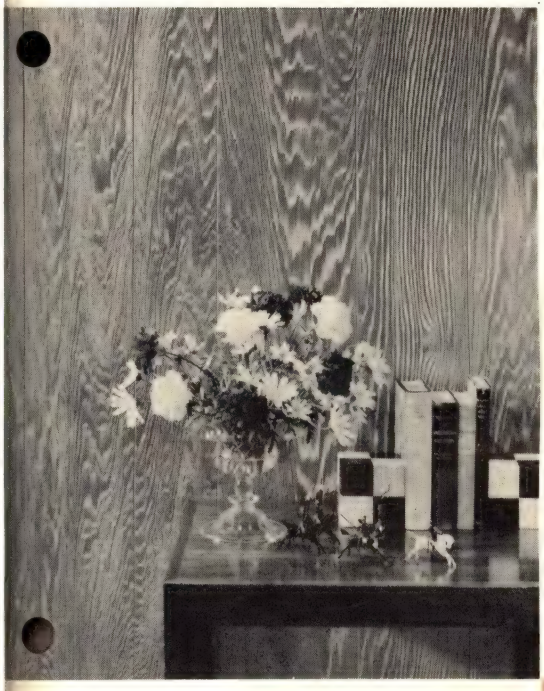
Shadowood features...

DECORATIVE APPEARANCE. **Redwood Shadowood** has a russet color found nowhere else in nature; unique chemical composition gives it its soft, warm tones. The free-flowing grain in both redwood and fir Shadowood provides a pleasing background for modern or traditional living. **Fir Shadowood** reflects a rose-tinted honey tone that may be beautifully preserved with a clear finish, or can be stained or painted with ease.

TWO SHADOWOOD PATTERNS AVAILABLE. *Natural:* Natural Shadowood panels present a full, unbroken surface of the Shadowood pattern. Both Redwood and Fir are available in *natural.*

Planked: A planked Shadowood effect is achieved by vee-grooves every 5, 11, 7, 9, 10, and 6 inches. The edges of the *planked* panels are beveled so that another vee-groove is formed when panels are butt joined. It's no trick at all to quickly apply a distinctive *planked* Shadowood wall. The planked pattern is available only in *redwood* Shadowood.

STRENGTH. The plywood construction gives extra rigidity to Shadowood panels. With each ply at right angles to the adjacent plies, its strength is approximately uniform both lengthwise and crosswise. Pound for pound, plywood is stronger than steel.



LIGHTWEIGHT. Plywood allows great savings in weight in home or commercial construction. And Malarkey *Redwood* Shadowood is 20% *lighter* than fir plywood.

DURABILITY. Malarkey *Redwood* Shadowood is highly resistant to deterioration from weathering, and from insects and decay. Its plastic waterproof bond is not affected by extremes of temperature or continual moisture.

LOW SHRINKAGE. Redwood has the least volumetric shrinkage of any commercial American wood.

Specifications

Interior Use
"Malarkey Redwood Shadowood," or "Malarkey Fir Shadowood"

Exterior Use
"Malarkey Redwood Shadowood," or "Malarkey Fir Shadowood EXTERIOR"

	Malarkey REDWOOD Shadowood	Malarkey DOUGLAS FIR Shadowood
Grade	Special	Special
Face	Special[1]	Special[1]
Back	D	D
Glue	Phenolic Resin (waterproof)	Moisture resistant[3]
Inner Ply Species	Redwood or Fir at mill option[4]	Douglas Fir
Face Pattern	Natural or Planked	Natural only
Width[2]	48 inches	48 inches
Length[2]	96 inches	96 inches
Thickness[2]	$\frac{5}{16}$ inches	$\frac{5}{16}$ inches
Number of Plys	3	3
Weight Per M Ft. (approximate)	600 pounds	790 pounds

Notes:
1. Shadowood faces are specially selected for pleasing grain patterns and absence of flaws. Only small, inconspicuous shim patches are permitted in these quality faces.
2. Other thicknesses and sizes on special quotation.
3. Waterproof phenolic resin resin bond available at slight extra cost.
4. 100% redwood *heartwood* panels available at slight extra cost.



HOMES

New Interior Walls. One method of installing Shadowood panels on walls is to first nail an underlay of $\frac{5}{16}$″ Malarkey fir or redwood sheathing crosswise to the studs, followed by a finish layer of Malarkey Shadowood.

A row of 2 x 4 fire blocking should be placed at a 4′ height between the studs for fire protection.

Board and Batten Siding. This vertical siding is easily erected with 4 x 8 foot Shadowood panels, over which are nailed batten strips at any desired interval. Malarkey *redwood* Shadowood is equally well suited for this type of outdoor use, as it is for all interior applications. When using *fir* Shadowood for exterior installations, be sure to specify "Malarkey Fir Shadowood, EXTERIOR"—with the completely waterproof glue bond. And for most satisfactory, long-lasting results, all siding panels must first be thoroughly edge-sealed and back-primed before installation.

Ceilings. For ceilings it is suggested that 1″ x 3″ furring strips be applied to every other joist beginning at the center of the room and working both ways. Furring strips should also run crossways to the joists every 24 inches. In fastening panels start at center of room. In this manner a uniform panel effect will be achieved throughout the entire ceiling area. Use $\frac{5}{16}$″ Shadowood plywood nailed to this furring.

Boxed-in Beams. Shadowood plywood can be used to give ordinary beams the textured Shadowood pattern. Just miter Shadowood corners. and nail to the beams.

COMMERCIAL

Outside Uses. An attractive design can be achieved entirely with Shadowood. Durable, waterproof bonding makes Malarkey Shadowood panels ideal for outside use and opens up a whole new field of architectural design. Construction time is cut sharply and finishing is easy and fast.

Use $\frac{5}{16}$″ Malarkey Redwood Shadowood or Fir Shadowood (waterproof grade) over sheathing for outside construction or where moisture is prevalent. Edge seal and back prime the panels before installing to insure long life and to reduce maintenance costs.

Fixtures. For modern fixtures or for rustic showcases, Malarkey Shadowood is excellent. It has an exceptionally hard surface, is easy to finish and to keep looking new.

Displays. This unusual wood makes an excellent complimentary background for models and furnishings. Adds a touch of texture and a feeling of quality to displays. Very easy to work and finish.



FINISHING EASY TO DO

INSIDE: Striking finishing effects can be achieved with the new Malarkey Shadowood. Here are some suggested methods of creating beautiful walls or furniture with Shadowood.

Clear Natural Finishes. Use either clear wax, lacquer, varnish or resin sealer.

Solid Color Finishes. Use spray or brushing lacquers or oil base paints.

Two-tone Finishes. Spray or brush your base color, let dry. Apply wax stain of accent color. Then rub off, leaving desired amount of color on the softwood.

OUTSIDE: Accelerated weathering tests made with Malarkey Shadowood panels have proved these three finishes long-lasting and resistant to all weather conditions:

1. Two coats of Olympic Seafoam Stain, wiped after brushing, or
2. Two coats of Cabot's Sequoia Red, or
3. One coat of Behr Rawhide Stain and Sealer, followed with two coats of Behr clear redwood finish.

M and M WOOD WORKING COMPANY

Home Office:
2301 N. COLUMBIA BOULEVARD
PORTLAND 17, OREGON

For information on Malarkey Redwood and Plyweave plywoods see other SWEET'S FILES numbered $\frac{4b}{Ma}$ and $\frac{1d}{Ma}$. Or write our representative nearest you:

New York 17, N. Y.
2042 Grand Central Terminal Station

Chicago 26, Illinois
1791 Howard St., Room 508

Memphis, Tennessee
627 Sterick Building

Denver 6, Colorado
P.O. Box 7024

San Mateo, California
23 Second Ave.

Id
Pr

PRECISION
FOLDING STAIRWAY
OFFERS
7
EXCLUSIVE FEATURES

PRECISION PARTS CORPORATION
400 North First Street • • • Nashville 7, Tennessee

1

NEW! HYDRAULIC SAFETY CHECKS

Prevents slamming of stairway on opening and closing; shuts stairway door tightly and eases stairway into open or shut position quietly and safely.

2

LIFE-TIME ROLLER BEARINGS

Factory-packed, life-time roller bearings increase ease of operation of the Precision folding stairway to a point that makes operation practically effortless.

3

ACTUATED BY COUNTERWEIGHTS

The Precision stairway is actuated by cleverly engineered counterweights which close the stairway tight every time. No springs to weaken with constant use, no adjustments are necessary.

4

INSULATED DOOR PANEL

The door panel is insulated to keep out summer heat from the room below and to save fuel in winter by preventing loss of heat to the attic.

5

RUGGED AND STRONG

All parts of the Precision folding stairway are secured by bolts and screws. The superior design assures long life plus dependable service under constant use.

6

FULL WIDTH SAFETY TREADS

Composition safety treads on each step protect step and assure a *safe* footing. Safety treads also add to appearance of stairway.

7

FITS ANY CEILING HEIGHT

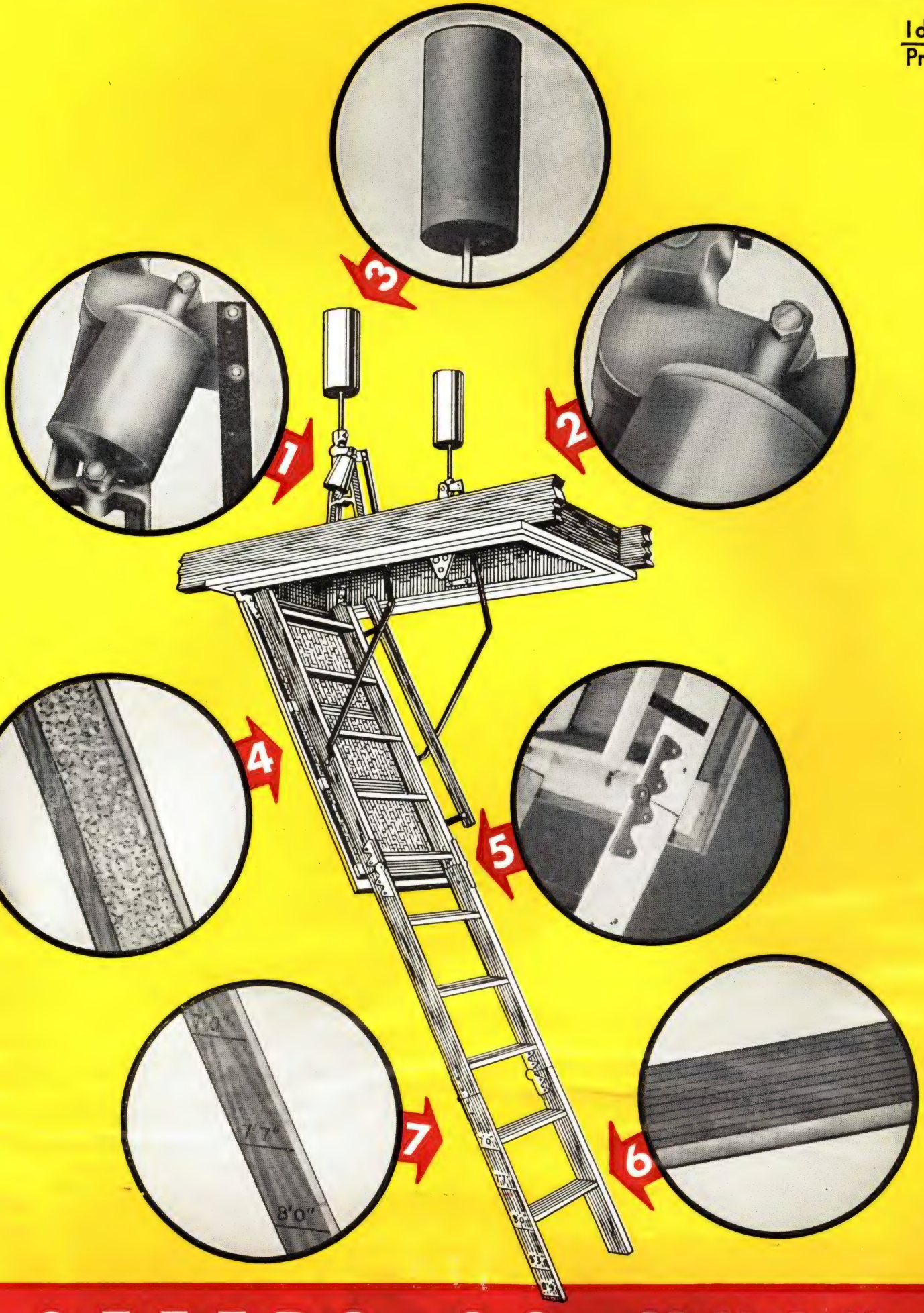
Graduations on runners facilitate cutting off for different ceiling heights, insure a saving on both installation time and cost.

HIGHEST QUALITY MATERIALS
Constructed of select kiln dried lumber throughout. Brackets, rocker arms and hinges cast in our own foundry. Insulated panel supplied at no extra cost. All parts numbered and interchangeable.

REQUIRES NO ATTIC SPACE
Does not take up *valuable storage space.* Full height above attic floor is only 36 inches.

SHIPPED IN ONE PACKAGE
Packed complete in one heavy carton, assembled and ready for installation. Shipping weight 115 pounds.

NO OTHER STAIRWA



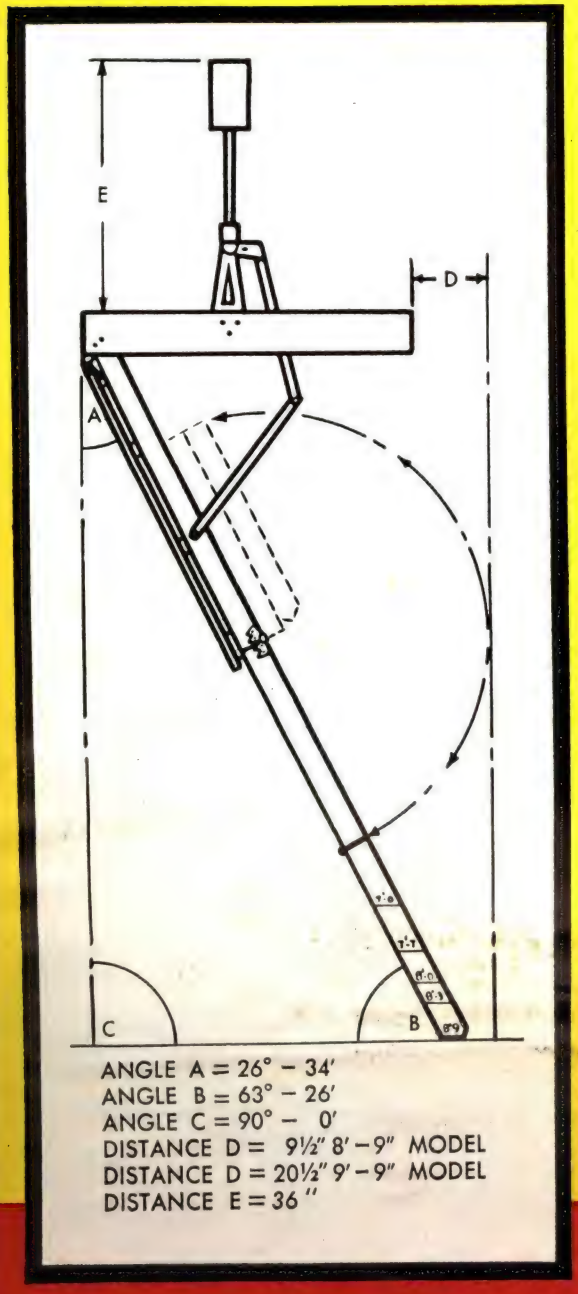
Y OFFERS SO MUCH

PRECISION folding stairways

Offer 7 exclusive features

PLUS

5 YEAR *written* **GUARANTEE** furnished with each unit



ANGLE A = 26° – 34′
ANGLE B = 63° – 26′
ANGLE C = 90° – 0′
DISTANCE D = 9½″ 8′–9″ MODEL
DISTANCE D = 20½″ 9′–9″ MODEL
DISTANCE E = 36″

THE MOST ECONOMICAL WAY OF PROVIDING ADEQUATE STORAGE SPACE!

You can add hundreds of feet of valuable attic storage space with the economical, maintenance-free Precision folding stairway. Hundreds of thousands of Precision stairways are now in use in homes in the United States, Canada and Alaska. Precision stairways are sold by more than 12,000 dealers.

2 STANDARD SIZES 8′ 9″ and 9′ 9″.

For ceiling heights 7′ 0″ to 8′ 9″ use 8′ 9″. For ceiling heights 8′ 9″ to 9′ 9″ use 9′ 9″. Figure from finished floor to finished ceiling. Not Floor to Floor. Frame is made to fit 26″ by 54″ opening in ceiling, also 30″ by 54″ at extra cost.

Accepted by* FHA *everywhere!

STOCKED BY LEADING JOBBERS THROUGHOUT U.S.A. AND CANADA

Manufactured by

PRECISION PARTS CORPORATION

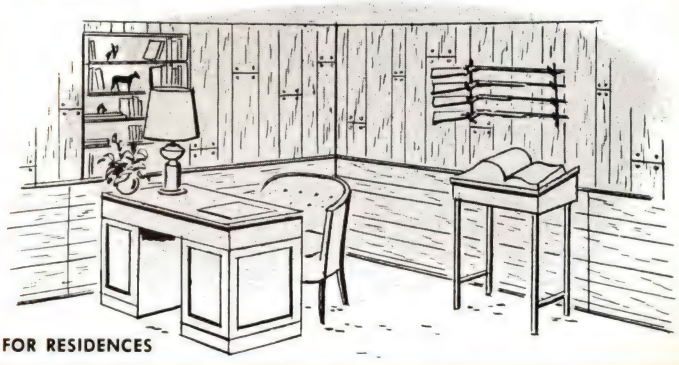
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FOR INSTITUTIONS



FOR COMMERCIAL ESTABLISHMENTS



FOR RESIDENCES

ARCHITECTURAL

plywoods

- **Stock hardwoods in a variety of species**
- **Matched-per-blueprint specifications**
- **Factory-finished Craftwall**
- **Textured paneling**
- **Trim and finishes**

by Roddiscraft

Quality for over 60 years

RODDIS PLYWOOD CORPORATION

MARSHFIELD, WISCONSIN

Those who know specify

● Roddiscraft hardwood plywood stock sizes include widths of 24″, 30″, 36″ and 48″ and lengths of 36″, 48″, 60″, 72″, 84″ and 96″. Stock thicknesses include ⅛″, 3/16″, ¼″, ⅜″, ½″ and ¾″. All thicknesses are made in veneer core construction. ¾″ is made in both veneer core and lumber core.

VENEER CORE PLYWOOD

All of the plies in Roddiscraft veneer core plywood are composed of veneers, none of which is more than 3/16″ in thickness. Roddiscraft plywood that is ¼″ thick or less contains three plies of veneers, ⅜″ and ½″ veneer core plywood usually contain five plies, and ¾″ and over may contain five, seven, nine or an even greater number of plies.

Balanced construction is always used, except when the plywood is manufactured for curved surfaces. Consequently, in 3-ply plywood the face and back are of equal thickness and, if not of the same specie of wood, they are at least woods of similar density.

In 5-ply construction, the crossbandings are of the same specie and thickness. Also, multiple construction may contain bandings of different thicknesses and species, but if so, those on one side of the center will always duplicate those on the other side.

LUMBER CORE PLYWOOD

The center of Roddiscraft lumber core plywood is composed of wood strips that are edge-glued together to form a single slab the size of the panel. The narrow individual strips of lumber in the core have little susceptibility to distortion. This type of construction balances each individual strip and makes the whole assembly very stable.

Roddiscraft lumber core is graded 1-A when all the strips are of full length, eliminating any possibility of open end joints within the core. If panels are going to be cut apart and used with exposed or shaped edges, 1-A core should always be specified. When the body of the core is composed of random length strips butt-joined together, with full-length strips on the sides only, the core is No. 1 grade. When the entire core is composed of random length pieces butt-joined together, the grade is No. 2. This latter grade is mostly used for stock panel construction.

Standard type lumber core plywood is manufactured ¾″ thick and in 5-ply construction, usually with 1/20″ crossbandings and standard thickness faces and backs. Five-ply lumber core plywood is made in any thickness from ½″ to 2″ or 3″ on special orders.

Roddiscraft hardwood plywood is manufactured by the hot-press method using highly water resistant adhesives.

VENEER TERMS

In rotary cutting, the log is mounted on center and is mounted off center when half-round or back cut. The cut is slightly across the annular rings when cut half-round or back-cut. Rotary veneers are generally cut from 1/28″ to ⅛″ thick, although rotary cutting up to ¼″ is possible and veneers as thin as 1/100″ can be produced from certain woods.

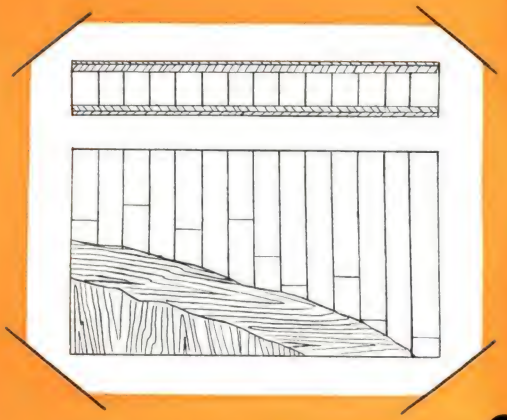
Flat sliced veneer is cut from the half log, mounted with the heart side flat against the guide plate, and the slicing is done parallel to a line through the center of the log. Quarter sliced veneer is cut from the quarter log mounted on the guide plate so the growth rings of the log strike the knife at or near right angles, producing a series of straight stripes. Sliced veneers are generally cut 1/28″ thick, but can be cut from 1/100″ to 1/16″ and in a few woods as thick as ⅛″.

MATCHED-PER-BLUEPRINT

When specified, Roddiscraft hardwood plywood, used to panel interiors, is matched-per-blueprint and numbered in rotation for a



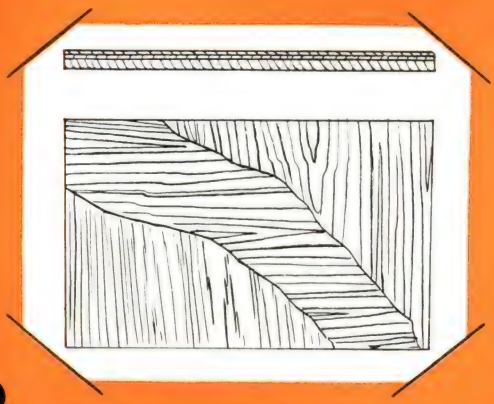
In Roddiscraft veneer core plywood all of the plies are composed of veneers. Drawing shows seven plies of veneer in ¾″ plywood.



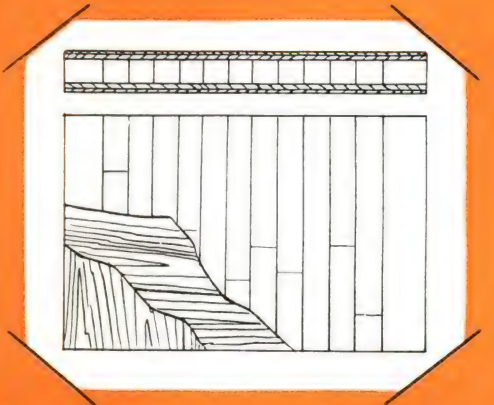
Lumber core plywood is composed of lumber strips edge-glued together. Cut-a-way view shows ¾″, 5-ply construction, with #2 core.



Butt-jointed lumber banded panel (exposed crossbanding type) in same wood as face veneer. This construction is supplied when specified for cabinet and cupboard doors.



This 1/8" waterproof plywood panel can be bent cold to a radius as small as 3". Cross-section shows standard thickness face, 1/10" Basswood back and 1/32" Basswood center.



Illustrated is Roddiscraft standard 5-ply construction cupboard doors. This special lumber core plywood is ¾" thick, 1½" full-length edge strips, hardwood crossbandings and standard thickness faces.



Pictured is ¾" counterfront construction. Core is made of carefully selected full-length, kiln-dried lumber strips glued into a solid slab.

more pleasing effect. This is highly specialized work at Roddis. Customers and architects can select veneers from actual flitch samples prior to placing an order. To save time the following information is required:

1. Approximate footage required for the job—in each wood, if more than one specie is used.

2. Range of lengths required and the approximate number of pieces in each length.

SEQUENCE MATCHING

Sequence matching, wherein the plywood is flitch-matched and numbered in sequence in sets, is confined to stock size panels of plain sliced Walnut in ¾" lumber core construction.

Sets of sequence-matched Walnut panels are steel strapped and numbered in rotation on one long edge of the panels. The last number in the set is followed by the symbol, XX.

WATERPROOF CONSTRUCTION

Waterproof plywood, used in exterior locations or under moist conditions differs from ordinary commercial plywood in that phenolic resin waterproof glue is used as the bonding agent instead of the ordinary water-resistant urea resin, and splicing of inner plies is done with glue rather than paper tape. For boat construction, marine grade plywood is produced. This differs from commercial grade waterproof plywood in that the inner plies are made to stricter specification.

BENDING PANELS

Roddis Plywood Corporation produces a 1/8" panel in stock sizes and stock woods in a special construction which permits bending cold to a radius of not less than three inches.

By dampening panels, a tighter radius may be formed. This special construction is made with a standard thickness face, a 1/10" Basswood back and a 1/32" Basswood center. The entire assembly is bonded with waterproof Tego film adhesive. Bending construction is offered in 1/8" thickness only.

CUPBOARD DOOR STOCK

Another specialty plywood made at Roddis is cupboard door stock. The construction is 5-ply, standard thickness Natural Birch faces and 1/20" hardwood crossbandings. Side edges are full-length clear Pine or Aspen. The panels are made in a wide variety of stock widths and lengths—widths break every two inches from 12" through 26" and lengths break every twelve inches from 48" through 96".

The 1½" clear side edges permit trimming to widths to fit openings too wide for the next narrower stock size.

COUNTERFRONTS

Roddiscraft counterfront face veneers are specially chosen from our wide selection to give the matched appearance that makes these plywood counterfronts unequalled for beauty.

Counterfronts are 5-ply construction with the lumber core made of carefully selected kiln-dried, full-length lumber strips edge-glued under heat and pressure into a solid slab. This construction makes a beautiful but durable unit designed to stand up to the treatment expected in stores, bars and other public places.

BANDING

Cut-to-size plywood for cabinet doors and other applications, with one or more edges banded is available from Roddiscraft. Banding can be the same specie lumber as the face veneers providing that the specie chosen is available as lumber. Kinds of banding include (1) exposed crossbanding, butt-joint type (2) concealed crossbanding, mitered-corner type.

Roddiscraft Plywood is produced .



Birch, because of its beauty, strength and even texture, as well as its moderate cost, is one of the most popular of all hardwoods. Veneers are usually rotary-cut, but may be sliced, either flat-cut or on the quarter. Rotary-cut veneers from the sapwood and heartwood are often selected for uniformity of color, being white or red, respectively, but the major portion of all Birch veneer is selected for quality but unselected for uniformity of color. Natural Birch is sold in far greater volume than all other types of Birch combined. Red or White Birch costs about 10% more than Natural Birch.

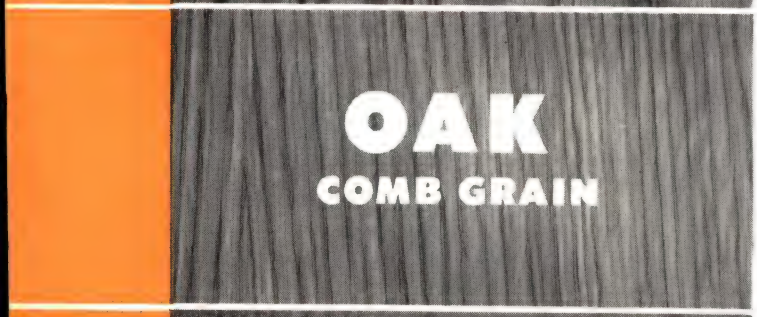


Selected white veneers from the Sugar Maple, usually rotary-cut, furnish the faces for the Maple plywoods used in furniture, fixtures and interiors. The wood is heavy, hard and strong, with uniform close-grained texture. It is ideal for locations where resistance to abrasion or indentation is required. Cost is about the same as that of Red or White Birch. Natural Maple costs a little less than Natural Birch, because of the presence of stain in most cuttings.

Birdseye Maple is in demand for furniture and certain interior uses and costs about 75% more than Natural Birch.

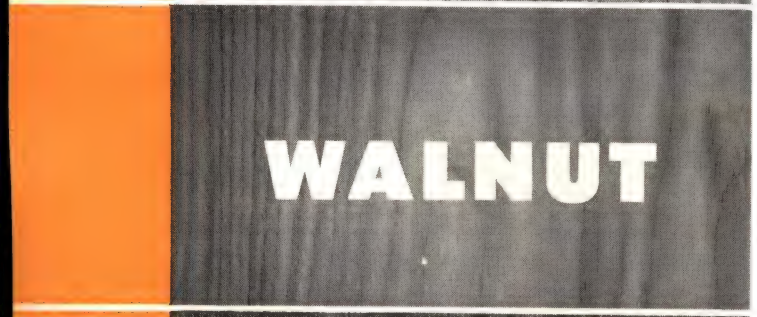


Of the 60 or more native Oak species only about 15 are of commercial importance. These grow chiefly in the eastern half of the United States and are divided into two groups—Red Oak and White Oak. Both can be rotary and half-round rotary cut, the latter method being used to a large extent for producing Red Oak veneers. Most White Oak (and much Red Oak, too) is sliced, either flat-cut, rift-sliced or quarter-sliced.



Costs of the various types of Oak as compared to Natural Birch are as follows: Rotary, Half-round or Plain-sliced Red—about 10% more; Plain-sliced White—about 20% more; Quarter-sliced, Rift or Comb Grain Red—about 30% more; Quarter-sliced, Rift or Comb Grain White—about 40% more.

Oak grain is considered one of the most beautiful found in any hardwood, and many exceptionally fine finishes have been developed to enhance its effect.



American Black Walnut is conceded to be our finest domestic cabinet wood. Veneers are cut by the rotary, half-round rotary, flat-sliced and quarter-sliced methods, the latter two being the most popular. Flat-cut or Plain-sliced Walnut costs about 30% more than Natural Birch. Quarter-sliced Walnut is an additional 20% to 25% higher.

Special Walnut flitches containing uncommon figure may cost a great deal more than is indicated above. Choice veneers are also cut from the stump, crotch and burls.



Two varieties of true Mahogany are used in commercial quantities. They are African Mahogany, accounting for most of the commercial quantities sold, and Tropical American Mahogany, commonly called Honduras Mahogany.

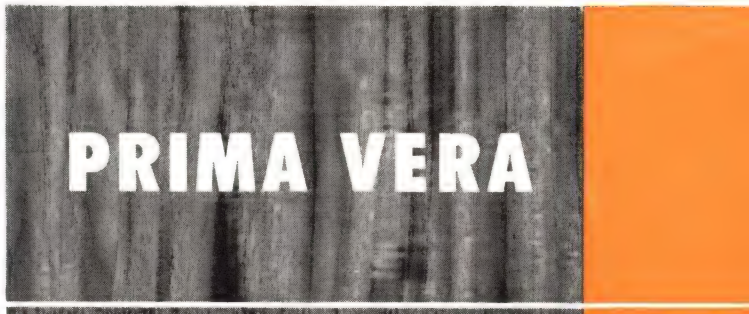
African Mahogany is usually quarter-sliced. Cost is about 15% above that of Natural Birch.

Honduras Mahogany is usually flat-cut and costs a little more than African Mahogany.

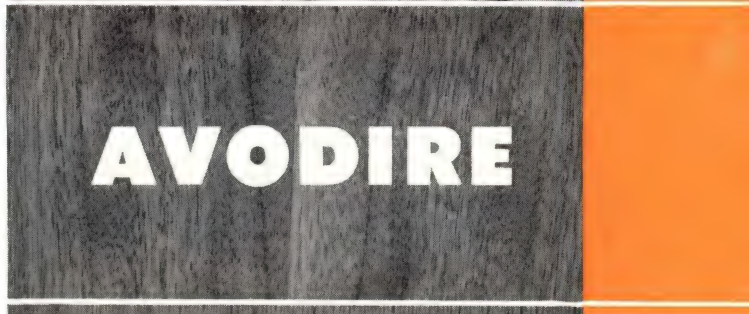
. . . in all available woods

Prima Vera, a straight-grained yellowish white to light yellowish brown wood from Central America, is known variously as Palo Blanco, Blanco and White Mahogany. It is not a true Mahogany. Veneers are usually quarter-sliced and are available with medium or good figure. The former costs about 50% more, and the latter about 70% more than Natural Birch.

As a decorative wood, Prima Vera is used widely in commercial interiors where an abundance of light is an important requirement. The wood is hard and close-grained, with excellent finishing and wearing qualities.

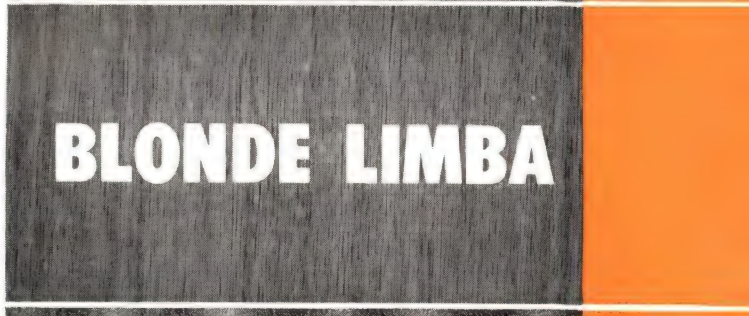


Another of the popular blonde woods, Avodire logs are imported from the French Ivory Coast and the Gold Coast of Africa. The color varies from dull paper white to a light golden cream. The wood is strongly figured and of fine texture. Veneers are quarter-sliced and are available with both medium and good figure. Cost is considerably less than that of Prima Vera, being about 25% above Natural Birch for medium figure Avodire and about 45% above Natural Birch for good figure. The wood finishes well. It is more open-grained and not quite as hard as Prima Vera.



Blonde Limba is another of the light-colored woods to gain popularity in recent years. Veneers are quarter-sliced and are ash-blonde in color with light tan stripes. The wood is open-textured and straight-grained and will take a fine finish. Blonde Limba is softer than Prima Vera.

Cost is moderate when compared to most other decorative woods, being only about 20% more than Natural Birch. Because the veneers do not display a flashy figure, they lend themselves to modern residential interiors as well as to commercial interiors and fixtures.



Chen Chen, one of several of the blonde woods, is imported from Africa. Quarter-sliced veneers are white to yellowish gray and display a good stripe similar to Mahogany. Cost is moderate for so beautiful a wood, being about 15% above Natural Birch. The wood is softer than Prima Vera and finishes well. Because of its uniform figure it is a good choice, along with Blonde Limba, for residential interiors. In addition, many commercial installations have been made with Chen Chen, and the demand is growing.



American White Ash is found from New Brunswick to Florida and west as far as Minnesota and Texas. The wood is tough, hard, and white. In addition to its use for veneers in the manufacture of plywood, its strength makes it ideal for ladders and handles of tools, such as rakes, pitchforks and hoes where toughness, pliability, and light weight are essential. For such uses its only important rival in America is Hickory.

Select White Ash costs approximately 40% more than Natural Birch. Unselect White Ash is approximately 20% more.



Elm makes a very beautiful and serviceable veneer, either rotary-cut or sliced. Northern American Elm, due to its slow growth, has a finer and more uniform texture than Southern Elm, averaging about 21 annual rings per inch as compared with 14 in Southern Elm. The heartwood is a light brownish red tinged with darker brown ringmarks, usually showing considerable figure in rotary-cut veneers. Price is about 10% higher than Natural Birch.



Design flexibility

- Roddis Craftwall paneling can be applied quickly and easily in new construction or over existing walls in remodeling.

- Available in various sizes and different styles . . . Craftwall provides almost unlimited variety of design opportunities.



Styles 100, 200 and 300 are made in 48" x 96" x ¼" panels . . . large in area but light in weight.



Styles 100, 200 and 300 are made in 16" x 96" x ¼" panels . . . fit standard stud spacing.



Style 400, designed specifically for horizontal applications. Available in 32" x 64" x ¼" only.



Style 400, for a horizontal dado, can be used with Styles 100, 200 or 300 — size 32" x 64".

NEW FACTORY FINISHED Craftwall for Enduring Beauty of genuine natural wood!

Roddis offers the finest selection of factory-finished, decorative, hardwood paneling designed for homes, institutions and commercial establishments. Available in eight beautiful hardwoods and knotty pine in four styles and three sizes, and also matching trim in genuine hardwoods.

Installation of factory-finished Craftwall paneling achieves outstanding effects in living rooms, reception rooms, offices, dens and playrooms. Each room can be paneled to provide the ever-pleasing beauty of nature's finest woods . . . in Birch, Maple, Oak, Walnut, Mahogany, Cherry, Elm, Blonde Limba and Knotty Pine.

Craftwall is genuine hardwood plywood providing the beautiful grain of fine wood at a very economical cost. It can be installed right over existing walls with a minimum of cutting and fitting. Also, it is highly resistant to abuse, reduces maintenance costs and practically eliminates costly periodic decorating.

Roddis Craftwall is made in four styles and three sizes as illustrated below. Matching trim in genuine hardwoods is also available. (See page 10)

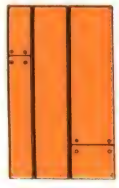
CRAFTWALL
Style 100
V-grooved panels in three sizes; 48" x 96" x ¼"; 16" x 96" x ¼"; and 32" x 64" x ¼".



CRAFTWALL
Style 200
V-grooved and cross-scored panels; same sizes as for Style 100.



CRAFTWALL
Style 300
V-grooved and cross-scored and pegged; same sizes as for Style 100.



FOR HORIZONTAL INSTALLATIONS
Style 400
Panels 32" x 64" x ¼". V-grooves are cut for perfect matching when placed end-to-end around room.





Styles 100, 200 and 300 in 32" x 64" x ¼"; when cut in half, can be used for a vertical 32" dado with wallpaper or paint above.



For a dramatic effect, 32" x 64" panels in Styles 100, 200 and 300 can be placed full-length vertically with wallpaper or paint above.



Style 400 permits floor-to-ceiling, round-the-room paneling with grooves matching to form an unbroken planked effect.



Illustrated here is Cherry factory-finished Craftwall paneling, Style 300 at top and Style 400 around bottom. Decorative effect is obtained by varying the direction of the panels. It is especially suitable with Early American furniture.

Roddis factory-finished Craftwall hardwood plywood paneling for modern design

**Craftwall gives you new design opportunities . . .
for commercial, institution and residential application**

New factory-finished Craftwall, genuine hardwood plywood in ¼ " thickness, is manufactured with all the quality control that has characterized Roddiscraft products for over half a century.

Today, Craftwall paneling is used extensively in homes, offices, hotels, barber shops, beauty shops, reception rooms, conference rooms, cocktail lounges . . . all types of buildings.

With Craftwall paneling, installation is simplified. The edges of the panels are half beveled so that when two panels are butt-jointed together, a complete V-groove is formed that conceals the joint and matches the other V-grooves in the panels. Face veneers are deliberately random-matched to give a highly interesting effect. Consequently, the panel-to-panel matching problem inherent in conventional plywood is eliminated.

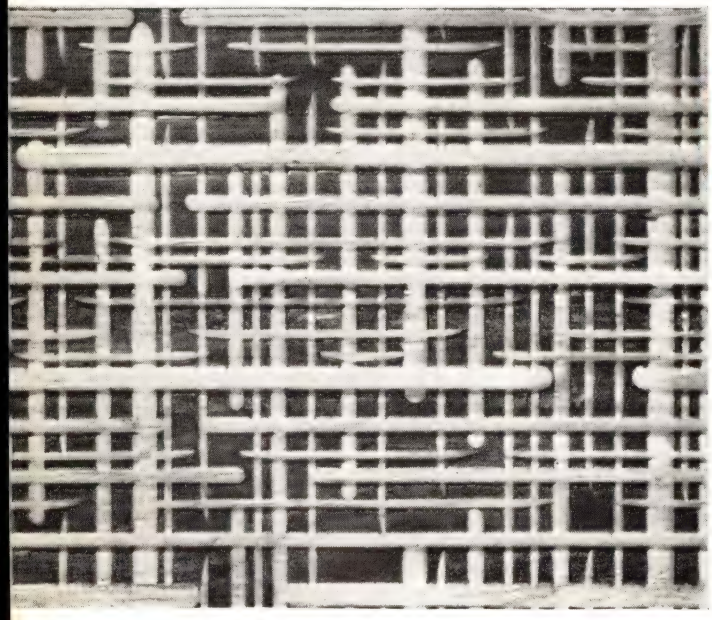
Also, you save money by eliminating costly sanding, sealing, filling and staining operations usually done on the job. And with Roddiscraft hardwood trim and finish available, you can accurately match your trim with factory-finished Craftwall paneling. (See Page 10)

Pre-finished Craftwall is carefully carton-wrapped. A color blended putty stick is furnished for closing holes when the installation is made with nails. Craftwall's exclusive finish is a combination of durable synthetic resins, highly resistant to abuse and immune to dirt, grease, water, inks and ordinary chemicals. Retail prices range from 59 cents to 75 cents per sq. ft. depending on wood species.

FOR ARCHITECTS AND BUILDERS WHO PREFER FINISHING THEIR OWN PANELING, UNFINISHED CRAFTWALL IS ALSO AVAILABLE. THICKNESSES OTHER THAN ¼ " ARE AVAILABLE ON SPECIFICATION.

Roddiscraft textured paneling

wherever the unusual is required



Roddiscraft TWEED

modern embossed panels

Low-cost Roddiscraft Tweed embossed plywood is the ideal economy wall surfacing. It is used extensively in specialty shops, beauty shops, modern cocktail bars and restaurants. In homes, too, Tweed offers new design opportunities.

Tweed's deep embossed pattern gives beauty, durability and permanence to any installation. It can be finished in a variety of colors to meet every decorating need.

Embossed Tweed is available in easy-to-handle 4′ x 8′ x ¼ ″ panels and retails at approximately 25 cents per sq. ft. An average-size room can be done for less than $100 material cost.

Roddiscraft STRIATED

for all types of structures

You get a light and shadow effect with this durable hardboard product that is so economically priced. Use it for any paneling job where long service and smart appearance are necessary.

The panels are even-colored with the pattern molded in by pressure to give an excellent finishing surface. They can be finished in a variety of ways including staining, painting, or natural.

Roddiscraft Striated paneling is furnished in 4′ x 8′ x ¼ ″. When cut into smaller squares, parquetwalls can be made by assembling the sections with the pattern running alternately vertical and horizontal. Cost is approximately 23 cents per sq. ft.



Roddiscraft PINE, REDWOOD, V-G FIR

CALIFORNIA PONDEROSA PINE is even textured and easy to work. It will take paint or natural finish without grain raise or check. Its low cost makes it attractive for cupboard doors and other informal applications.

REDWOOD'S durability and beauty add warmth and interest wherever it is used.

VERTICAL GRAIN FIR is a top favorite for decoration—the grain is true, smooth and free from blemish.



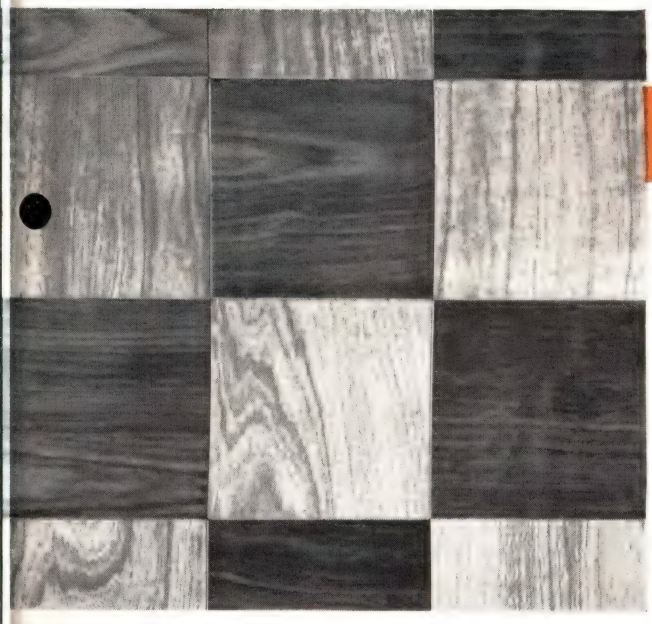
Roddiscraft REDWOOD CRAFTWALL

nation's favorite for playrooms

Brushed Redwood Craftwall lumber paneling has become the nation's favorite for playrooms of all kinds. It also lends itself for commercial interiors where a rustic decor is desired. It can be used horizontally or vertically, and finished either natural or painted.

In addition to its beauty and decorativeness, Redwood Craftwall is easy to install. Panels are 10⅜″ x 96″ x ⅜″ and are tongued and grooved. Cross-scoring and pegging add charm to this paneling.

Retail price is about 37 cents per sq. ft.



Roddiscraft PARQUETWALL

for interest and distinction

Modern Parquetwall paneling is the ideal plywood paneling for use wherever unusual, sophisticated, dramatic effects are desired. When installed in commercial establishments—beauty shops, doctors' and dentists' offices, drug stores—Parquetwall adds color and creates an atmosphere of distinction.

Parquetwall is 16″ tongued and grooved squares glued together with grains alternated. Made in 48″ x 96″ x ¼″ panels, it is available in Birch, Walnut, Philippine Mahogany and Oriental Ash. Retail prices range from 30 to 64 cents per sq. ft. for the different types of woods.

Roddiscraft SILHOUETTE

for dramatic interiors

Silhouette is textured paneling which is becoming increasingly popular for installation in homes, stores, specialty shops, beauty salons, showrooms, cocktail lounges, clubs, hotels, hospitals, schools and business offices.

The softwood in Fir plywood has been removed to give it a raised-grain effect. It is extremely durable because of the exposed hard growth. Interesting two-tone color combinations can be achieved by using a wiping technique in applying finish.

Low in cost, it is made in 4′ x 8′ x ¼″ panels, and retails at approximately 29 cents per sq. ft.



KNOTTY PINE, GUM

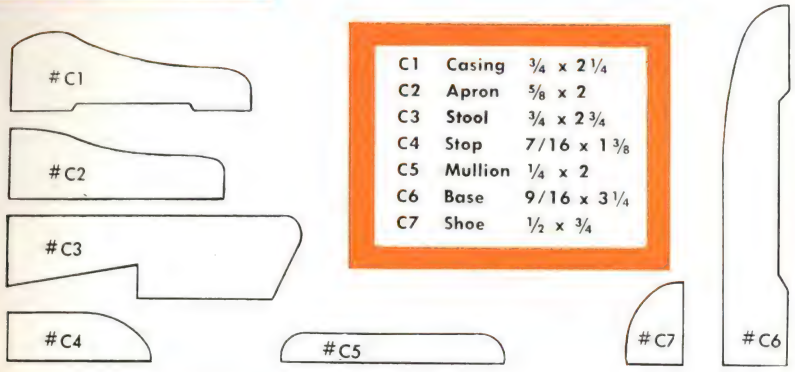
KNOTTY PINE paneling has been a long-time favorite for informal rooms in the home. Carefully selected face veneers are finely textured, with knots of just the right size and placement.

NATURAL GUM is a low-cost utility hardwood with a wide variety of applications. Grades selected for uniformity of color and figure qualify for fine natural finishes.

Roddiscraft

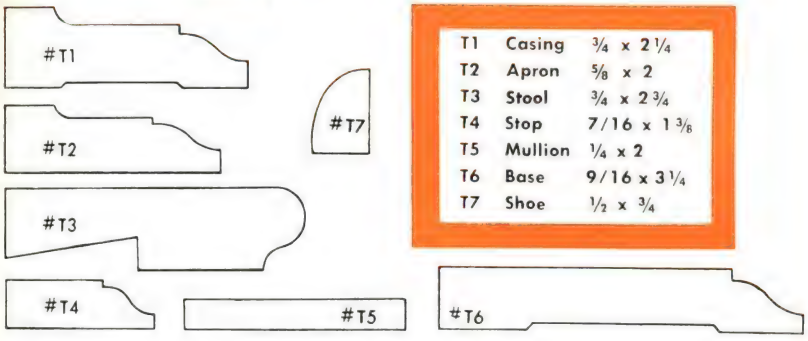
HARDWOOD MOLDINGS AND TRIM IN BIRCH, OAK, WALNUT, AND MAHOGANY

Roddiscraft C Series — Comtemporary Interior Trim



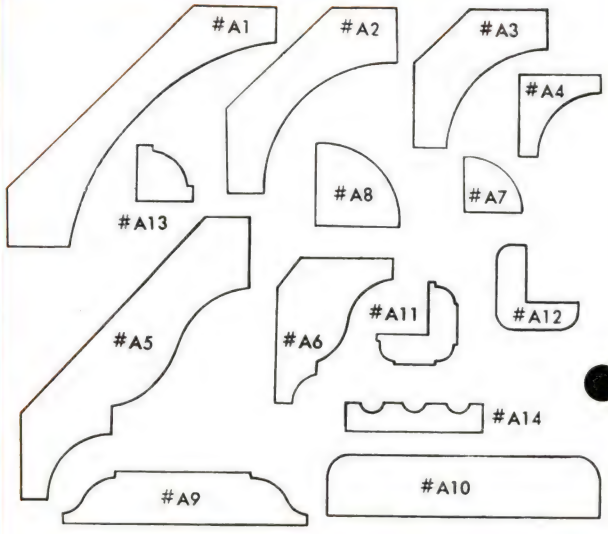
C1	Casing	3/4 x 2 1/4
C2	Apron	5/8 x 2
C3	Stool	3/4 x 2 3/4
C4	Stop	7/16 x 1 3/8
C5	Mullion	1/4 x 2
C6	Base	9/16 x 3 1/4
C7	Shoe	1/2 x 3/4

Roddiscraft T Series — Traditional Interior Trim



T1	Casing	3/4 x 2 1/4
T2	Apron	5/8 x 2
T3	Stool	3/4 x 2 3/4
T4	Stop	7/16 x 1 3/8
T5	Mullion	1/4 x 2
T6	Base	9/16 x 3 1/4
T7	Shoe	1/2 x 3/4

Roddiscraft A Series — Accessory Trim Items



A1	Cove	3/4 x 3 1/4	A7	Quarter Round	1/2 x 1/2
A2	Cove	3/4 x 2 1/4	A8	Quarter Round	3/4 x 3/4
A3	Cove	3/4 x 1 3/4	A9	O.G. Chair Rail	1/2 x 2 1/4
A4	Cove	3/4 x 3/4	A10	R.E. Chair Rail	9/16 x 2 1/2
A5	Crown	3/4 x 3 1/4	A11	Outside Corner	3/4 x 3/4
A6	Crown	3/4 x 1 5/8	A12	Outside Corner	3/4 x 3/4
			A13	Inside Corner	1/2 x 1/2
			A14	Reversible Batten	1/4 x 1 1/4

Roddis offers a well-designed and complete line of trim and accessory items reasonably priced. Designs include both contemporary and traditional styles and are carefully manufactured from select kiln-dried stock. Woods other than Birch, Oak, Walnut and Mahogany are available on special order. Roddiscraft hardwood trim can be matched with Roddis factory-finished Craftwall paneling with the use of Roddiscraft Finishes described below.

finish all natural wood with RODDISCRAFT FINISHES

Roddiscraft Finishes are entirely new materials. Simple to apply, they do in two, quick, easy operations what takes from five to eight steps with other wood finishes to obtain comparable durability and beauty. Filler, stain and sealer are all combined into one easy-to-apply coat put on with an ordinary paint brush. Excess filler removes easily and the surface dries in minutes, making possible a complete finishing job in one day.

For a cover coat, Roddiscraft Clear is available. It is self-leveling and dries quickly to a hard, durable resistant finish that is impervious to water, oil, inks, dirt and most chemicals.

Used for a variety of applications, including the matching of hardwood trim to factory-finished Craftwall paneling, Roddiscraft Finishes are available in Birch, Maple, Oak, Walnut, Mahogany, Cherry, Blonde Limba, Silver Gray, Blonde Mahogany, Neutral, and Knotty Pine.

Toning colors for use with both Clear and Combination filler, stain and sealer are available in white, black, red, blue, yellow, burnt sienna, raw sienna and raw umber, simplifying the production of any specified shade or color.



Roddiscraft

SUGGESTED METHODS FOR INSTALLING ¼" DECORATIVE PANELING

Large detailed drawings of wainscoating layouts and paneling applications are available on request. Write to your nearest warehouse for any or all of the following:

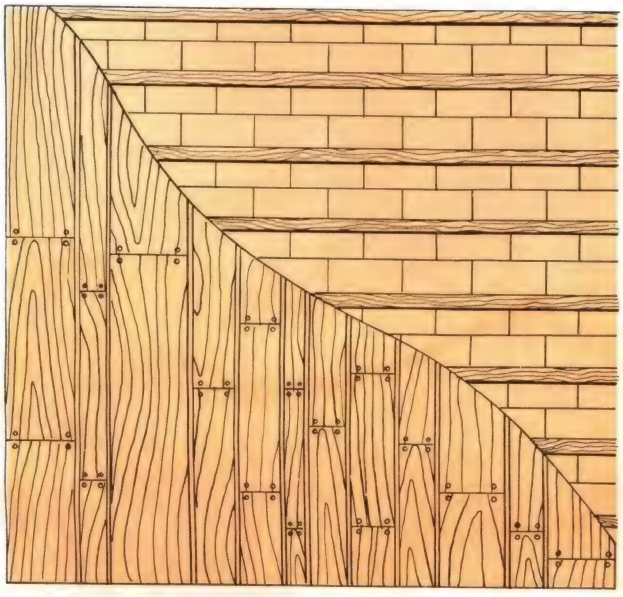
Wainscoating layouts (Chart No. 10) (V-joint construction)
Wainscoating layouts (Chart No. 11) (Flush joint construction)
Wainscoating layouts (Chart No. 12) (Corner joints)
Offset Tongue and Groove Construction (Chart 12A)
Wainscoating layouts (Chart No. 13)
Wainscoating layouts (Chart No. 14) (raised battens)
Wainscoating layouts (Chart No. 15) (Chair rail lengths)
Paneling Applications (Charts 16, 17, 18, 19) shown below



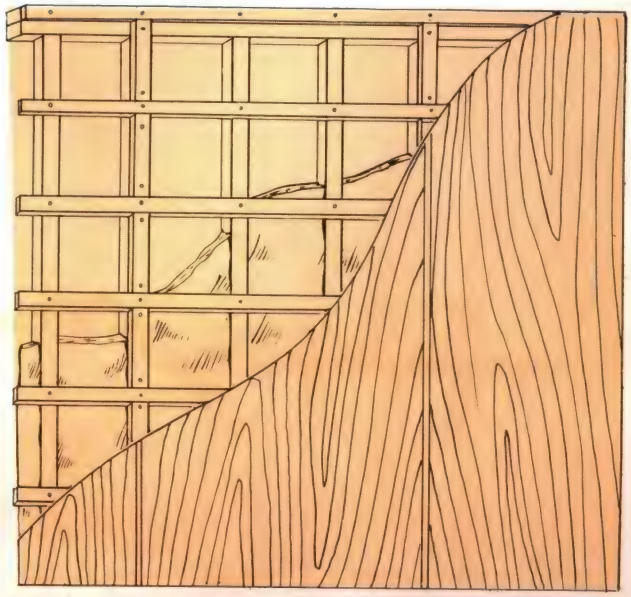
¼" paneling direct to studs using plywood sheathing, fiberboard or plaster board as sound-deadening underlayment.



¼" paneling direct to studs using insulation between studs for sound-deadening in partition walls.



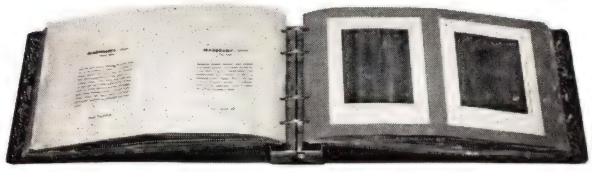
¼" paneling on masonry walls, using 1" x 2" furring strips on 12" centers.



¼" paneling on furred studs with insulation between studs for sound-deadening in partition walls.

Roddiscraft

VENEER SAMPLE BOOK



FROM A SH TO Z EBRAWOOD

51 Actual Veneer Samples

This veneer sample book containing 51 samples of actual veneers is available from your nearest Roddiscraft warehouse on a loan basis. Those who wish to own their own personal copy can purchase one at cost ($50) from the company's Marshfield office.

USE Roddiscraft NATIONWIDE WAREHOUSE SERVICE

CAMBRIDGE 39, MASS.
229 Vassar St.

CHARLOTTE 6, N. C.
123 E. 27th St.

CHICAGO 32, ILL.
3865 W. 41st St.

CINCINNATI 4, OHIO
836 Depot St.

CLEVELAND 4, OHIO
2717 E. 75th St.

DALLAS 10, TEXAS
8200 Lovett St.

HOUSTON 10, TEXAS
2403 Sabine St.

KANSAS CITY 3, KAN.
35 Southwest Blvd.

LOS ANGELES 58, CALIF.
2620 E. Vernon Ave.

LOUISVILLE 10, KY.
1443 S. 15th St.

MARSHFIELD, WIS.
115 S. Palmetto St.

MIAMI 38, FLA.
255 N.E. 73rd St.

MILWAUKEE 8, WIS.
4601 W. State St.

NEW HYDE PARK, L. I., N. Y.
1756 Plaza Ave.

NEW YORK 55, N. Y.
920 E. 149th St.

PORT NEWARK 5, N. J.
103 Marsh St.

PHILADELPHIA 34, PA.
Richmond & Tioga Sts.

SAN ANTONIO 6, TEXAS
727 N. Cherry St.

ST. LOUIS 16, MO.
3344 Morganford Road

ST. PAUL 4, MINN.
635 N. Prior Ave.

SAN FRANCISCO 24, CALIF.
345 Williams Ave.

SAN LEANDRO, CALIF.
720 Williams St.

RODDIS PLYWOOD CORPORATION MARSHFIELD, WISCONSIN

RPC 4—10-54—7

1d|U



A product of UNITED STATES PLYWOOD CORPORATION

Weldwood

Weldwood Plywood

.... and allied products

UNITED STATES PLYWOOD CORPORATION

A.I.A. File No. 19-F

Douglas Fir Weldwood

most interior grade Douglas Fir Weldwood is now made with L-1R mold resistant resin adhesive

This remarkable new adhesive, an exclusive Weldwood product, is an important feature now added to interior fir Weldwood at no extra cost. It gives positive protection against mold which is one of the major causes of delamination. Interior Fir Weldwood Plywood made with L-1R adhesive can be stored safely outdoors under tarpaulin—a feature of importance for sheathing, subflooring and other structural applications. Weldwood L-1R (Interior) Plyform has given superior results in plyform work.

Douglas Fir Weldwood, in a great variety of grades, sizes and thicknesses, is available from stock in seventy-three warehouses located in every part of the country. Whenever the need arises, you can be sure of quick delivery.

Douglas Fir Weldwood is made in strict accordance with U. S. Commercial Standard CS45-48.

GRADE	PRINCIPAL APPLICATIONS	FREQUENTLY STOCKED SIZES, inches		
		widths	lengths	thicknesses
Interior Grades				
Interior A-A	All inside applications including built-ins, furniture, displays, fixtures, partitions. A-A grade is sound both sides	30, 36, 48	60, 72, 84, 96, 120, 144	1/8, 1/4, 3/8, 1/2, 5/8, 3/4, 1, 1 1/4
Interior A-B		30, 36, 48, 60	60, 72, 84, 96, 108, 120, 144	1/8, 1/4, 3/8, 1/2, 5/8, 3/4, 1
Plypanel A-D	"One-side" material used for "dri-bilt" houses as walls, ceilings, built-ins, cabinets, etc. Also for industrial applications	30, 36, 48, 60	60, 72, 84, 96, 108, 120, 144	1/8, 1/4, 3/8, 1/2, 5/8, 3/4, 1, 1 1/4
Plybase B-D	Base for linoleum, wall-to-wall carpeting and as backing for wall materials	30, 36, 48	60, 72, 84, 96, 120, 144	1/8, 1/4, 3/8, 1/2, 5/8, 3/4
Plyscord Sheathing C-D	An unsanded structural panel for wall & roof sheathing, sub-floors, etc.	24, 30, 36, 48	72, 84, 96, 108, 120	5/16, 3/8, 1/2, 5/8, 3/4
L-1R Plyscord Sheathing C-D	A superior type of sheathing bonded with Weldwood L-1R adhesive for wall & roof sheathing and other construction purposes.	24, 30, 36, 48	72, 84, 96, 108, 120	5/16, 3/8, 1/2, 5/8, 3/4
Plyform L-1R (Interior) B-B	Concrete form material, made with mold resistant glue. Oiled and edge-sealed	48	96, 120	5/8, 3/4
Exterior Grades				
Exterior A-A and Exterior A-B	For all uses permanently exposed to weather, to water or to high humidity. It is particularly suitable for boat and other marine applications. A-A grade is sound both sides	30, 36, 48, 60	60, 72, 84, 96, 108, 120, 144, 168, 192	1/8, 1/4, 3/8, 1/2, 5/8, 3/4, 7/8, 1, 1 1/8, 1 3/16, 1 1/4
Ext. Plyshield A-C	For outside use when appearance of only one surface is important, siding of homes and buildings, store fronts, farm structures, etc.	30, 36, 48, 60	60, 72, 84, 96, 108, 120, 144, 168, 192	1/8, 1/4, 3/8, 1/2, 5/8, 3/4, 7/8, 1, 1 1/8, 1 3/16, 1 1/4
Ext. Utility B-C	General exterior utility use especially for painted surfaces, such as farm buildings	30, 36, 48, 60	60, 72, 84, 96, 108, 120, 144, 168, 192	1/8, 1/4, 3/8, 1/2, 5/8, 3/4, 7/8, 1, 1 1/8, 1 3/16, 1 1/4
Ext. Sheathing C-C	An unsanded structural panel for exterior use where appearance is not important, such as rough farm buildings, containers, etc.	48	72, 84, 96	3/8, 1/2, 5/8, 3/4
Ext. Plyform B-B	Concrete form material with completely waterproof bond. Construction assures maximum number of re-uses, oiled and edge sealed	24, 36, 48	72, 84, 96, 108, 120	5/8, 3/4
Plastic Faced	Plastic face makes smooth durable surface, especially good for paint work. Made both good one side and good two sides	36, 48	72, 84, 96, 120	5/8, 3/4
Duraply®	This plastic faced fir plywood is a low-cost, weather-resistant panel for use as exterior siding, utility paneling, garage doors, exterior signs, as well as many interior applications.	48	72, 84, 96	5/16, 3/8, 1/2, 5/8, 3/4
Hardply	A new type of panel that combines the best features of Hardboard and Fir Plywood. Ideal for concrete forms, flooring, table tops, sliding doors, cabinets, etc. (Interior grade also available.)	48	72, 84, 96	5/8, 3/4

* *NOTE:* Panels 144" and longer are scarf-jointed.

FIRZITE the modern pre-finisher for fir plywood, prepares surface for finishing, minimizes grain raise and checking. White Firzite is used for blonde or bleached finishes on hardwoods. White and Clear Firzite are packed in small cans and larger drums. Ask for literature. For further details, see catalog on Finishes. Please consult File Index for catalog number.

Pine Weldwood

Because Pine Weldwood panels can be machined easily and will take paint beautifully, they have been the favorite of woodworkers for many years.

These fine, low-priced panels are *pine throughout* which means they are practically free of grain-raising and checking. Available in interior grade in thicknesses of 1/4" to 1 3/16" and in panel sizes ranging from 36" and 48" in width to 72", 84", 96" and 120" in length.

Southern Gum

Gum, a southern hardwood, is a highly useful wood. It is available in a wide variety of grades both unselected and selected for color. Suitable for low cost installations and available in a wide range of sizes and thicknesses.

Weldbord®

The perfect all-round utility panel! Ideal for low-cost walls, partitions, displays, drawer bottoms and backs and countless other applications. Expertly made of 3-ply quality hardwood, these strong, rugged panels are quite different from the usual utility panels. They have heavy cores and thin veneer faces to provide a more stable construction. And they are smoothly sanded on 2 sides, hot-plate bonded and resin glued. Because they show no grain raise, Weldbord panels can be painted or stained beautifully. Also suitable for a natural finish. Available in the following sizes: 6′ x 4′, 7′ x 4′ and 8′ x 4′.



Walnut Weldwood Plywood Dining Room Walls and Built-ins. Home of Mr. and Mrs. R. T. Heilpern, Scarsdale, N. Y.
Architect: Russell Kilburn
Decorator: Fred Gerstel

Algoma Grade

Weldwood Decorative Hardwoods

Weldwood Hardwood Plywood, made at our plant at Algoma, Wisconsin, is generally accepted as the finest grade of hardwood plywood made in this country. The selection and matching of veneers, the care and skill used in the manufacturing process and the final sanding and inspection are the result of over 50 years experience in the production of high quality paneling.

Our warehouses maintain extensive stocks of Algoma Grade Weldwood Plywood, which can be identified by the special Algoma label shown here. Woods generally available are: birch, Korina, prima vera, maple, elm, walnut, oak, mahogany, avodire, quartered figured gum, aromatic red cedar.

Panel widths are 24″, 30″, 36″, 48″. Lengths: 48″, 60″, 72″, 84″, 96″. Also as counterfronts in sizes 144″ and 120″ x 28″, 36″, 42″, and 48″.

Thicknesses: ⅛″, ¼″, ⅜″, ½″, ¾″ (veneer construction). Also ¾″ (lumber core construction) and 1 3/16″ (Novoply core construction).

Important Note: Because of the scarcity of long-length veneers required for 96″ panels, such panels command a higher price per square foot than 72″ and 84″ lengths. It is suggested that wherever possible the shorter length panels be used which are not only more economical but are generally more readily available.

HOW TO SPECIFY

Short Specifications: Weldwood Plywood shall be Algoma Grade as manufactured by United States Plywood Corporation.

Long Specifications: Plywood shall be Algoma Grade, stock panels, as manufactured by United States Plywood Corporation. Faces shall be of one or more pieces of veneer matched for color and grain at the joints to produce continuity of character and balanced design. Faces shall be free of open joints, face depressions, glue stains, or other manufacturing defects. Faces shall be selected for figure, selected for color, or unselected for color, as specified, but shall not contain ruptured grain, doze or shake and shall otherwise equal or exceed the quality requirements of the best grade of that species listed by U. S. Department of Commerce Commercial Standards CS 35–49 or latest revision thereof.

Backs on G1S plywood shall be a species and thickness to balance face veneers and shall be CS 35–49 grade 4 or better.

Plywood shall be sanded both sides and fine belt sanded on the face.

Inner plies shall be sound, with tight joints and of thickness required to produce balanced construction in overall thickness as specified.

Glue bond shall be Urea Formaldehyde hot press method unless otherwise specified.

Sanded plywood thickness shall be as specified with tolerance of plus 0, minus 1/32″.

GUARANTEE: *Weldwood plywood for interior use is guaranteed for the life of the building in which it is installed.*



For a better finish use Firzite and Sohnlac. Send for free Finishing Booklet.

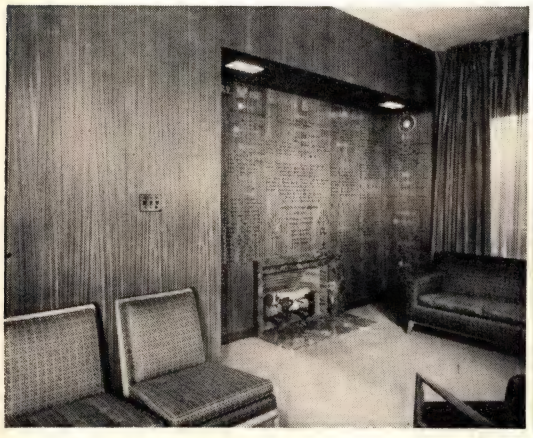
Architectural Weldwood

It has been our privilege to make the plywood for many of the most important and beautiful installations in the country. A special department is maintained to manufacture this type of plywood to the highest specifications which master skill and modern equipment permit. The all-important selection of veneers includes our own huge inventories plus those of the world's finest veneer cutters. A large collection of unusually fine flitch samples is maintained in our special veneer room at the Weldwood Building, 55 West 44th Street, New York, and flitches can be examined by architects, designers and clients at any time.

Architectural Weldwood is either custom-made to size, or in several of the popular woods, can be obtained from our stock in ¾″ thickness. Panel sizes are 48″ wide x 72″, 84″, 96″, 120″, 144″, depending on length of veneer flitch. Also as counterfronts 144″ wide x 28″, 36″, 42″ and 48″. These stock panels are available in matched sets of panels made from a single veneer flitch. Perfect matching is thus assured. Panels can be obtained for immediate shipment from warehouse stocks. Weldwood doors to match these panels are also available on special order. Woods usually carried are: figured African mahogany, figured Honduras mahogany, Brazilian rosewood, Korina, oriental wood, figured walnut, prima vera, oak.

Architectural Weldwood can be made up on our fire-resistant cores. Several woods are stocked on fire-resistant wood cores. Further information on request.

African Mahogany Weldwood Plywood in a beautiful, dignified treatment. Union of American Hebrew Congregations, New York, N.Y. Architect, Harry M. Prince; Decorator, Eleanor Pepper; Charles Herman Const. Co.



California State Architects selected Quartered Red Oak Weldwood Plywood for the Senate Committee Room in the new California State Capital at Sacramento, California



Fine traditional design carried out in Architectural Teak Weldwood Plywood. Providence Union National Bank, Providence, R.I. Architects: Howe, Prout & Ekman



HOW TO SPECIFY

Short Specification: Plywood shall be Weldwood Plywood, Architectural Grade, sequence matched, as manufactured by United States Plywood Corporation.

Long Specification: Plywood shall be Weldwood Plywood, Architectural Grade as manufactured by United States Plywood Corporation. Unless otherwise specified, plywood shall be 5-ply lumber core construction with an overall thickness of ¾″; tolerance: plus or minus $\frac{1}{32}$ of an inch. Plywood shall be glued with waterproof Phenol Formaldehyde resin glue and processed by the hot plate method.

Face veneer shall be from flitches specially selected and approved for architectural adaptation, with respect to cutting lengths, uniformity of color, figure, grain character, or other special requirements.

Faces shall be of one or more pieces of veneer matched for color and grain at the joint to produce balance and continuity of character. Faces shall be selected for figure, selected for color, or unselected for color as specified, but mineral streaks and discolorations, worm-holes, ruptured grain, loose texture, doze or shake shall not be admitted. Pieced veneers shall be parallel clipped, jointed by tapeless splicer and edge glued. In matching sliced or sawn veneers unless otherwise specified, pieces shall be bookmatched and of corresponding width on each side of the center joint or adjacent panels. Face veneers shall not contain open joints, face depression, glue stain or other manufacturing irregularities. Back veneers on G1S plywood shall be of species to properly balance face.

Panels shall be sanded both sides, and fine belt sanded on the face side to provide suitable surface for finishing.

Lumber core to consist of basswood or poplar strips not to exceed 3½″ in width and edge glued under pressure with Urea resin glue high frequency cured.

Crossbands shall be $\frac{1}{16}$″ thick of either basswood or poplar unless otherwise specified. Cross bands shall be sound veneer of random widths with edges jointed and glued.

Sanded panels shall be trimmed in width and length to the specified measurement plus 0, minus $\frac{1}{32}$ of an inch unless otherwise specified.

West Coast Specialties

KNOTTY PINE WELDWOOD

Made of the best white Idaho Pine, Weldwood knotty pine paneling has continued to be a popular choice of decorators and architects for walls of dens, libraries, playrooms, bars, etc.

Since it is now being manufactured in increased volume, the price is down to a modest level. The installed cost of Weldwood knotty pine now compares favorably to that of lumber. Its appearance, however, is far superior. Knotty pine veneers are selected for the size and placement of knots. Shrinkage and waste, which are serious problems when narrow strips of lumber are used, are largely eliminated. Faces are specially selected to meet only the finest architectural requirements. This makes Weldwood knotty pine a wood paneling that can be relied upon to produce excellent decorative effects.

PHILIPPINE MAHOGANY WELDWOOD

Handsome Philippine mahogany Weldwood panels are constructed from logs selected by our Philippine representative and are excellent examples of the finest type of veneering. They are light in color with a beautiful striped grain. Ideal for low-cost wall paneling, partitions and fine cabinet work. Available in all standard thicknesses and in a variety of panel sizes.

Korina*

This is a light-colored African hardwood which has been accorded a remarkable reception by architects and furniture designers. These beautiful panels are constructed from the finest Korina flitches, produced with exacting quality controls in our Belgian Congo veneer mill. Korina's coloring and figure rival prima vera but it is about one-third less costly than this popular cabinet wood. It can be finished in many attractive effects; for example, because of its straight grain and light color, it can be finished to closely resemble expensive, comb-grain oak paneling.

Korina is available in all standard thicknesses and in a good range of sizes.

* trademark

Novoply®

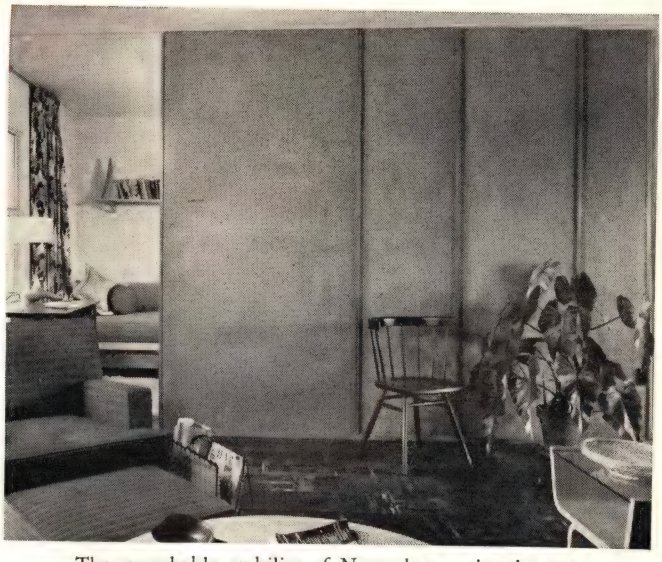
"The completely different wood plastic panel"

Novoply is a 3-ply, all-wood panel, consisting of a 1/16" surface of wood veneer flakes, a core of medium-size chips and another 1/16" layer of flakes. Flakes and chips are resin-coated and impregnated and the 3 layers (or plies) are formed and fused together under heat and pressure. *For interior use only.*

Novoply has a gleaming, mosaic-textured surface that requires no staining or painting. It is a good-2-sides panel, with no plugs or patches to mar its beauty. It is an amazingly flat panel, too—practically warp-free. Will not change dimensions. Medium in weight and easy to work, Novoply panels can be easily fabricated with ordinary tools or high-speed power machines. Will hold nails and screws firmly without splitting.

Novoply has unlimited applications: wall paneling, partitions, sliding and cabinet doors, furniture, built-ins, etc. It is also the ideal core material for hardwood veneers and plastic laminates. Requires no cross-banding.

Made with outer faces of either Pine and Fir (mixed) or of California Redwood. A wide variety of panel sizes is available in 3/8" and 3/4" thicknesses. Sizes for special applications on order.



The remarkable stability of Novoply permits the use of single, framed panels for sliding walls.

Surfwood

A new Weldwood panel, Surfwood offers the unique beauty of sea-washed driftwood plus important practical features such as low cost and easy installation.

Surfwood is 5/16" thick. It is Weldwood Fir Plywood which has been surface-etched to lend an informal, rustic appearance. This effect is carried out further by the fact that the knot-holes have been retained. Surfwood has the appearance of wood which has been aged by long exposure to sun, sea and wind. It is available in 48" x 96" panels. Applications: Particularly effective as wall paneling in ranch and summer homes, country clubs and cocktail lounges, rumpus rooms and offices.



Prefinished Weldwood Panels

Weldwood panels are also available with a *permanent factory finish*, ready to install. No sanding, staining or finishing of any kind is required. These beautifully *prefinished* panels come in a variety of handsome hardwood veneers in big, handy panel sizes: 32″ x 96″ and 48″ x 96″ in ¼″ thickness. Packaged in a protective carton of 4 panels each, including matching lacquer sticks.

Prefinished Weldwood panels are easy to install! They may be nailed directly to studding. Nail holes can be filled and hidden by using the matching lacquer sticks which blend perfectly with the panel finish.

Another installation method is *gluing* the panels with Weldwood Contact Cement. This remarkable new contact adhesive will permanently bond Weldwood Prefinished paneling to wall studs or furring—*without nailing!* No clamping or pressing is necessary. The Weldwood Contact Cement is brushed on studs or furring and on the back of the panels at the points of contact. It is allowed to dry ½ hour. Then, the adhesive application is repeated. When the second coat is dry, the prefinished panels are gently pressed into place on the studs. The bond takes hold immediately. *A new idea in wall paneling installation that helps cut costs and saves on iob-time.*



Prefinished Walnut Weldwood Plywood attached by Weldwood Contact Cement.

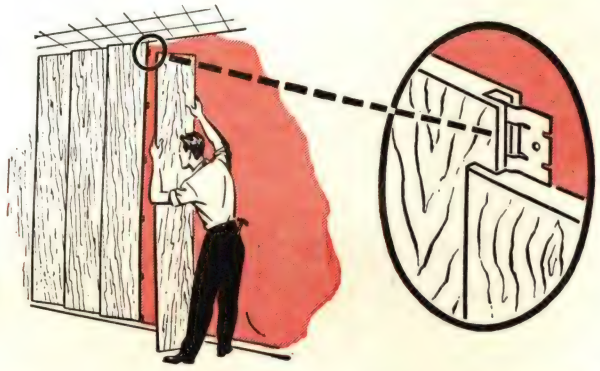
Plankweld®

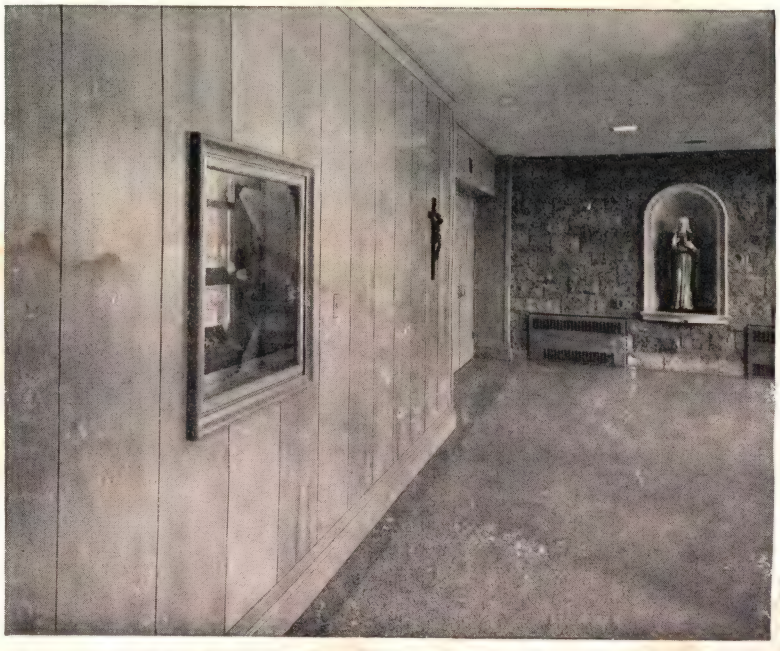
"The wood-paneled room that comes in a package"

Plankweld is genuine hardwood wall paneling —pre-cut, prefinished and packaged—designed for quick, economical installation over any interior wall. Excellent for remodeling work. Goes up fast over any nail-holding surface such as plaster, sheathing, wood or wallboard.

The edges of each Plankweld panel are grooved and fit into each other to form a continuous wall. The panels are held in place with simple metal clips that are furnished in each package of panels. No visible nailing. Clips and nails are hidden by the slight overlap at the joints. Beautifully prefinished at the factory. Requires no additional finishing on the job.

Plankweld is made of 3-ply, ¼″ Weldwood plywood in the following hardwoods: birch, walnut, oak, Korina, Philippine mahogany and Honduras mahogany. Each panel is 16¼″ wide and 8′ long. Comes in convenient cartons, containing nine 8′ panels and two shorter lengths totaling 8′. These short lengths solve the problem of fitting around doors, windows and built-ins.





Oak Plankweld installed in corridor of St. Gregory The Great School, Harrison, N. Y. Arch: Edward Fleagle

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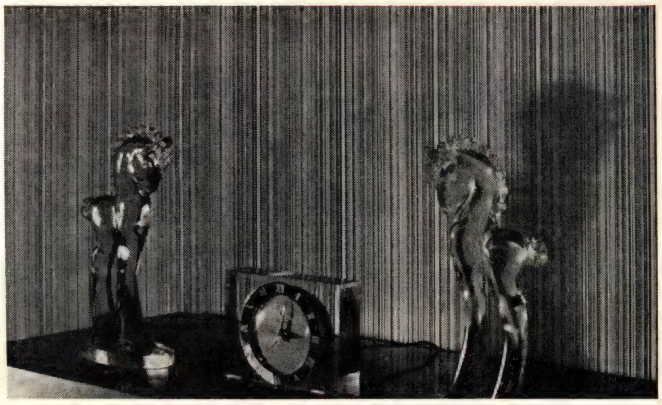
Weldtex* Striated Plywood

a low cost Weldwood Plywood with high decorative beauty

Weldtex is 3-ply plywood, the surface ply being closely grooved in the long direction of the panel. This patented process gives the material a highly decorative beauty which cannot be duplicated with any other paneling.

It is as suitable for home use as for commerical applications. It makes stunning living rooms, rumpus rooms, libraries, beautiful offices, showrooms, store interiors. In the waterproof grade, it can be used effectively as exterior siding for homes and business buildings. It can be fireproofed so that it can be used in fireproof buildings of all types.

Best of all, Weldtex has practical advantages which make it an easy-to-use material.



A striking example of Weldtex paneling

FEATURES

- Attractive striated surface
- Exterior grade is recommended for sidings . . . shows no "checking"
- No visible joints between panels
- Face nails are concealed
- Easy to finish—grain is subdued
- Striations minimize surface tension—aid dimensional stability
- Lends itself to many interesting designs
- Low in price—economical to install

SPECIFICATIONS

Made in Douglas Fir, Southern Gum, Philippine Mahogany, 5/16" Interior Grade in all woods; 3/8" Exterior Grade in Douglas Fir and Philippine Mahogany.

Panel Sizes: 48" x 72", 48" x 84", 48" x 96", 48" x 108", 48" x 120". Also Southern Gum in 12", 16" and 24" squares. Fir in 15⅞" squares.

WELDTEX SIDING

Made of exterior grade Fir Weldtex, pre-cut in panels 48" wide by 15⅞" long. Packed 22 panels per bundle. An important labor-saving aid to the builder and contractor. Saves substantial labor costs and makes a weather-tight, handsome job. Application folder on request.

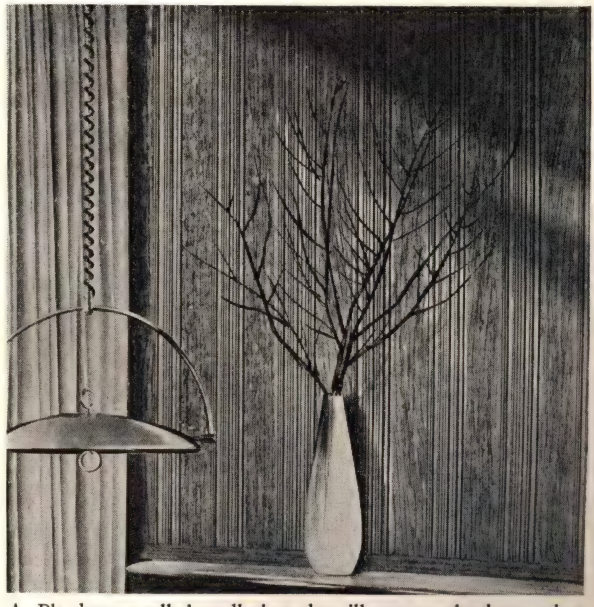
* Weldtex is a patented product. U. S. Pat. Nos. 2286068, 2363492, 2363927.

PLANKTEX* WALL PANELING

A new Weldwood panel! Weldwood Planktex combines a "grooved" or striated stripe with the natural beauty of real wood to create striking contrasts in interior paneling. Made of lovely Philippine mahogany, these big-size panels have 6-inch bands of striations alternating with the fine grain pattern of the wood. This *stripe pattern* gives a plank-like effect that will add a neat textured look to both commercial or residential interior walls.

A moderately priced panel, Planktex is the ideal low-budget paneling material for remodeling projects, as well as new building construction. Available either unfinished or with a fine, factory-applied finish, ready to install. Panel size: 4′ x 8′. Thickness: 5/16".

* trademark



A Planktex wall installation that illustrates the interesting "stripe pattern" effect.

Weldwood Moldings

Weldwood Moldings are made of aluminum, with genuine hardwood veneers permanently bonded to their exposed faces. Made in the four styles illustrated, plus a cove molding which is made of specially molded plywood and can be used alone or with the other moldings. Weldwood Moldings eliminate practically all face-nailing, countersinking or puttying. Since the faces match the Weldwood paneling, a handsome custom-type installation can be readily achieved.



Available in six woods: oak, mahogany, walnut, Korina, maple, prima vera. In 7 and 8 foot lengths. Two sizes: Small size for ¼" panels; Large size for ¾" panels.

We also offer a ¼" plywood cove molding which is useful for cabinet corners, lighting coves, room corners, and when combined with Weldwood Molding divider as illustrated becomes a window or door trim. Ask for literature.

Firzite and Satinlac

Firzite* is the modern prefinisher for fir plywood. It seals the wood pores, subdues the wild grain and virtually eliminates checking and grain raise. White Firzite provides an easy and economical way of achieving the popular light "blond" or bleached finishes on hardwoods.

Satinlac*, which is distributed by us, is recommended as the ideal finishing material for Weldwood Plywood. It keeps the wood natural in color, does not turn yellow like varnish, dries quickly and affords full protection to the finished job.

Two coats of Satinlac, followed by wax, are usually sufficient for a beautiful finish which retains the natural wood color.

Firzite and Satinlac, in convenient sizes, are available from lumber dealers, paint stores and hardware dealers. For further details, see catalog on Finishes. Please consult File Index for catalog number.

*trademark

Armorply®

Armorply is plywood to which metal is permanently bonded, the metals used including stainless steel, aluminum, lead, copper and others. Armorply has been used effectively for store and building facades, lobbies, elevator cabs and in dairies, breweries, home and commerical kitchens.

Armorply is made to specification only.

(U.S. Pat. Nos. 2149882 and 2402731)



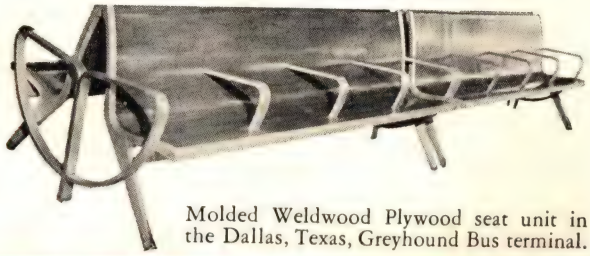
Rigidized Metal Armorply

Rigidized Metal Armorply is plywood faced with textured metal. Its "eye-appeal," durability and utility are attributable to the three-dimensional metal surface. Rigidized Armorply has practically unlimited applications as—elevator cabs, building facades, counter fronts, etc.

Rigidized Armorply is made in a number of attractive patterns. Sizes up to 36" in width, in required lengths are made to specification only.

Pew Seats

Weldwood Molded Pew Seats are now available in such handsome woods as Korina, walnut, oak, maple and mahogany. They are particularly suitable for use in churches, courthouses, rail, air and bus terminals. Made on special order only.



Molded Weldwood Plywood seat unit in the Dallas, Texas, Greyhound Bus terminal.

UNITED STATES PLYWOOD CORPORATION

Executive Offices: Weldwood Bldg., 55 West 44th Street, New York 36, N. Y.

additional products:

- Weldwood* Flush Doors
- Weldwood* Flush and Fire Doors

Tekwood* (paper-faced plywood)

Weldwood Hardboard

- Armorply* Chalkboard
- Kalistron
- Weldwood* Partition Panels
- Westinghouse Micarta*

Lumber

- Flexwood*

Weldwood Glue*, Weldwood Contact Cement and other adhesives

* Reg. U.S. Pat. Off.

• See catalogs on these products. For section-catalog number, please consult file index.

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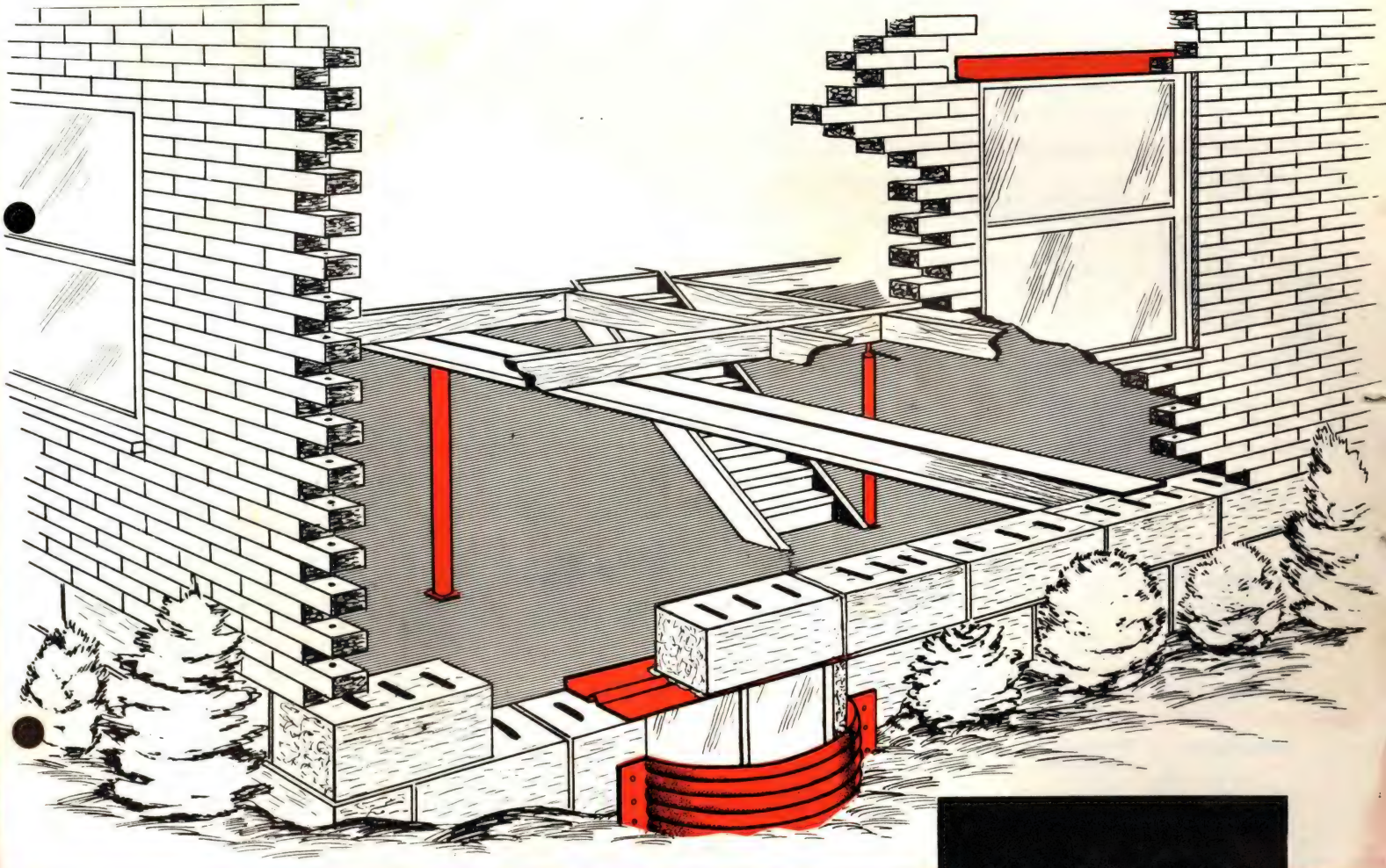
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BRITE-LITE AREAWALLS

last longer...make basements brighter



Brite-Lite Areawalls provide a brighter, lighter, more cheerful basement. The heavy galvanized coating has an enduring, sparkling surface, which reflects maximum light into the basement. Scientifically engineered corrugations increase light reflection and strength.

The thick galvanized coating, over heavy-duty copper-bearing steel, resists rust and corrosion and assures long life. With Brite-Lite Areawalls there are no frost-line problems. Since the areawalls are ductile and strong, they withstand spring thaws without deterioration.

HOW TO ORDER BRITE-LITES

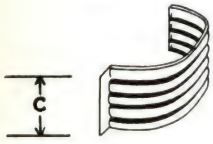
The "A" dimension should be at least 3" more than the width of the foundation opening.

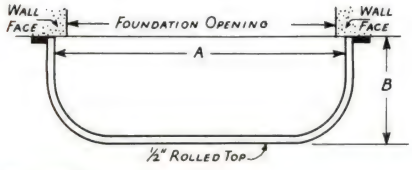
The "B" dimension is the projection of the areawall away from the foundation.

Height of the areawall can be determined by measuring from 2" above finish grade to 6 or 7" below window sill. Be sure to specify height desired. Brite-Lites come in seven different heights: 12, 18, 24, 30, 36, 48, and 60 inches.

STRAIGHT TYPE (S)

For use where space is at a premium because of driveways or narrow yards. Clean, straight-line appearance. Affords maximum light.





Available heights ("C" dimension):
12, 18, 24, 30, 36, 48, 60 inches.

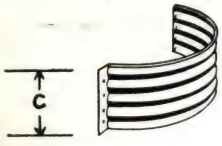
STRAIGHT TYPE (S)

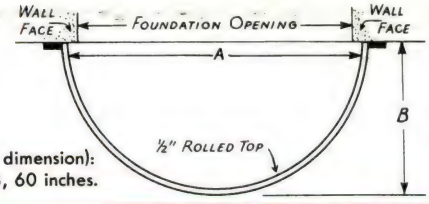
Product Number	Width	Proj.	Wt. per ft. high	Mat. Ga.
S-3112	2′ 7″	1′ 0″	13	16
S-3512	**2′ 11″**	**1′ 0″**	**14**	**16**
S-3712	**3′ 1″**	**1′ 0″**	**14**	**16**
S-4014	**3′ 4″**	**1′ 2″**	**16**	**16**
S-4618	3′ 10″	1′ 6″	18	16
S-7120	5′ 11″	1′ 8″	37	14

Popular stock sizes in bold print.

ROUND TYPE (R)

For larger yards the round type Brite-Lite reflects greatest possible light into basement. Provides easy access to windows for cleaning, screening, etc.





Available heights ("C" dimension):
12, 18, 24, 30, 36, 48, 60 inches.

ROUND TYPE (R)

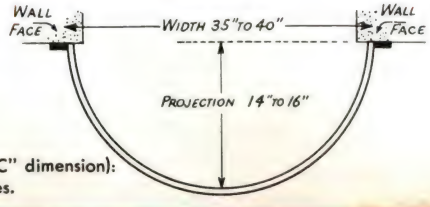
Product Number	Width	Proj.	Wt. per ft. high	Mat. Ga.
R-3114	2′ 7″	1′ 2″	14	16
R-3518	**2′ 11″**	**1′ 6″**	**16**	**16**
R-3720	**3′ 1″**	**1′ 8″**	**17**	**16**
R-4020	**3′ 4″**	**1′ 8″**	**18**	**16**
R-4620	3′ 10″	1′ 8″	19	16
R-6724	5′ 7″	2′ 0″	30	14

Popular stock sizes in bold print.

CORRUGATED

Designed particularly for low-cost housing. Width and projection adjustable.





Available heights ("C" dimension):
12, 15, 18, 24 inches.

CORRUGATED

Product Number	Nominal Width	Nominal Proj.	Shipping Weight	Adjustable Width
C-12	**37″**	**16″**	**13**	**35″-40″**
C-15	**37″**	**16″**	**15**	**35″-40″**
C-18	**37″**	**16″**	**19**	**35″-40″**
C-24	**37″**	**16″**	**26**	**35″-40″**

Popular stock sizes in bold print.

Sizes Recommended for Standard Openings

Window Light	Glass Size	Foundation Opening Width	Straight Type	Round Type
For 2 Light	10″ Wide, *WS	2′ 4″	S-3112	R-3114
For 2 Light	12″ Wide, *WS	2′ 8″	S-3512	R-3518
For 3 Light	7″ Wide, *WS	2′ 4″	S-3112	R-3114
For 3 Light	8″ Wide, *WS	2′ 7″	S-3512	R-3518
For 3 Light	8″ Wide, *WS	2′ 10″	S-3712	R-3720
For 3 Light	12″ Wide, *WS	3′ 1″	S-4014	R-4020
For 3 Light	10″ Wide, *WS	3′ 7″	S-4618	R-4620
Dbl 2 Light	12″ Wide, *WS	5′ 4″	—	R-6724

* WS—Wood Sash; † SS—Steel Sash; ° US—Utility Sash.

Window Light	Glass Size	Foundation Opening Width	Straight Type	Round Type
Dbl 3 Light	8″ Wide, *WS	5′ 4″	—	R-6724
Dbl 3 Light	9″ Wide, *WS	5′ 8″	S-7120	—
For 2 Light	10″ Wide, †SS	2′ 0″	S-3112	R-3114
For 2 Light	14″ Wide, †SS	2′ 8″	S-3512	R-3518
For 2 Light	15″ Wide, †SS	2′ 9″	S-3712	R-3720
For 3 Light	10″ Wide, †SS	2′ 10″	S-3712	R-3720
For 3 Light	12″ Wide, †SS	3′ 4″	S-4618	R-4620
For 2 Light	15″ Wide, °US	2′ 9″	S-3712	R-3720
For 3 Light	10″ Wide, °US	2′ 9″	S-3712	R-3720
For 3 Light	12″ Wide, °US	3′ 4″	S-4618	R-4620

FORMED STEEL LINTELS

precision forming saves labor on the job

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Rib construction provides space for solid bed of mortar, and prevents drainage contact with sash. Lintel is roll-formed, thus lies flat at both ends, has no "twist".



SPECIFICATIONS

TYPE	LENGTH	WEIGHT (pounds)
3½″ x 3½″ 11 Gauge .120	2′ 0″	5.6
	2′ 6″	7.1
	3′ 0″	8.5
	3′ 6″	9.9
	4′ 0″	11.3
	4′ 6″	12.7
4½″ x 3½″ 9 Gauge .148	5′ 0″	19.9
	5′ 6″	20.9
	6′ 0″	22.8
	6′ 6″	24.7
	7′ 0″	26.6
	7′ 6″	28.5

LOAD LIMITS FOR *Brickwork* LINTELS

Window Type	Opening Width	Lintel Length	Maximum (1) Triangular Weight*	Total (2) Triangular Load	Total (3) Uniform Load**
1—Light Casement	1′ 7⅜″	2′ 6″	65#*	2175#	2900#
2—Light Casement	3′ 1¼″	4′ 0″	236#*	1130	1500
3—Light Casement	4′ 5⅜″	5′ 6″	495	1580	2100
4—Light Casement	5′ 9⅜″	6′ 6″	840	1210	1615
2′ 0″ Double Hung	2′ 0½″	3′ 0″	104	1720	2290
2′ 4″ Double Hung	2′ 4½″	3′ 6″	140	1475	1965
2′ 8″ Double Hung	2′ 8½″	3′ 6″	185	1293	1725
3′ 0″ Double Hung	3′ 0½″	4′ 0″	230	1150	1535
3′ 4″ Double Hung	3′ 4½″	4′ 6″	285	1040	1385
3′ 8″ Double Hung	3′ 8½″	4′ 6″	345	945	1260
15″ x 12″; 15″ x 16″ or 15″ x 20″ two light basement utility	2′ 8½″	3′ 6″	185	1293	1725
	2′ 8½″	3′ 6″	185	1293	1725
Typical Openings for Various Lintels	1′ 4″	2′ 0″	45	2630	3510
	4′ 4″	5′ 0″	465	1620	2140
	5′ 3″	6′ 0″	690	1338	1780
	6′ 2″	7′ 0″	950	1140	1520
	6′ 6″	7′ 6″	1050	1080	1440

(*) To this weight must be added any superimposed weight that must be carried by the roll formed lintel.

**Based on 18,000 lbs. P.S.I. stress in steel lintel and uniform distributed load.

Quality of steel equivalent to Grade C—ASTM 245.

Cement-block and *Cinderblock* LINTELS



SPECIFICATIONS

TYPE	LENGTH	WEIGHT (pounds)
7″ Width	2′ 6″	9
11 Gauge	3′ 0″	11
SAE 1020	3′ 6″	12
hot rolled rim steel	4′ 0″	14
	4′ 6″	16
	5′ 0″	18

LOAD LIMITS FOR *Cement-block* LINTELS

Width of Opening	Lintel Length	Maximum Triangular Weight (1)	Total Triangular Load (2)	Total Uniform Load (3)
1′ 6″	2′ 6″	51#*	742	988
1′ 9″	2′ 6″	69	634	848
2′ 0″	3′ 0″	90	556	742
2′ 3″	3′ 0″	114	493	660
2′ 6″	3′ 6″	141	447	592
2′ 9″	3′ 6″	170	404	540
3′ 0″	4′ 0″	202	370	493
3′ 3″	4′ 0″	238	342	456
3′ 6″	4′ 6″	276	318	423
3′ 9″	4′ 6″	317	297	395
4′ 0″	5′ 0″	350	278	371

(*) To this weight must be added any superimposed weight that must be carried by the lintel.

(**) Based on 18,000 lbs. P.S.I. stress in steel lintel and uniform distributed load.

Quality of steel equivalent to SAE-1020.

Brainard

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STEEL DIVISION
SHARON STEEL CORPORATION

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BASEMENTS



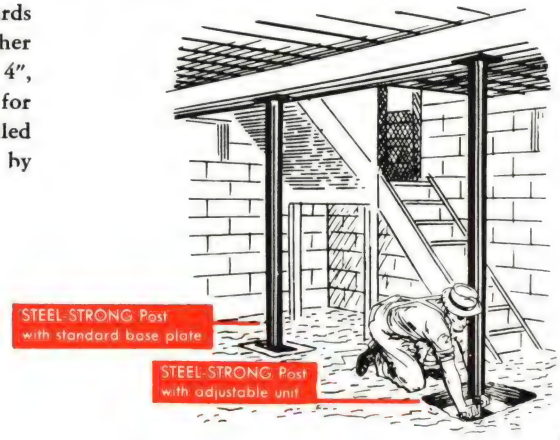
CARPORTS



PORCHES



CANOPIES



ENGINEERING DATA

Column Length	Safe Load A.I.S.C.	Safe Load Conc. Filled N. Y. City Code	Max. Load	Volume Conc. Cu. Ft.	Steel Wt. Lbs.
3" O.D. x 13 ga. (.095") Steel Area .8671 Sq. In.					
6' 0"	12,680	17,100	38,040	.258	17.68
6' 6"	12,300	16,210	36,900	.280	19.16
6' 8"	12,100	15,810	36,300	.287	19.65
7' 0"	12,000	15,410	36,000	.301	20.63
7' 6"	11,500	14,610	34,500	.323	22.10
8' 0"	11,080	13,820	33,240	.344	23.58
3" O.D. x 11 ga. (.120") Steel Area 1.0857 Sq. In.					
6' 0"	15,850	19,500	47,550	.249	22.15
6' 6"	15,400	18,600	46,200	.270	24.00
6' 8"	15,250	18,100	45,750	.277	24.61
7' 0"	14,910	17,650	44,730	.291	25.84
7' 6"	14,310	16,700	42,930	.312	27.68
8' 0"	13,720	15,800	41,160	.333	29.53
3½" O.D. x 13 ga. (.095") Steel Area 1.02 Sq. In.					
6' 0"	15,500	23,000	46,500	.358	20.73
6' 6"	15,200	22,000	45,600	.388	22.46
7' 0"	14,900	21,500	44,700	.418	24.19
7' 6"	14,500	20,500	43,500	.448	25.91
8' 0"	14,150	19,600	42,450	.478	27.64
3½" O.D. x 11 ga. (.120") Steel Area .128 Sq. In.					
6' 0"	19,400	27,000	58,200	.348	25.99
6' 6"	19,100	26,000	57,300	.377	28.16
7' 0"	18,700	25,000	56,100	.416	30.32
7' 6"	18,300	24,000	54,900	.445	32.49
8' 0"	17,700	23,000	53,100	.464	34.66
4" O.D. x 13 ga. (.095") Steel Area 1.14 Sq. In.					
6' 0"	18,300	29,500	54,900	.475	23.77
6' 6"	18,000	28,500	54,000	.514	26.34
7' 0"	17,700	27,500	53,100	.554	27.73
7' 6"	17,400	26,500	52,200	.593	29.72
8' 0"	17,100	25,500	51,300	.633	31.70

Column Length	Safe Load A.I.S.C.	Safe Load Conc. Filled N. Y. City Code	Max. Load	Volume Conc. Cu. Ft.	Steel Wt. Lbs.
4" O.D. x 11 ga. (.120") Steel Area 1.46 Sq. In.					
6' 0"	22,900	34,200	68,700	.466	29.84
6' 6"	22,600	33,050	67,800	.501	32.33
7' 0"	22,200	32,100	66,600	.539	34.81
7' 6"	21,900	31,050	65,700	.578	37.30
8' 0"	21,400	30,000	64,200	.616	39.78

Safe Load Concrete Filled Steel Tube N. Y. City Code

$$P = (Ac + 12\,As)\,(1600 - \frac{24\,l}{d})$$

A.I.S.C. = American Institute of Steel Construction — Safe Load Column formula $P = A\,(17000 - 0.485\,\frac{l^2}{r^2})$

Max. load is 3 + times safe load.

Length of Post	3" O.D. 13 Ga. 13573 ft.	Wt. Per Pc.	3" O.D. 11 Ga. 10837 ft.	Wt. Per Pc.
6' 0"	2262 pcs.	17.68 #	1806 pcs.	22.15 #
6' 6"	2061 pcs.	19.16 #	1667 pcs.	24.00 #
6' 8"	2054 pcs.	19.65 #	1625 pcs.	24.61 #
7' 0"	1939 pcs.	20.63 #	1548 pcs.	25.84 #
7' 6"	1810 pcs.	22.10 #	1445 pcs.	27.68 #
8' 0"	1696 pcs.	23.58 #	1355 pcs.	29.53 #
Length of Post	3½" O.D. 13 Ga. 11545 ft.	Wt. Per Pc.	3½" O.D. 11 Ga. 9233 ft.	Wt. Per Pc.
6' 0"	1929 pcs.	20.73 #	1539 pcs.	25.99 #
6' 6"	1781 pcs.	22.46 #	1420 pcs.	28.16 #
6' 8"	1736 pcs.	23.04 #	1385 pcs.	28.89 #
7' 0"	1654 pcs.	24.19 #	1319 pcs.	30.32 #
7' 6"	1544 pcs.	25.91 #	1231 pcs.	32.49 #
8' 0"	1448 pcs.	27.64 #	1154 pcs.	34.66 #
Length of Post	4" O.D. 13 Ga. 10096 ft.	Wt. Per Pc.	4" O.D. 11 Ga. 8040 ft.	Wt. Per Pc.
6' 0"	1683 pcs.	23.77 #	1340 pcs.	29.84 #
6' 6"	1553 pcs.	25.75 #	1237 pcs.	32.33 #
6' 8"	1514 pcs.	26.42 #	1206 pcs.	33.17 #
7' 0"	1442 pcs.	27.73 #	1149 pcs.	34.81 #
7' 6"	1346 pcs.	29.72 #	1072 pcs.	37.30 #
8' 0"	1262 pcs.	31.70 #	1006 pcs.	39.78 #

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McKinley ornamental ironwork



McKINLEY IRON WORKS
FORT WORTH, TEXAS
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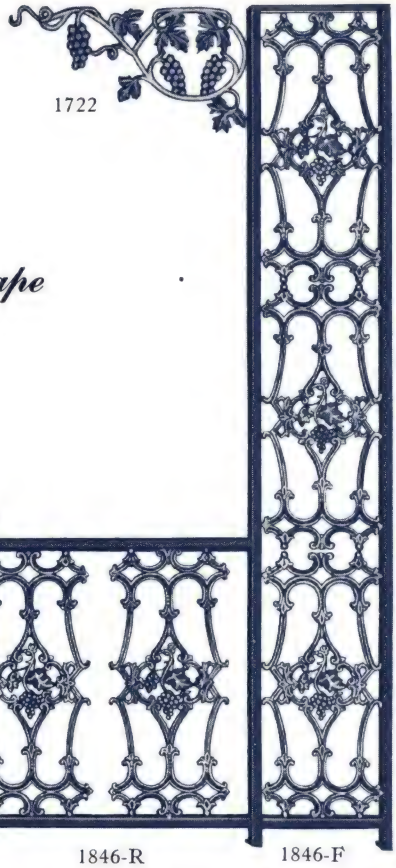
CAT. 55


1845-C

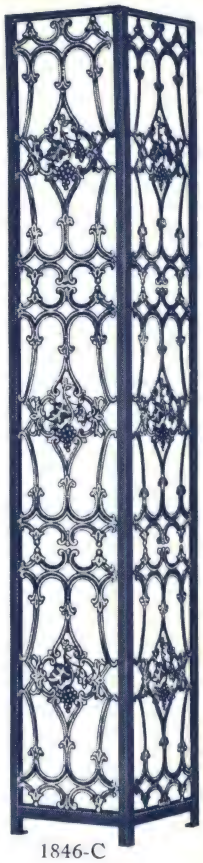


1845-F 1845-R

Lady Finger Grape



1846-R 1846-F


1846-C

1845-C	Corner column 11⅜″ x 11⅜″, any height
1845-F	Flat column 11⅜″ wide, any height
1845-R	Railing 27⅜″ overall height from floor, castings on 13⅜″ centers
F-4	Finial for rail endings
1722	Corner bracket 10″ x 19½″

Lady Finger Grape, single faced: This design depicts the lace work of nature from the vineyards of Medieval France. Taken from the semi-wild grape grown for its great value to the wine industry. Its enhancing beauty is brought out in the installation above.

1846-C	Corner column 15¾″ x 15¾″, any height
1846-F	Flat column 15¾″ wide, any height
1846-R	Railing 35⅛″ overall height from floor, castings on 17¼″ centers
F-4	Finial for rail endings
1722	Corner bracket 10″ x 19½″


1720-C



1720-F 1720-R

Mustang Grape

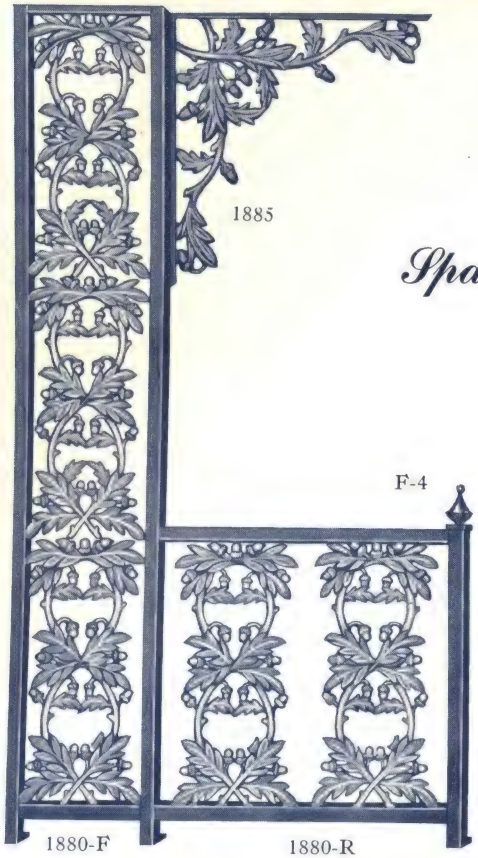


1720-C	Corner column 10″ x 10″, any height
1720-F	Flat column 10″ wide, any height
1720-R	Railing 34¾″ overall height from floor, castings on 12″ centers
F-4	Finial for rail endings
1722	Corner bracket 10″ x 19½″

Mustang Grape, double faced: A designed conception of the vine fruit imported by the Spaniards after the conquest in the 19th Century, and originally grown on the stairs of the North American Continent. It is one of the most popular of all designs.

Columns furnished any heighth.
Railings furnished any length.


1880-C


1885

F-4

1880-F 1880-R

Spanish Oak


1885

F-4

1887-R 1887-F

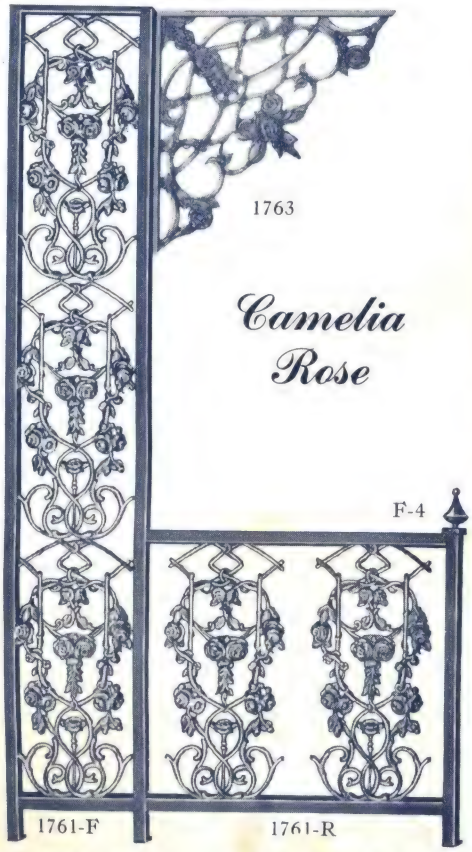

1887-C

1880-C	Corner column 14⅝" x 14⅝", any height
1880-F	Flat column 14⅝" wide, any height
1880-R	Railing 32⅛" overall height from floor, castings on 16⅛" centers
F-4	Finial for rail endings
1885	Corner bracket 21¼" x 21¼"

Spanish Oak, single faced: From the original design of the Spanish iron craftsman. The particular manifestation of work in iron may still be found in Ancient Spain. The oak leaf and acorn is the traditional Spanish emblem of hospitality.

1887-C	Corner column 10¾" x 10¾", any height
1887-F	Flat column 10¾" wide, any height
1887-R	Railing 38¼" overall height from floor, castings on 12¼" centers
F-4	Finial for rail endings
1885	Corner bracket 21¼" x 21¼"


1761-C


1763

F-4

1761-F 1761-R

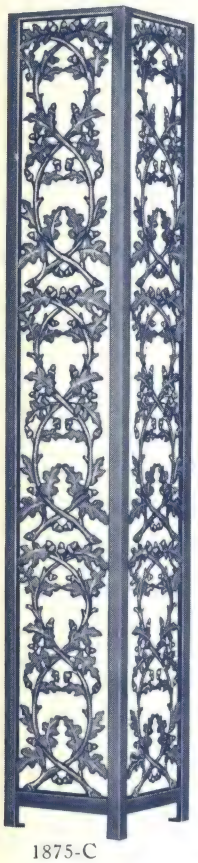
Camelia Rose



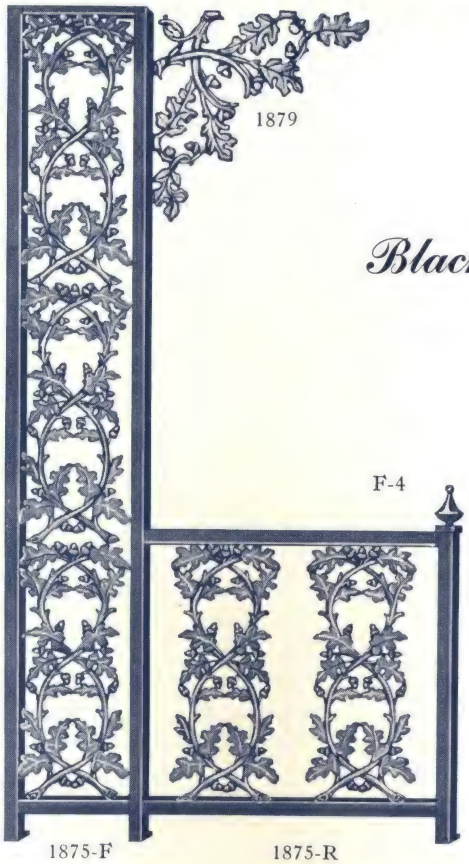
1761-C	Corner column 15¾" x 15¾", any height
1761-F	Flat column 15¾" wide, any height
1761-R	Railing 34¾" overall height from floor, castings on 17¼" centers
F-4	Finial for rail endings
1763	Corner bracket 20" x 20"

Camelia Rose, single faced: Named after George Joseph Camel, a Moravian Jesuit. Its showy blooms resemble the tea family and has laurel-like leaves. Its beauty in column and [illegible] brought out by the photographic reproduc-

McKINLEY IRON WORKS
FORT WORTH, TEXAS



1875-C



1875-F 1875-R

Black Jack Oak



1878-R



1878-F 1878-C

1875-C	Corner column 14½″ x 14½″, any height
1875-F	Flat column 14½″ wide, any height
1875-R	Railing 34″ overall height from floor, castings on 15½″ centers
F-4	Finial for rail endings
1879	Corner bracket 17¾″ x 17¾″

Black Jack Oak, double faced: A valuable timber tree used in ship building, well known for its toughness and strength—bark used for tanning. Its broad intricately shaped leaves are adorned with the acorn nuts of its species. One of the most popular of all domestic designs.

1878-C	Corner column 10¾″ x 10¾″, any height
1878-F	Flat column 10¾″ wide, any height
1878-R	Railing 36½″ overall height from floor, castings on 12¼″ centers
F-4	Finial for rail endings
1879	Corner bracket 17¾″ x 17¾″



1730-C



1730-F 1730-R

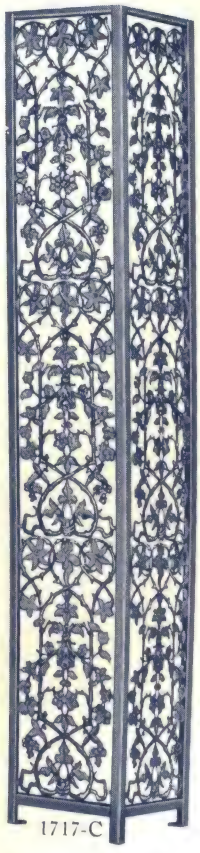
Chantilly Grape

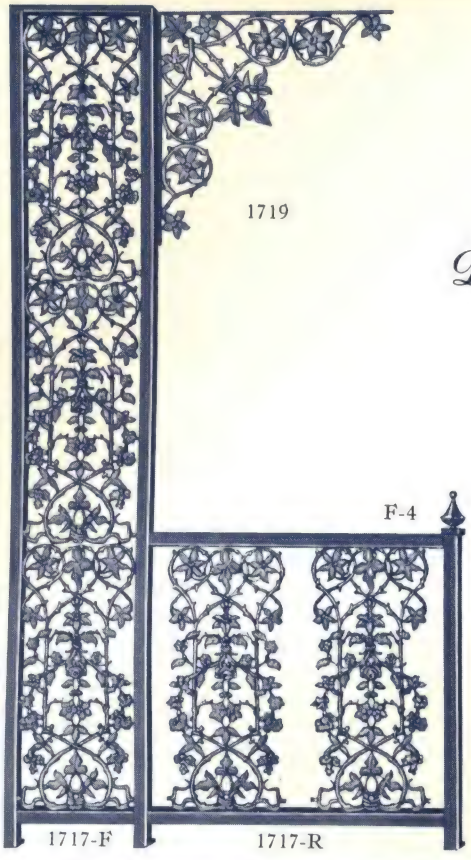


1730-C	Corner column 15⅜″ x 15⅜″, any height
1730-F	Flat column 15⅜″ wide, any height
1730-R	Railing 31″ overall height from floor, castings on 16⅞″ centers
F-4	Finial for rail endings
1722	Corner bracket 10″ x 19½″

Chantilly Grape, double faced: An intricate design originated in the 18th Century in France. The author did much to capture the fine lacy effect of the Chantilly grape vine.

Columns furnished any heighth.
Railings furnished any length.

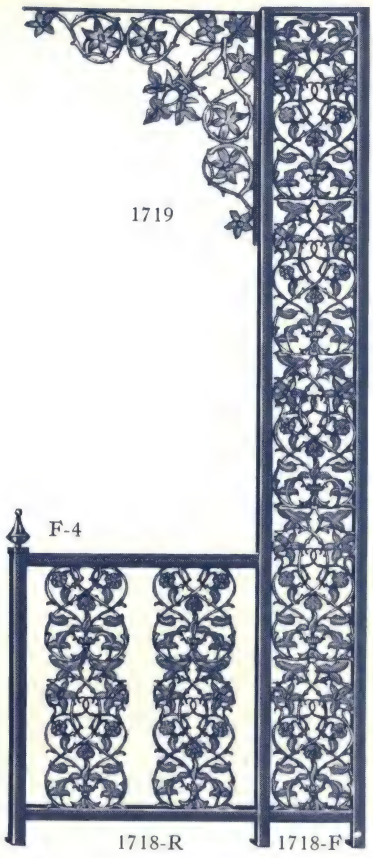

1717-C


1719

F-4

1717-F 1717-R

Daffodil


1719

F-4

1718-R 1718-F

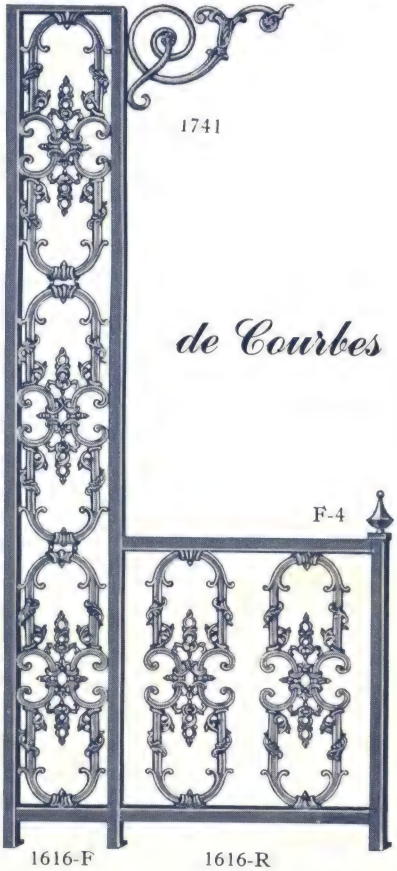

1718-C

1717-C Corner column 14¾″ x 14¾″, any height
1717-F Flat column 14¾″ wide, any height
1717-R Railing 33¾″ overall height from floor, castings on 16¾″ centers
F-4 Finial for rail endings
1719 Corner bracket 22½″ x 22½″

Daffodil, double faced: Symbolic of the Amaryllis family, having bell shaped flowers — a variety of narcissus and a native of the woods and the meadows. As an intensive genus of the bulbous plants, its lacy design depicts the very breath of nature. The columns and railings above display rare beauty.

1718-C Corner column 10⅜″ x 10⅜″, any height
1718-F Flat column 10⅜″ wide, any height
1718-R Railing 33″ overall height from floor, castings on 11⅜″ centers
F-4 Finial for rail endings
1719 Corner bracket 22½″ x 22½″


1616-C


1741

F-4

1616-F 1616-R

de Courbes



1616-C Corner column 11⅛″ x 11⅛″, any height
1616-F Flat column 11⅛″ wide, any height
1616-R Railing 33½″ overall height from floor, castings on 13⅜″ centers
F-4 Finial for rail endings
1741 Corner bracket 6½″ x 15″

de Courbes, double faced: From the design of Jean de Courbes, born in France in 1592 and died in 1645 — an extensive traveler in Spain and England — an engraver of renown. This railing or column design will lend beauty to almost any structural building, inside or out.

McKINLEY IRON WORKS
FORT WORTH, TEXAS









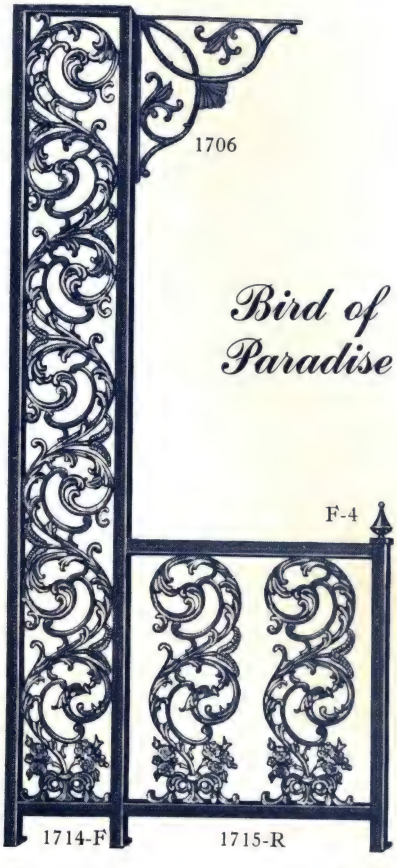
Juan Battista

1602-C	Corner column 16¾″ x 16¾″, any height
1602-F	Flat column 16¾″ wide, any height
1602-R	Railing 26″ overall height from floor, castings on 13¾″ centers
F-4	Finial for rail endings
1601	Corner bracket 14½″ x 21″

Juan Battista, double faced: A sculptor and designer of Italian ancestry who plied his art in northern Italy and southern France. His works were well known in all Europe in the 17th century. His work of art is a versatile masterpiece as displayed in the installations above, using natural lines and curves, one of the most fundamental of designs.

1604-C	Corner column 13″ x 13″, any height
1604-F	Flat column 13″ wide, any height
1604-R	Railing 29″ overall height from floor, castings on 10½″ centers
F-4	Finial for rail endings
1610	Corner bracket 11″ x 24½″





Bird of Paradise



1714-C	Corner column 11¼″ x 11¼″, any height
1714-F	Flat column 11¼″ wide, any height
1715-R	Railing 30¼″ overall height from floor, castings on 12¾″ centers
F-4	Finial for rail endings
1706	Corner bracket 14⅜″ x 14⅜″

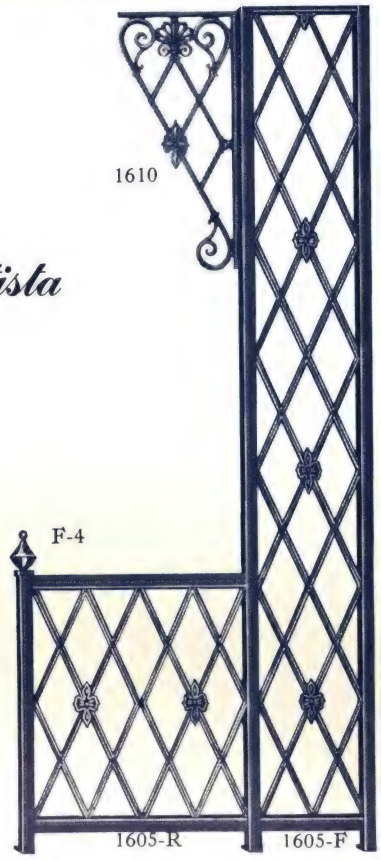
Bird of Paradise, double faced: One of a family of conirostral birds found in the islands of the Indian Archipelago, the male birds being celebrated for their gorgeous plumage. These columns and balustrades are very versatile.

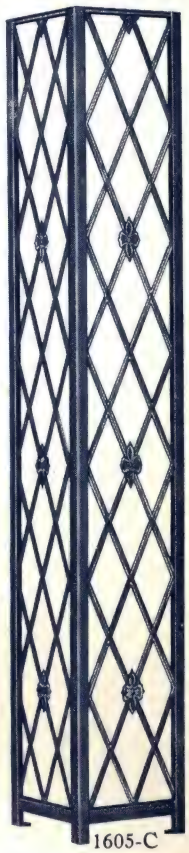
Columns furnished any heighth.
Railings furnished any length.





Juan Battista



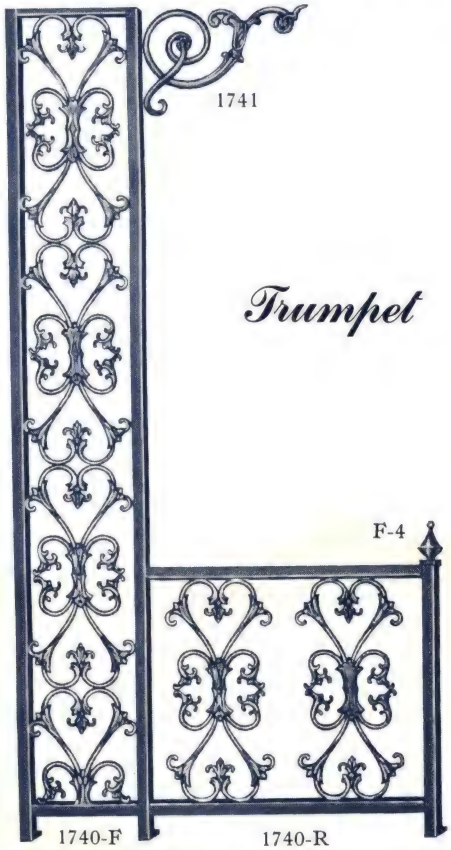


1603-C	Corner column 16¾″ x 16¾″, any height
1603-F	Flat column 16¾″ wide, any height
1603-R	Railing 26″ overall height from floor, castings on 13¾″ centers
F-4	Finial for rail endings
1601	Corner bracket 14½″ x 21″

Juan Battista, double faced: A sculptor and designer of Italian ancestry who plied his art in northern Italy and southern France. His works were well known in all Europe in the 17th century. His work of art is a versatile masterpiece as displayed in the installations above, using natural lines and curves, one of the most fundamental of designs.

1605-C	Corner column 13″ x 13″, any height
1605-F	Flat column 13″ wide, any height
1605-R	Railing 29″ overall height from floor, castings on 10½″ centers
F-4	Finial for rail endings
1610	Corner bracket 11″ x 24½″





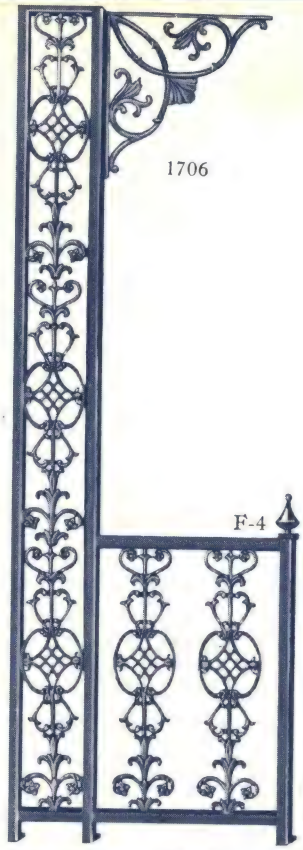
Trumpet



1740-C	Corner column 14¾″ x 14¾″, any height
1740-F	Flat column 14¾″ wide, any height
1740-R	Railing 31″ overall height from floor, castings on 16¼″ centers
F-4	Finial for rail endings
1741	Corner bracket 6½″ x 15″

Trumpet, double faced: This design embraces the clear ringing tone of the musical instrument and because of its various large tubular flowers, the name is most fitting. A beautiful balustrade or column for versatile use. It is popularly used with colonial architecture.



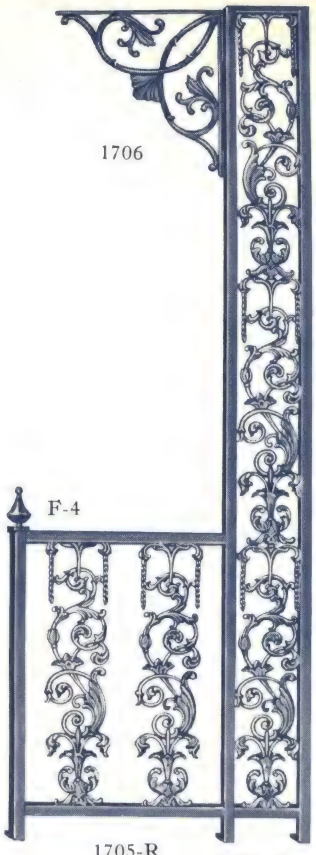


1704-C 1704-F 1704-R

1704-C	Corner column 9⅝″ x 9⅝″, any height
1704-F	Flat column 9⅝″ wide, any height
1704-R	Railing 36½″ overall height from floor, castings on 11⅝″ centers
F-4	Finial for rail endings
1706	Corner bracket 14⅝″ x 14⅝″

Saint Ambros

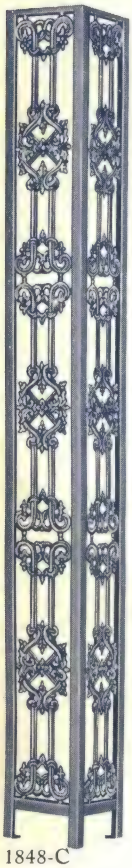
Saint Ambros, double faced: A designer and engraver of the early 18th Century of Spain. A Jesuit whose love for art was apart from his work as a social philosopher. This unusual design is indicated in the columns, balustrades and corner brackets shown above.

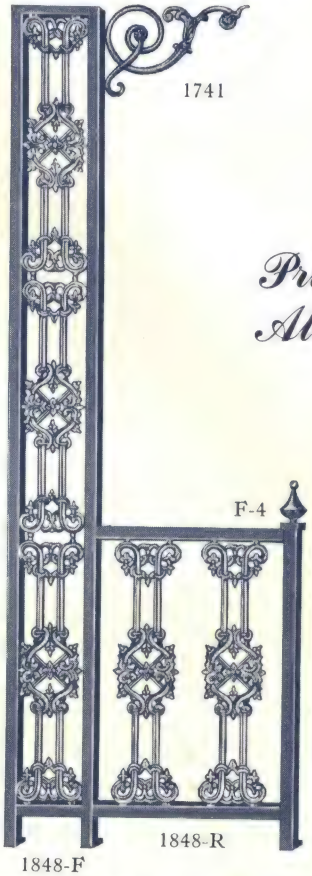




1705-R 1705-F 1705-C

1705-C	Corner column 9⅝″ x 9⅝″, any height
1705-F	Flat column 9⅝″ wide, any height
1705-R	Railing 36½″ overall height from floor, castings on 11⅝″ centers
F-4	Finial for rail endings
1706	Corner bracket 14⅝″ x 14⅝″





1848-C 1848-F

1848-C	Corner column 8¾″ x 8¾″, any height
1848-F	Flat column 8¾″ wide, any height
1848-R	Railing 32″ overall height from floor, castings on 10¾″ centers
F-4	Finial for rail endings
1741	Corner bracket 6½″ x 15″

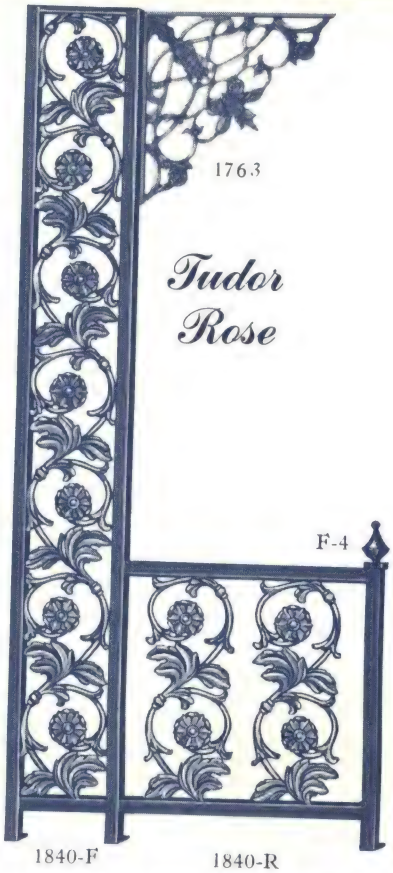
Prince Albert



Prince Albert, double faced: Prince of Saxe-Coburg Gotha, consort of Queen Victoria of England. The very depth of this design reflects the royalty of 1819 to 1861, the span of his lifetime. The columns and balustrades above display rare beauty.

Columns furnished any heighth.
Railings furnished any length.

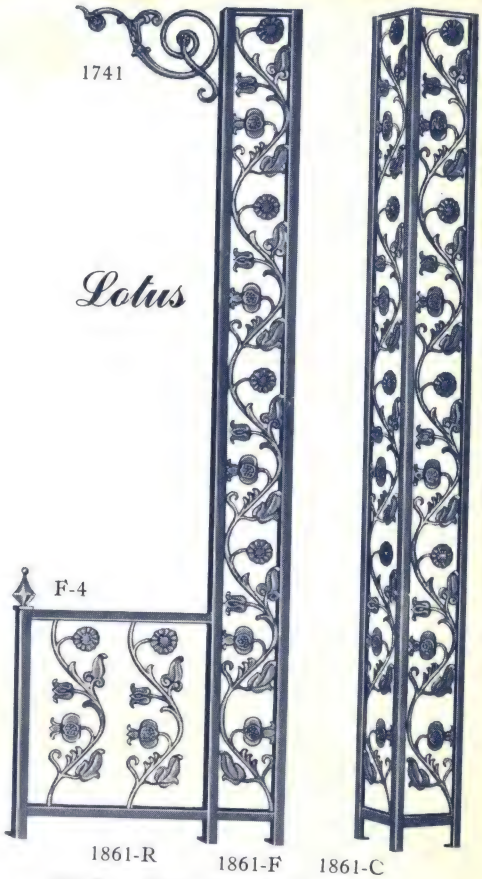

1840-C


1763
F-4
1840-F
1840-R

Tudor Rose

1840-C Corner column 11¼" x 11¼", any height
1840-F Flat column 11¼" wide, any height
1840-R Railing 28¾" overall height from floor, castings on 12¾" centers
F-4 Finial for rail endings
1763 Corner bracket 20" x 20"

Tudor Rose, double faced: Taken from the dynasty and the style of architecture during the reign of Henry VII, Henry VIII, Edward VI, Mary Elizabeth, deriving from Owen Tudor. The Tudor Rose is intended to conjoin the emblems of the houses of York and Lancaster.


1741
F-4
1861-R
1861-F
1861-C

Lotus

1861-C Corner column 8¼" x 8¼", any height
1861-F Flat column 8¼" wide, any height
1861-R Railing 24½" overall height from floor, castings on 10¼" centers
F-4 Finial for rail endings
1741 Corner bracket 6½" x 15"

Lotus, double faced: The fruit of the lotus is fabled among the ancient Greeks to have the property of making people forget. It is also kindred to the Egyptian water lily. The installation shown above sets out its attractiveness and is a choice of many.


1242-C


1706
F-4
1242-F
1242-R

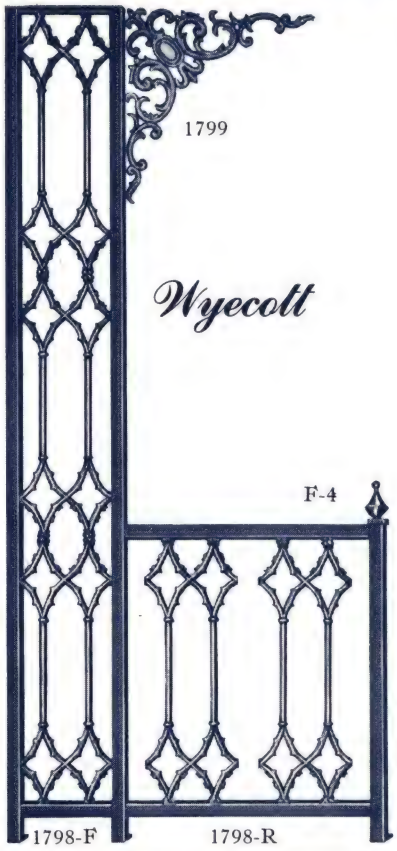
Maurice de Sully

1242-C Corner column 13½" x 13½", any height
1242-F Flat column 13½" wide, any height
1242-R Railing 33" overall height from floor, castings on 15" centers
F-4 Finial for rail endings
1706 Corner bracket 14⅝" x 14⅝"

Maurice de Sully, single faced: A design from that French architect who worked on such famous buildings as Neubaus Von Notre Dame of Germany. He was also famous for memorials of both France and Germany. The lacy softness of this particular design brings out his intricate work in the balustrades and columns shown above.




1798-C


1799

1798-F 1798-R F-4

Wyecott

1798-C Corner column 12⅛″ x 12⅛″, any height
1798-F Flat column 12⅛″ wide, any height
1798-R Railing 33⅞″ overall height from floor, castings on 9⅝″ centers
F-4 Finial for rail endings
1799 Corner bracket 16⅜″ x 16⅜″

Wyecott, double faced: From the works of the English designer and the architect of the late 18th century. Its simplicity in design is the choice of many and may be adorned by the use of the matching corner bracket shown above.

de Lorme, double faced: From the works of a designer of the 18th century who lived with his work until his death in 1775. An architectural masterpiece coming from Orleans of France. Its definite curving lines are brought out in the columns and balustrades shown above.


1741

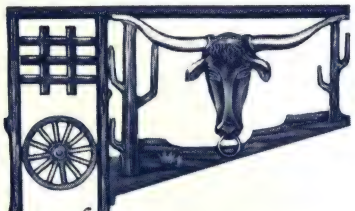
1756-R 1756-F F-4

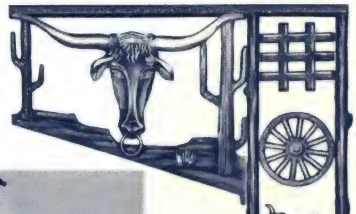
de Lorme


1756-C

1756-C Corner Column 9¾″ x 9¾″, any height
1756-F Flat column 9¾″ wide, any height
1756-R Railing 31″ overall height from floor, castings on 11¾″ centers
F-4 Finial for rail endings
1741 Corner bracket 6½″ x 15″

Ranch Style


1824

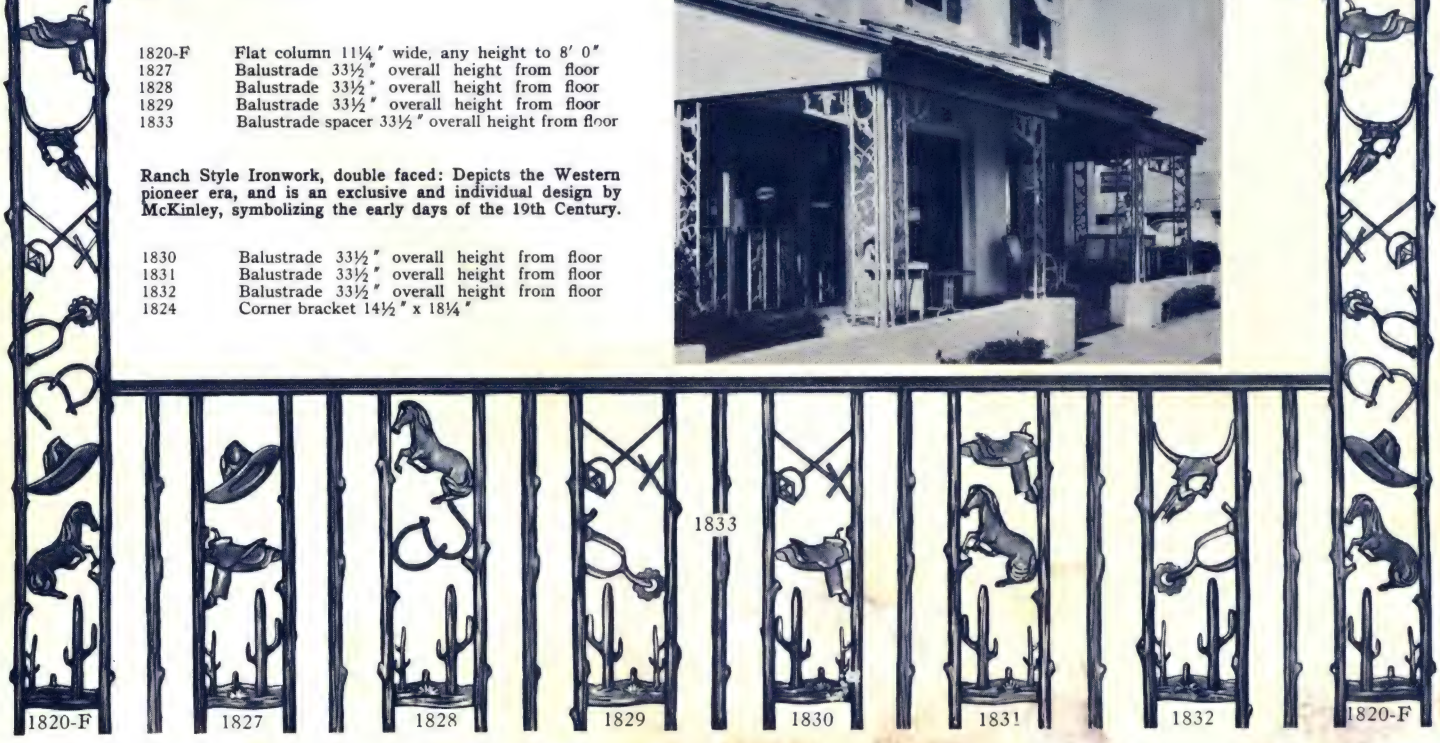

1824

1820-F Flat column 11¼″ wide, any height to 8′ 0″
1827 Balustrade 33½″ overall height from floor
1828 Balustrade 33½″ overall height from floor
1829 Balustrade 33½″ overall height from floor
1833 Balustrade spacer 33½″ overall height from floor

Ranch Style Ironwork, double faced: Depicts the Western pioneer era, and is an exclusive and individual design by McKinley, symbolizing the early days of the 19th Century.

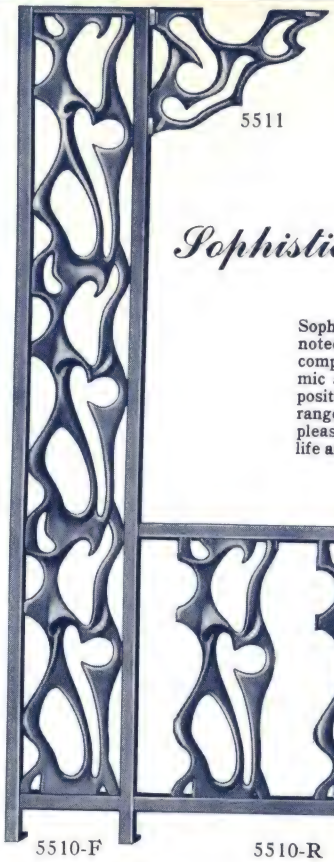
1830 Balustrade 33½″ overall height from floor
1831 Balustrade 33½″ overall height from floor
1832 Balustrade 33½″ overall height from floor
1824 Corner bracket 14½″ x 18¼″




1820-F 1827 1828 1829 1833 1830 1831 1832 1820-F



5510-C



5511

5510-F

F-4

5510-R

Sophistication

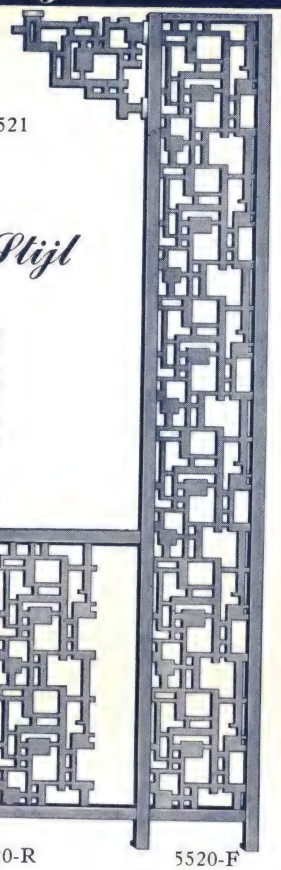
5510-C Corner column 12¼" x 12¼" any height
5510-F Flat column 12¼" wide, any height
5510-R Railing 30½" overall height from floor, castings on 13¾" centers
F-4 Finial for rail endings
5511 Corner bracket 12" x 16½"

Sophistication, double faced: Leonard Logan, an American noted designer, now brings us "Sophistication", an abstract composition in iron that reflects the style of his many academic awards. His "Sophistication" motif' is born through positive and negative space relationship; the rhythmic arrangement of the female form and floral curves . . . the style pleasing . . . the picture beautiful. "Sophistication" will bring life and personality to our modern functional architecture.

de Stijl

5520-C Corner column 12" x 12", any height
5520-F Flat column 12" wide, any height
5520-R Railings 30½" overall height from floor, castings on 13½" centers
F-4 Finial for rail endings
5521 Corner bracket 9½" x 12¾"

de Stijl, double faced: A non-objective composition of deliberate design which in a new way displays the influence of Piet Mondrian. His motif' of the right angle and straight line, that he so uncompromisingly used, has had a tremendous effect on the paintings, fabrics, architecture and even the designs of our magazine covers of today. The "de Stijl" motif' now makes its premier in McKinley iron that is stylized and undisputedly chic.

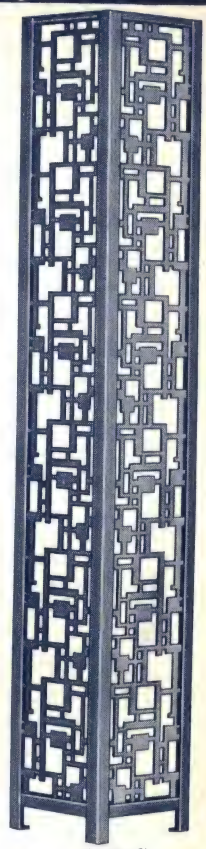


5521

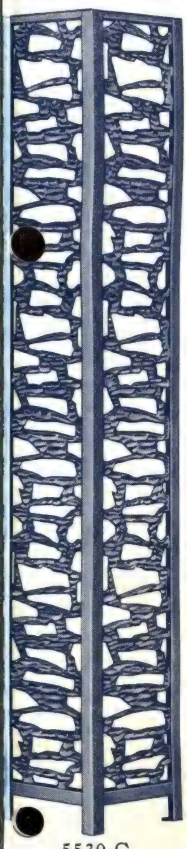
5520-R

F-4

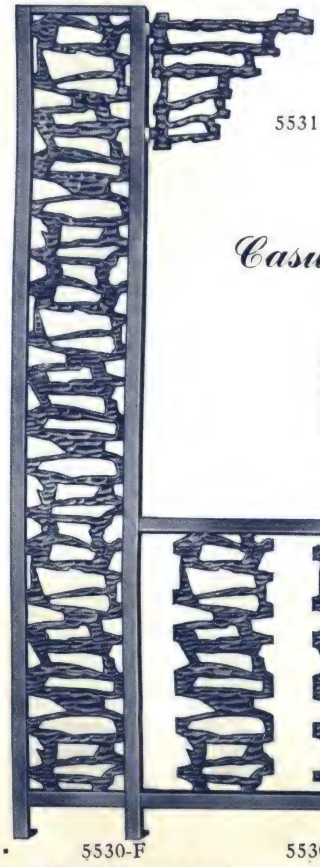
5520-F



5520-C



5530-C



5531

5530-F

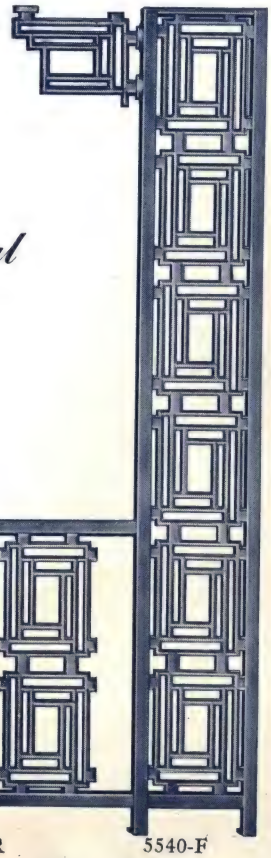
F-4

5530-R

Casual

5530-C Corner column 12¼" x 12¼", any height
5530-F Flat column 12¼" wide, any height
5530-R Railing 30½" over all height from floor, castings on 13¾" centers
Finial for rail endings
Corner bracket 11⅜" x 14½"

Casual, double faced: A design created to show the charming effect of old handhammered iron. The seldom duplicated form arrangments, together with their regular surface texture, has an unstudied effect. It is not a design for any or every type of architecture but it lends its exquisite appeal to buildings of modern architecture and the informal home.

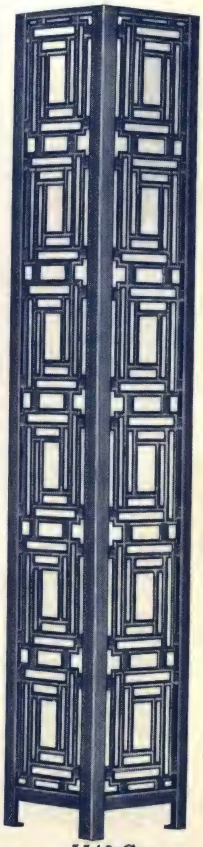


5541

5540-R

F-4

5540-F



5540-C

Formal

5540-C Corner column 12" x 12", any height
5540-F Flat column 12" wide, any height
5540-R Railing 30½" overall height from floor, castings on 13½" centers
F-4 Finial for rail endings
5541 Corner bracket 8⅜" x 12"

Formal, double faced: "Formal" is a design easy to live with. It is for the critic who feels that good principles transcend the times. The formal motif' in design reflects a little of yesterday, some of tomorrow, but it still must be contemporary for use today. Iron work in "Formal" will lend poise and beauty [illegible] home or building.

the greatest trend in American architecture

ornamental ironwork

of original and contemporary designs for permanent charm and beauty, custom by McKinley

Greater Improvement *for* **Lower Cost** *and* **Easy Installation**

on any NEW BUILDING, HOME or REMODELING JOB

Greater Improvement: Greater changes in appearance and more increased value is obtained by using Ornamental Iron than with any other building material.

Lower Cost: McKinley genuine cast ornamental iron is inexpensive, cost paralleling any less ornate materials. Compare the prices.

Easy Installation: All columns, railings and component ornaments shipped ready-to-install, no cutting, drilling or fitting on the job. Can be self-installed or by any mechanic or carpenter.

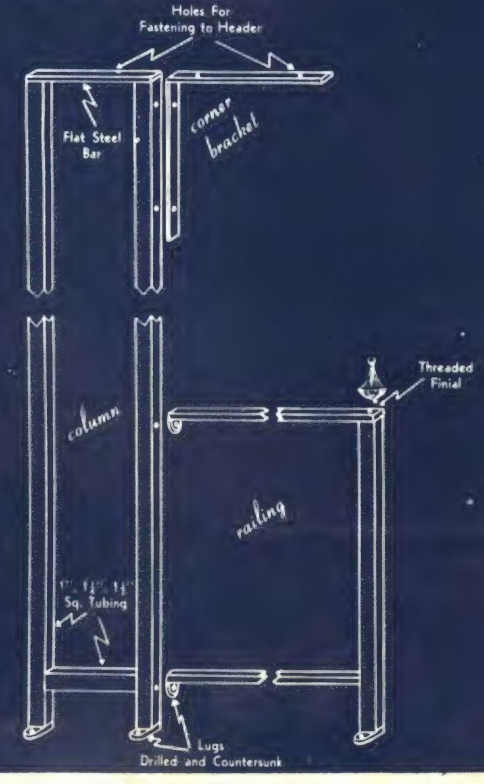
Our Catalog illustrates 27 different ornamental patterns, including interesting authentic 13th Century, early American, horticultural genus, contemporary geometrics and an entirely new original design, Ranch Style. Homes, patios, hotels, motels, restaurants, schools, are all accented with McKinley cast ornamental iron work.

Building contractors and architects are encouraged to take advantage of our consulting and design service.

—

SEE BACK COVER FOR EASY INSTRUCTIONS ON ORDERING

Schematic Installation



FABRICATED COLUMN DETAILS

Style No.	Square Tubing Size	Est. Strength in lbs. for average height
1242-F	1¼	6000
1242-C	1¼	10340
1586-F	1¼	3040
1586-C	1¼	5590
1602-F	1½	8000
1602-C	1½	13000
1603-F	1½	7200
1603-C	1½	11960
1604-F	1¼	3840
1604-C	1¼	8980
1605-F	1¼	3680
1605-C	1¼	8720
1615-F	1¼	3120
1615-C	1¼	6890
1616-F	1¼	3280
1616-C	1¼	7290
1704-F	1	2880
1704-C	1	5270
1705-F	1	2880
1705-C	1	5070
1714-F	1¼	3440
1714-C	1¼	7940
1717-F	1	3440
1717-C	1	6500
1718-F	1	2880
1718-C	1	5720
1720-F	1	2800
1720-C	1	5340
1730-F	1¼	4080
1730-C	1¼	7940
1740-F	1¼	4000
1740-C	1¼	7860
1756-F	1	2560
1756-C	1	5410
1761-F	1¼	4820
1761-C	1¼	8460
1798-F	1¼	3600
1798-C	1¼	6450
1820-F	1⅜ RD	3680
1840-F	1¼	3600
1840-C	1¼	6500
1845-F	1	2880
1845-C	1	5720
1846-F	1¼	4720
1846-C	1¼	8850
1848-F	1	2800
1848-C	1	5130
1861-F	1	2800
1862-C	1	4560
1875-F	1½	6880
1875-C	1½	11310
1878-F	1¼	3520
1878-C	1¼	6640
1880-F	1¼	4750
1880-C	1¼	9100
1887-F	1¼	3440
1887-C	1¼	6120
5510-F	1¼	3580
5510-C	1¼	7339
5520-F	1¼	3550
5520-C	1¼	7278
5530-F	1¼	3710
5530-C	1¼	7049
5540-F	1¼	3640
5540-C	1¼	7644

Flat or corner columns will be furnished with tubing sizes shown unless otherwise specified. Tubing sizes may be increased without marring design or appearance, and should be increased for more strength if column requirement is more than average height.

FLAT AND CORNER COLUMNS ARE FURNISHED IN ANY SPECIFIED OVERALL LENGTH WITH MOUNTING LUGS FOR TOP AND BOTTOM.

Can Be Financed

FHA, Title I

INSTRUCTIONS FOR ORDERING

COLUMNS are shipped finished top and bottom, all necessary holes drilled, ready-to-install per your specified overall height. Top is fastened with lag screws to header, bottom with lag screws to wood floors, expansion shields to cement floors. With this special mounting, columns are securely anchored top and bottom, protecting roof or canopy from upward wind thrust as well as offering ample strength and load bearing stability.

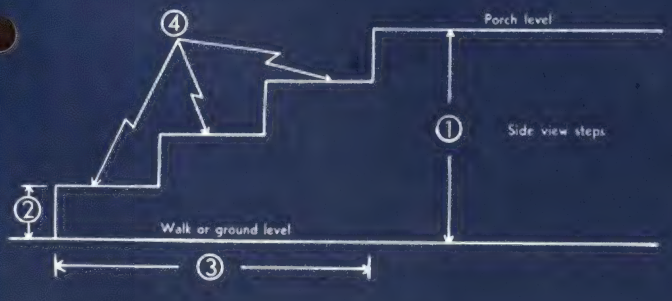
Measure exact vertical distance floor to header for each column in order that we can furnish columns to fit where structures are slightly irregular.

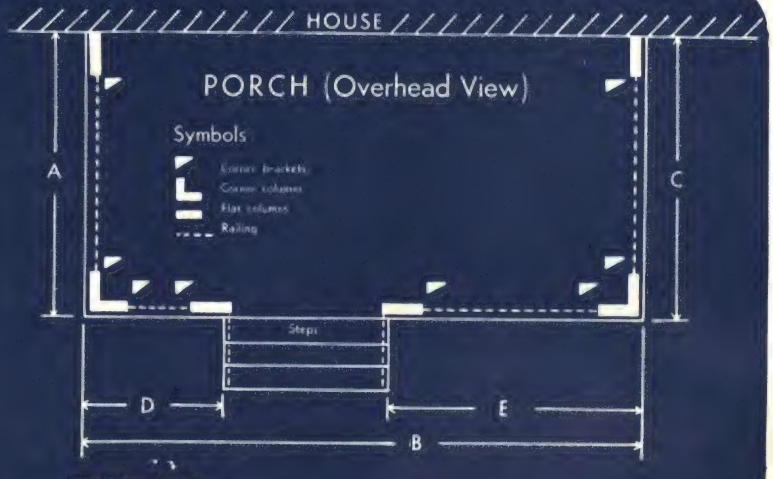
RAILINGS are shipped with all joint and footing lugs drilled, ready-to-install per your specified length. Rail joints are fastened with lag screws to wood walls or expansion shields to masonry walls. Rails fasten to columns with hex head metal screws.

Measure exact width and length of porch. Where steps interrupt the edge of a porch, measure from porch edge to step edge each side. If in doubt of how to order, use a simple drawing as per samples below which will provide ample information. Unless specified by customer, outside of railings and columns are set 2½" inside porch and step edge.

CORNER BRACKETS are shipped with all holes drilled, ready-to-install. Fasten to header with lag screws and to columns with hex head metal screws.

FINIALS are shipped with threaded spindle base which screws to railing end.





Stair Rail Data:

1. ____ ft. ____ in. (porch height from ground or walk)
2. ____ ft. ____ in. (bottom step height from walk)
3. ____ ft. ____ in. (length steps, porch edge to outside bottom step)
4. ____ steps (counting steps, do not include porch level as a step)

Railing Data:

A. ____ ft. ____ in. (width of porch, left side)
B. ____ ft. ____ in. (length of porch)
C. ____ ft. ____ in. (width of porch, right side)
D. ____ ft. ____ in. (edge of porch, to left of steps)
E. ____ ft. ____ in. (edge of porch, to right of steps)

We will furnish shop drawings on any material necessary. Prompt quotations on any special grilles, copings or crestings.



1846



1845



1880

Lady Finger Grape



1885



1881



1882

Spanish Oak



1875



1879



1876



1874

Black Jack Oak



1877



1722



1720

Mustang Grape

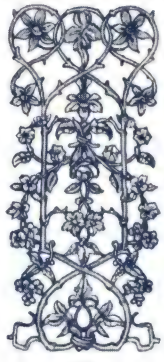


1719



1718

Daffodil

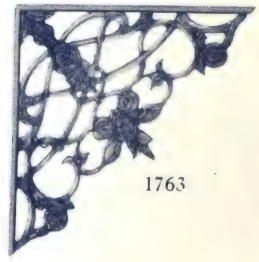


1717



1761

Camelia Rose



1763



1616

de Courbes



1730

Chantilly Grape



1715



1712



1713

Bird of Paradise

1845 Lady Finger Grape—Single Faced Panel 9⅜" x 22⅜"
1846 Lady Finger Grape—Single Faced Panel 13¼" x 29⅞"
1875 Black Jack Oak—Double Faced Panel 11½" x 28½"
1876 Black Jack Oak—Double Faced End or Starter 8¼" x 11"
1877 Black Jack Oak—Double Faced Panel 8¼" x 20¼"
1874 Black Jak Oak—Double Faced Cresting or Coping 5⅛" x 2[illegible]⅛"
1879 Black Jack Oak—Double Faced Corner Bracket 17¾" x 17[illegible]"
1880 Spanish Oak—Single Faced Panel 12⅛" x 26¾"
1881 Spanish Oak—Single Faced End or Starter 8¼" x 11⅞"
1882 Spanish Oak—Single Faced Panel 8¼" x 21⅛"
1885 Spanish Oak—Single Faced Corner Bracket [illegible]¼" x 21¼"

1616 de Courbes—Double Faced Panel 9⅝" x 28¼"
1712 Bird of Paradise—Double Faced Starter for 1713 - 8¾" x 15"
1713 Bird of Paradise—Double Faced Panel 8¾" x 21"
1715 Bird of Paradise—Double Faced Panel for Balustrade 8¾" x 25'
17[illegible] Daffodil—Double Faced Panel 12¾" x 28¾"
1718 Daffodil—Double Faced Panel 8⅜" x 16¼"
1719 Daffodil—Double Faced Corner Bracket 22½" x 22½"
1720 Mustang Grape—Double Faced Panel 8" x 29¾"
1722 Mustang Grade—Double Faced Corner Bracket 10" x 19½"
1730 Chantilly Grape—Double Faced Panel 12⅞" x 25¾"
1761 Camelia Rose—Single Faced Panel 13¼" x 29½"
1763 Camelia Rose—Single Faced Corner Bracket 20" x 20"



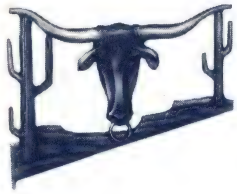
1827



1828



1829



1824



1861

Lotus



1830



1831



1832



1833



1242

Ranch Style

Maurice de Sully



1756



1840



1799



1798



1848

de Lorme

Tudor Rose

Wyecott

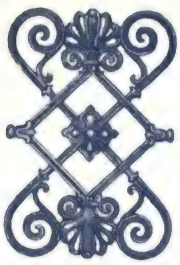
Prince Albert

1824 Ranch Style—Double Faced Corner Bracket 14½″ x [illegible]¼″
1827 Ranch Style—Double Faced for Balustrade 11¼″ x 32[illegible]″
1828 Ranch Style—Double Faced for Balustrade 11¼″ x 32[illegible]″
1829 Ranch Style—Double Faced for Balustrade 11¼″ x [illegible]″
1830 Ranch Style—Double Faced for Balustrade 11¼″ x
1831 Ranch Style—Double Faced for Balustrade 11¼″ x[illegible]″
1832 Ranch Style—Double Faced for Balustrade 11¼″ x[illegible]″
1833 Ranch Style—Double Faced Picket Spacer for Balu[illegible]e Height 32½″

1242 Maurice de Sully—Single Faced Panel 11″ x 27¾″
1756 de Lorme—Double Faced Panel 7¾″ x 26″
1798 Wyecott—Double Faced Panel 9⅝″ x 28⅝″
1799 Wyecott—Double Faced Corner Bracket 16⅜″ x 16⅜″
1840 Tudor Rose—Double Faced Panel 8¾″ x 23½″
1848 Prince Albert—Double Faced Panel 6¾″ x 27″
1861 Lotus—Double Faced Panel 6¼″ x 19½″


1604


1605


1602


1603


1601


1610

Juan Battista


1705


1706

Saint Ambros


1704


1741


1740

Trumpet


5510

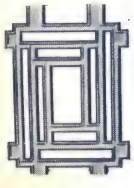

5511

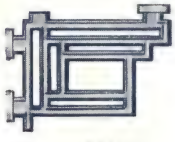
Sophistication


5530


5531

Casual


5540


5541

Formal


5520


5521

de Stijl

1601 Juan Battista—Double Faced Corner Bracket 14½" x 21"
1602 Juan Battista—Double Faced Panel 13¾" x 20½"
1603 Juan Battista—Double Faced Panel 13¾" x 20½"
1604 Juan Battista—Double Faced Panel 10½" x 23¾"
1605 Juan Battista—Double Faced Panel 10½" x 23¾"
1610 Juan Battista—Double Faced Corner Bracket 11" x 24½"
1704 Saint Ambros—Double Faced Panel 7⅝" x 31½"
1705 Saint Ambros—Double Faced Panel 7⅝" x 31½"
1706 Saint Ambros—Double Faced Corner Bracket 14⅝" x 14⅝"

1740 Trumpet—Double Faced Panel 12¼" x 25¾"
1741 Trumpet—Double Faced Corner Bracket 6½" x 15"
5510 Sophistication—Double Faced Panel 9¾" x 25½"
5511 Sophistication—Double Faced Corner Bracket 12" x 16½"
5530 Casual—Double Faced Panel 9¾" x 25½"
5531 Casual—Double Faced Corner Bracket 11⅜" x 14½"
5540 Formal—Double Faced Panel 9½" x 12¾"
5541 Formal—Double Faced Corner Bracket 8⅜" x 12"
5520 de Stijl—Double Faced Panel 9½" x 12¾"
5521. de Stijl—Double Faced Cor. Bracket 9½" x 12¾"

McKinley Iron Works
901 North Throckmorton Street
Fort Worth Texas

TENNESSEE FABRICATING COMPANY

THE MARK OF QUALITY ORNAMENTAL IRON

Ornamental Ironwork



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unlimited universal applications

ANY ARCHITECTURE
ANY PERIOD
ANY LOCALE

residential • commercial interiors • exteriors

This catalog is compiled to assist you in selecting and specifying ornamental iron grillework. Shown in the following pages are only a few of the innumerable cast iron and wrought iron designs which are available through Tennessee Fabricating Company and their facilities. Also shown are fabrication drawings and simplified specifications for your use.

With modern equipment in over 75,000 square feet of production floor space, skilled mechanics and craftsmen at TFC carefully produce ornamental iron of superb quality. The TFC Plant can supply any ornamental iron requirements — regardless of design or dimensions.

TFC Ornamental Iron costs no more — usually less — than other building materials comparable in appearance . . . and ornamental iron lasts forever!

- Columns
- Brackets
- Stair Rails
- Picture Windows
- Cornices
- Friezes
- Crestings
- Garden Gates
- Driveway Gates
- Fences
- Door Grilles
- Window Grilles
- Panels
- Partitions
- Garden Furniture
- Trims
- Summer Houses
- Carports
- Treillage
- Wall Rail
- Guard Rails
- Weathervanes
- House Markers
- Yard Markers
- Trellises
- Outside Lamps
- Doors
- Balconies
- Flower Boxes
- Mail Box Stands
- Window Shutters
- Wall Vents
- Arches
- Screens
- Jardinieres
- Signs
- Urns
- Window Guards
- Foot Scrapers
- Specialties

Definitions

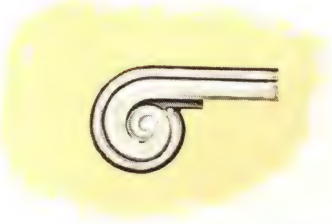
It is easier to specify details of ornamental ironwork when definitions and illustrations are readily at hand. Following is a list of the most important terms of the trade.



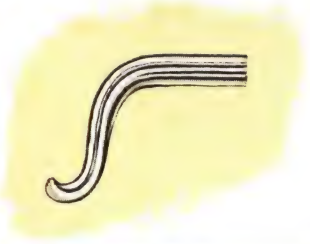
Ornamental Cast Iron is grillework made up with ornamental cast iron castings and steel structural members.

Ornamental Wrought Iron is grillework made with hand-wrought steel scrolls to effect the designing as well as structural strength.

NOTE: Many ornamental iron applications involve the use of both cast and wrought ironwork.



VOLUTE
A decorative rail ending. The cover along the top of the rail is hand-rolled into a scroll which turns under as illustrated. Also called a "head scroll".



LAMB'S TONGUE
A decorative way to end a rail. The cover along the top of the rail is hand-rolled into the design as illustrated. A lamb's tongue or volute is used when a lateral is not required.



LATERAL
A more elaborate way to end a rail. Laterals are actually cast pieces welded on to match rail cover. Pickets and newel post are beneath. Illustration is plan view. Used on bull-nose steps or where extra ornamentation is desired. Appropriate diameters: 6" to 10".



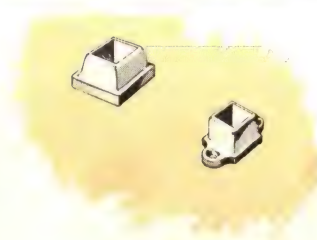
END SCROLL
A decorative wrought iron scroll welded at the end of a rail onto the last newel post. Gives the rail a finishing touch. This is used on both wrought iron and cast iron rails.



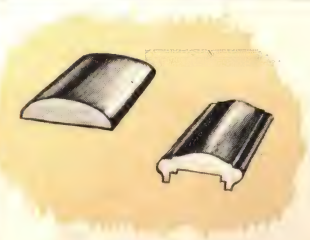
FINIAL
Decorative piece for the top of a railing newel post. Knob and Urn types illustrated. Available in steel or brass.
Standard Size Knobs—
1"—1¼"—1½" diameter
Standard Size Urns—
3"—4" height



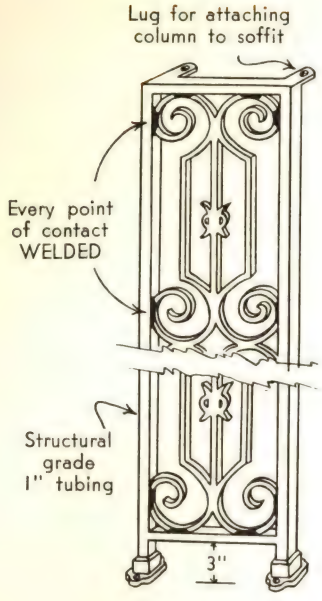
WALL BRACKETS
Used to support wall railing. Are attached directly to the wall. Support wall rail made up of steel channel, inverted, with a half-oval or molded cover.



SHOES
Are decorative collars for the bottoms of column legs and newels. "Plain" shoes drop over the spot where ironwork has been installed in concrete or masonry. "Flanged" shoes are necessary for wood floor installations. See illustrations.



HAND RAIL
The top cover on a rail for appearance as well as ease of handling. Hand rails are either half-oval steel sections or molded steel sections as illustrated.



COLUMN CONSTRUCTION

Direct load-bearing strength: single (flat) columns 3,000 pounds; angle (corner) columns 7,750 pounds; safety factor of 2. (Laboratory-tested).

Uprights up to 8'6" are 1-inch square structural* steel tubing; to 9'6", 1 1/4-inch square; to 10'6", 1 1/2-inch square.

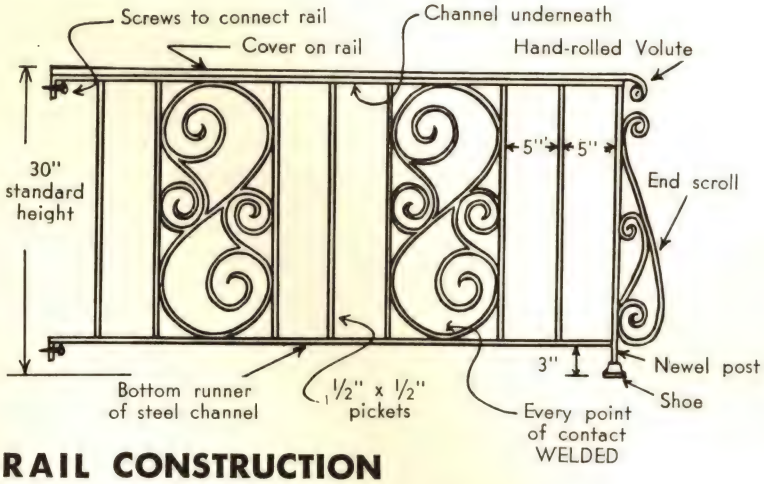
*Structural tubing — specially-drawn, hot-rolled, high-carbon tubing of required wall thickness to support tested load.

Top and bottom plates 3/8"x1" steel bars, welded to uprights. Lugs welded to top plate for fastening to structure.

Wrought or cast iron designs welded to frames at every contact point. All welds ground and tested for proper fusion.

Wrought Iron scrolls 3/16"x3/4" steel.

Note: To simplify, specify TFC architect's weight columns or equal.



RAIL CONSTRUCTION

Standard height: 30" above floor with 3" floor clearance.

Top and bottom runners of one-inch channel, punched to accept half-inch square pickets (balusters).

Pickets blind-welded in channel (see illustration).

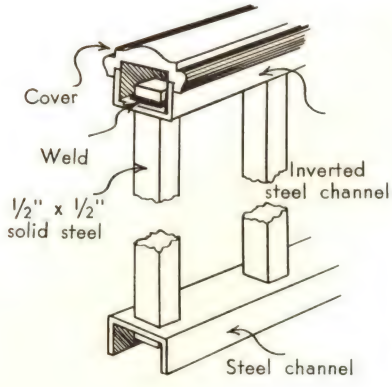
Hand rail welded to top runner.

Half-oval hand rail used on wrought iron railing; molded steel hand rail used on all cast iron rail. Wrought or cast iron design welded to both pickets and runners at all points of contact.

Newel post of one-inch square structural tubing, spaced a maximum of 7' apart.

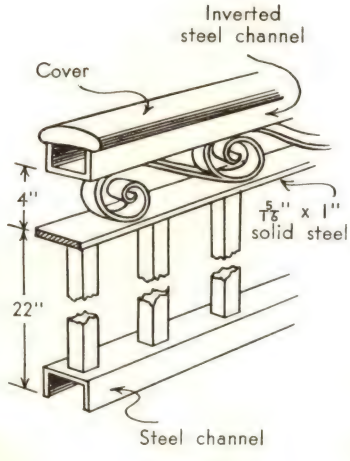
Newels at all corners and ends where support is required.

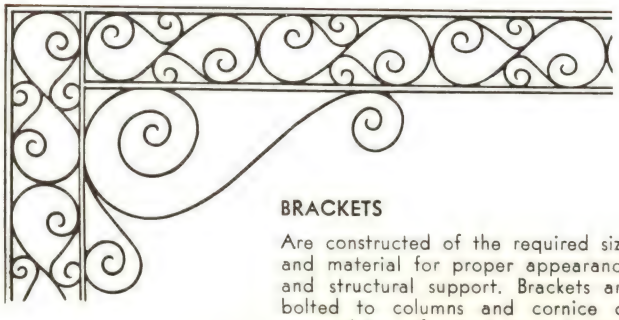
Note: To simplify, specify TFC architect's weight or equal.



Illustrated in cross section the diagram at left shows clearly how pickets are punched through and blind-welded.

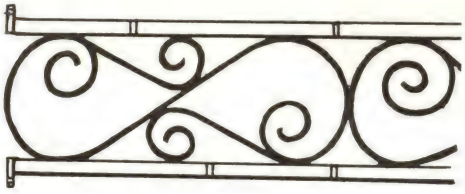
Shown at right is a "double cover" (sometimes called hand rail design) on railing, giving additional beauty and distinction. Intermediate runner 3/8"x1" bar with inverted channel top runner and bottom runner channel also.





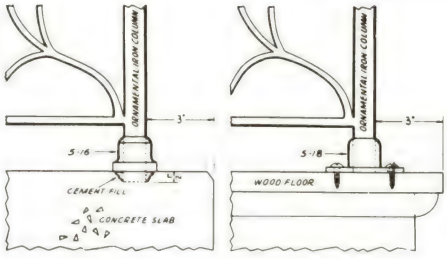
BRACKETS

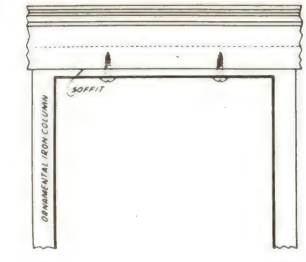
Are constructed of the required size and material for proper appearance and structural support. Brackets are bolted to columns and cornice or screwed to surfaces when used alone.



CORNICES

Are made with design to match columns. Standard framework 3/8" x 1" steel bar unless heavier material required. Cornices bolt to columns and screw to other surfaces.





How to Install TFC Columns

For anchoring in concrete, drill holes 1/2" deep with star drill or cold chisel. Holes should be 3" from edge and lined up with soffit, using a plumb line. After legs are in place, fill with cement mortar. If using shoe, slip over column legs before setting.

For anchoring to wood floor, use flanged shoe and screw tightly to floor boards.

HOW TO SELECT ORNAMENTAL IRON

Wrought iron scrolls

Are heat-drawn, feather-edged. Hand-rolled with sufficient turns to give fullness of design.

Castings

Castings are made of pure pig iron for even texture. Cleaned by wheelabrator, airless abrasive blasting process. Smooth finish, intricate detail, free as possible of foundry defects. TFC castings are of the finest quality available.

Tubing

Is specially-drawn from high-carbon steel for TFC, tested as the best for ornamental iron grillework.

Welding Electrodes

TFC Welding Electrodes have been researched and developed especially by major manufacturers for welding ornamental iron grillework.

Insurance

Every piece of TFC Ornamental Iron Grillework is fully covered by a $100,000 products liability insurance assuring the owner of the very highest quality and safety.

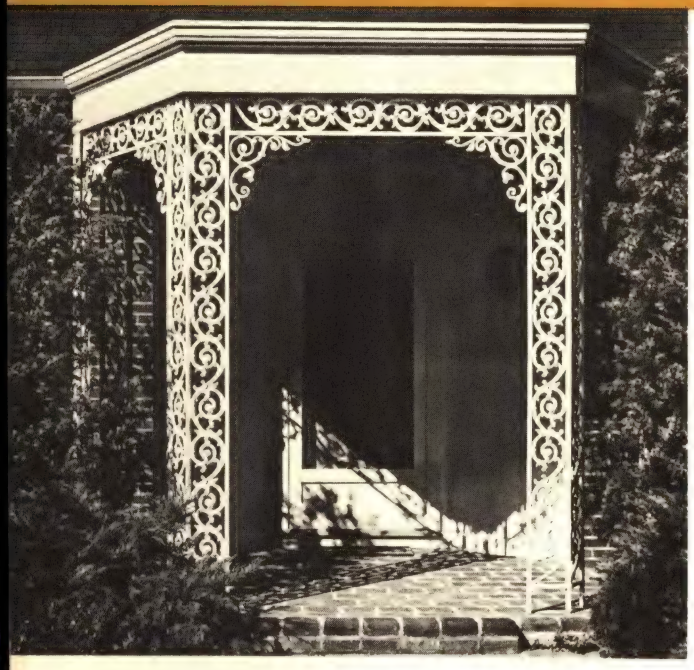
How TFC Can Serve You

To simplify your specifications you need only specify TFC architect's weight grillework. This assures you of receiving all the features outlined on these pages.

The specifications shown are the result of surveys of the requirements of architects nationally.

Tennessee Fabricating Company

"America's Foremost Ornamental Iron Plant"

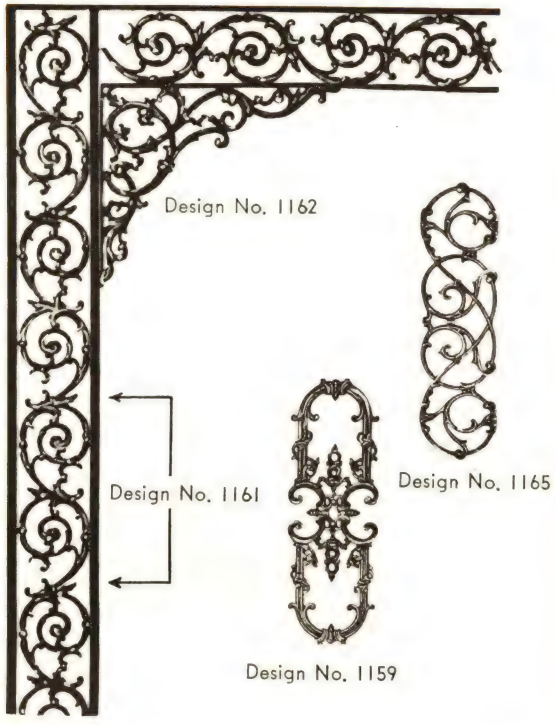


C. I.

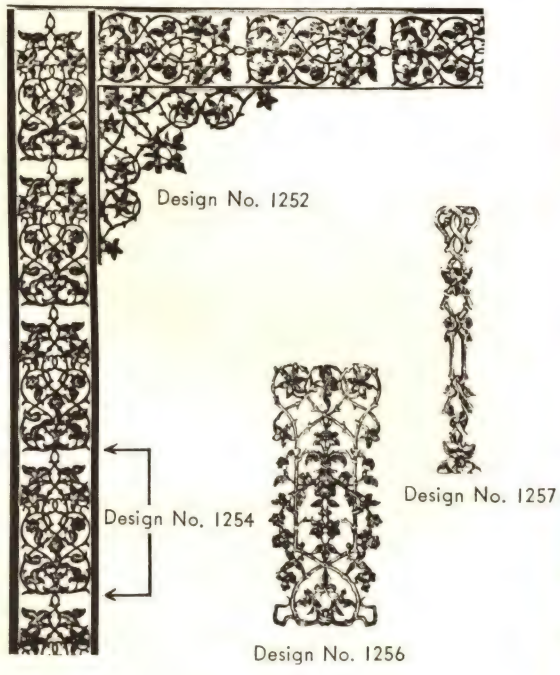
Illustrated on these pages are a few of the hundreds of designs available in cast iron. Many other matching pieces are in stock as well as other patterns not shown.



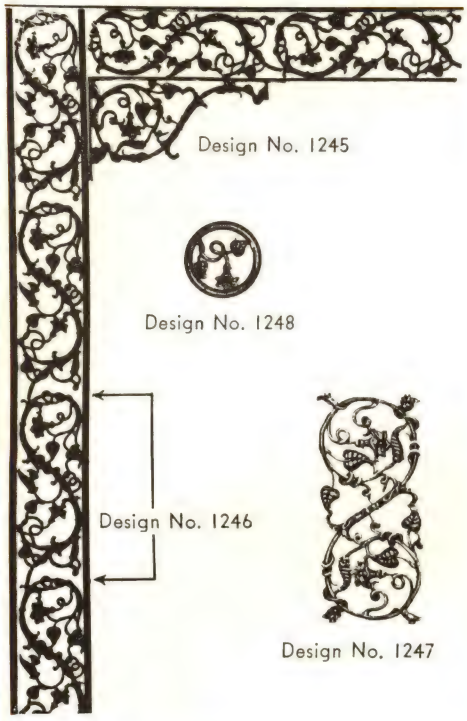
PONTALBA



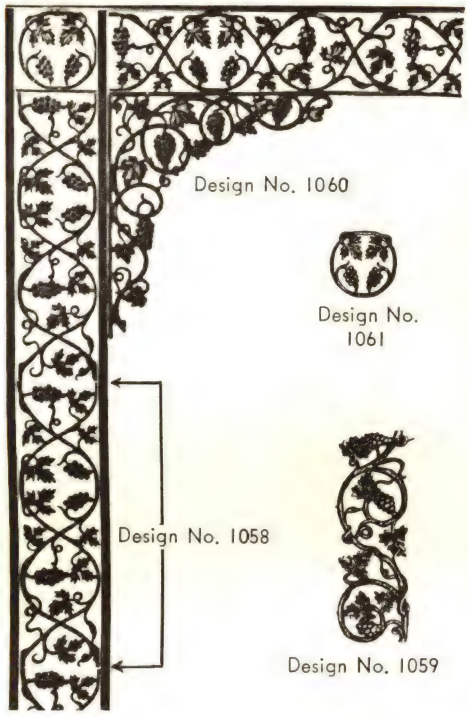
PASSION FLOWER



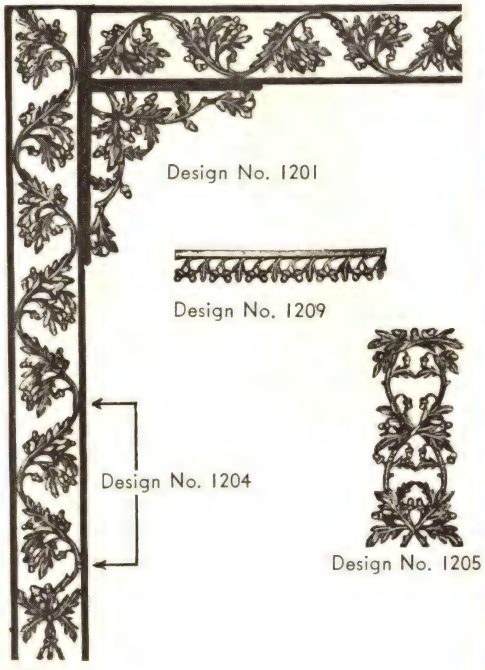
MORNING GLORY



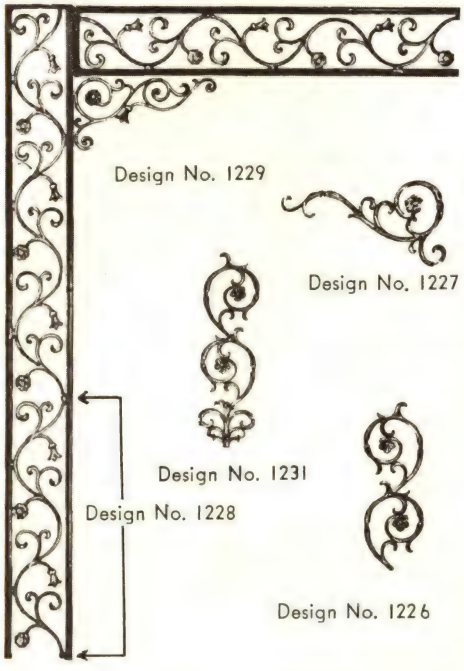
GRAPE OR VINEYARD



SMOOTH OAK



DOGWOOD



NUMBER	HEIGHT INCHES	WIDTH INCHES	WEIGHT LBS.	DESCRIPTION*
†1245	14	26 3/4	16	SF
1246	27	9	11 1/2	SBO
1247	25 1/2	11 1/2	17 1/4	SBO
1248	9	9	4 3/4	SBO
1060	36 3/8	36 3/8	30	DF
1058	30	8 1/4	11 1/4	DF
1059	25 1/2	9 1/4	12 1/4	DF
1061	8 1/4	8 1/4	3 1/4	DF
1201	21 3/4	21 3/4	12 1/2	SBO
1204	23 1/4	8 3/8	6	SBO
1205	26 1/2	11 3/4	12	SBO
1209	4	25 5/8	7 1/4	SBO
1227	10	19 1/2	6 3/4	DF
1228	33	6 3/4	6	DF
1229	9 1/2	18	4	DF
1226	20 1/4	7 1/4	6 1/2	DF
1159	28	9 1/2	12 1/2	DF
1161	21	7 1/2	5 1/4	SBO
†1162	21	24 3/4	11	SBO
1165	29 3/4	8 1/4	8 3/4	SBO
1252	21 3/4	21 3/4	12	DF
1254	18 1/2	8 3/4	8 1/4	DF
1256	29	13	14 3/4	DF
1257	29	5	8	DF
1231	25 1/2	7 1/4	9	DF

*SF—"Single-Faced." Full detail on one side, fairly flat on back side.

*DF—"Double-Faced." Fully detailed on both sides.

*SBO—"Single-Faced, backed out." Full detail on one side, slightly hollowed out on back side.

†Available in right-hand and left-hand bracket.

Tennessee Fabricating Co.

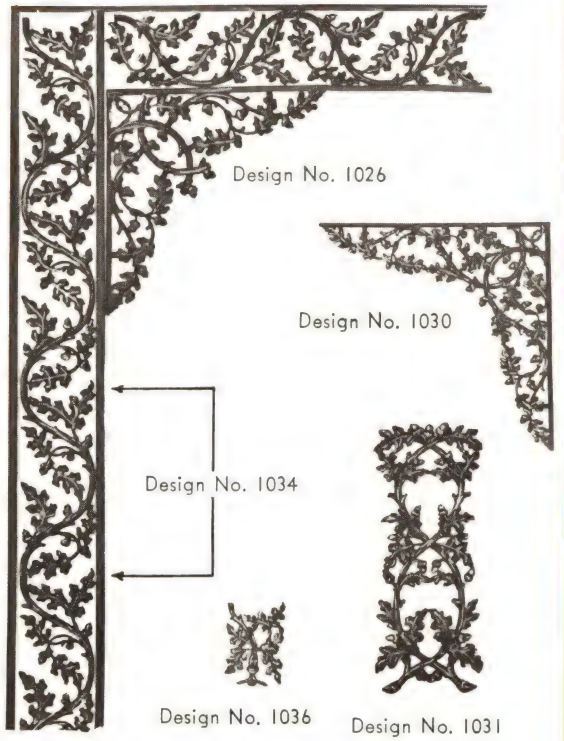


C.I.

Ornamental Cast Iron offers an intricacy of design and detail not available in other building materials. Ornamental cast iron has greater compressive and tensile strength than any other cast ornamental metals used for this purpose.

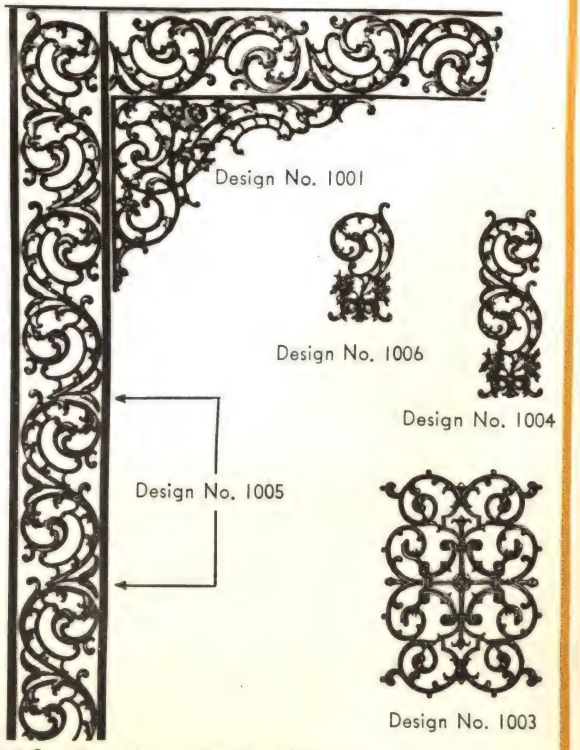


CURLY OAK



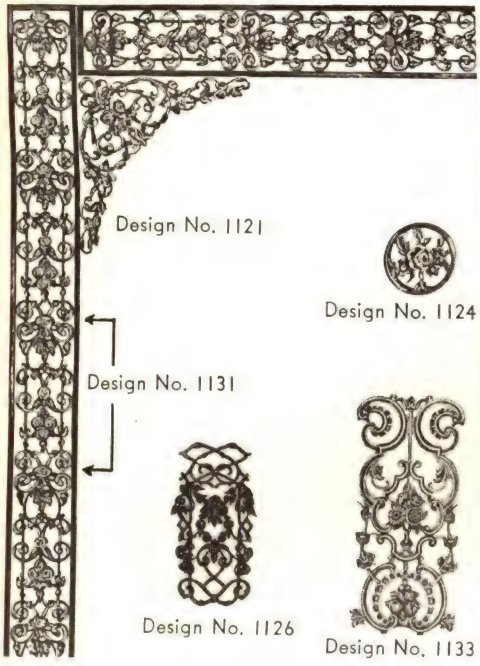
* See Description for Specifications.

BIRD OF PARADISE

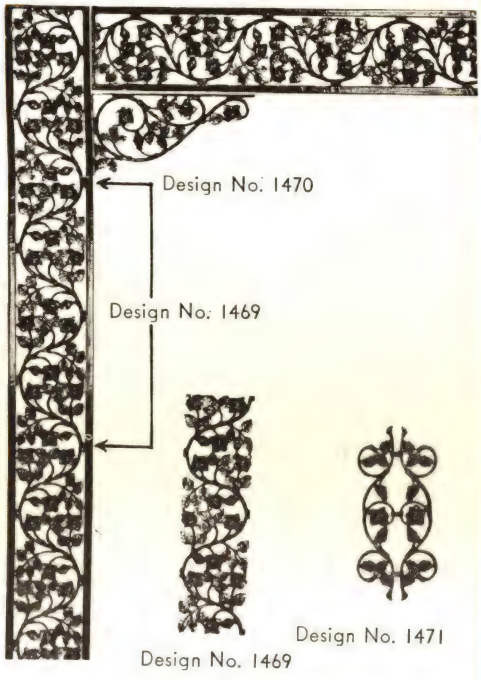


* See Description for Specifications.

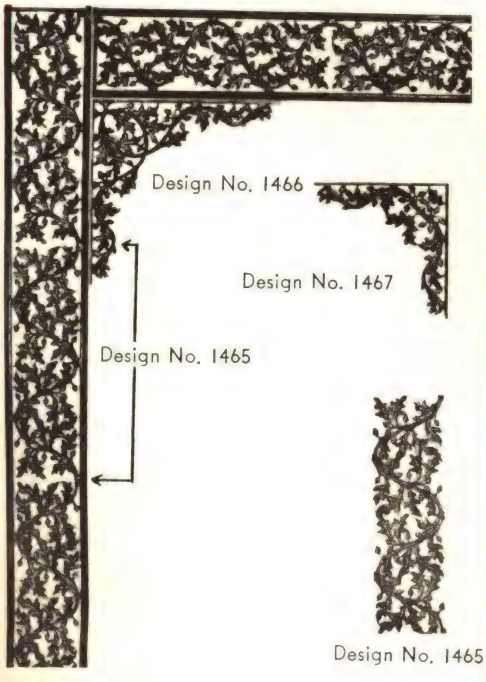
ROSE



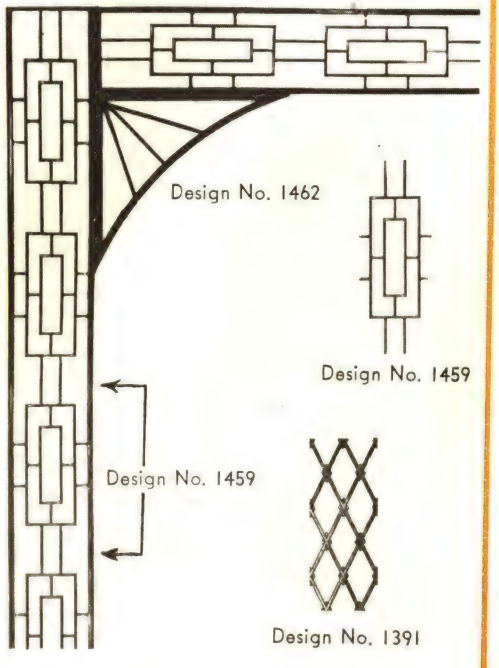
FLORABUNDA ROSE



LIVE OAK



MODERN



NUMBER	HEIGHT INCHES	WIDTH INCHES	WEIGHT LBS.	DESCRIPTION*
1001	30 1/2	23	22	DF
1003	27 3/8	9	14 3/4	DF
1004	32 1/2	23	28 1/2	SBO
1005	23 3/4	9	12 1/2	DF
1006	16 1/2	9	9	DF
1026	25	25	15 3/4	DF
1030	33 1/4	33 1/4	24 1/2	DF
1031	28 1/2	12	13 1/4	DF
1034	21 1/2	8 1/4	8	DF
1036	12	8 1/4	5 1/4	DF
1121	31	31	31 1/2	SF
1124	9	9	4 1/4	SF
1131	22 3/4	8 1/2	9	DF
1133	29	13 1/4	15 1/2	SBO
1469	28	8	10 1/4	DF
1470	9 3/4	18 3/4	7	DF
1471	8 1/8	18 1/2	5 3/4	DF
1465	28	8	9 1/2	DF
1466	21 3/4	21 3/4	9 1/2	DF
1467	15 1/2	15 1/2	6	DF
1459	32 3/4	10 1/2	8	DF
1462	24	24	10	DF
1126	29 1/2	15 1/2	21 1/2	SBO
1391	28 1/4	11 3/8	12	DF

*SF—"Single-Faced." Full detail on one side, fairly flat on back side.

*DF—"Double-Faced." Fully detailed on both sides.

*SBO—"Single-Faced, backed out." Full detail on one side, slightly hollowed out on back side.

†Available in right-hand and left-hand bracket.

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W.I.

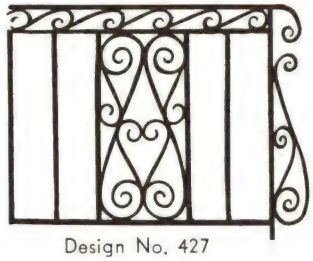
Designs of wrought iron are limitless—for both interior and exterior use. Ornamental wrought iron has greater structural strength than other grillework. Illustrated are only a few of the many popular TFC hand-wrought patterns.



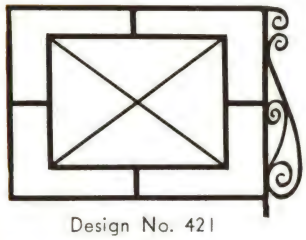
RAILING



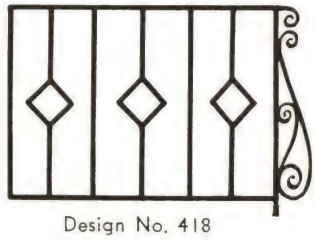
Design No. 410



Design No. 427



Design No. 421

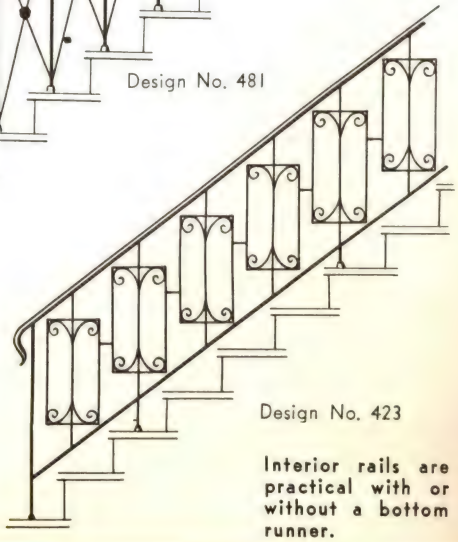


Design No. 418

INTERIOR RAILS



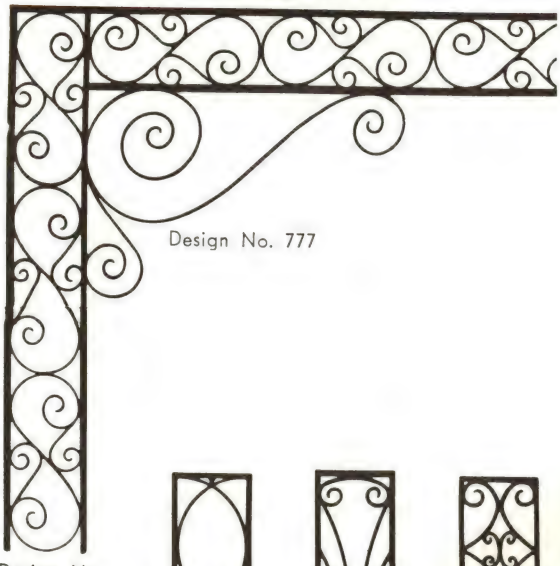
Design No. 481



Design No. 423

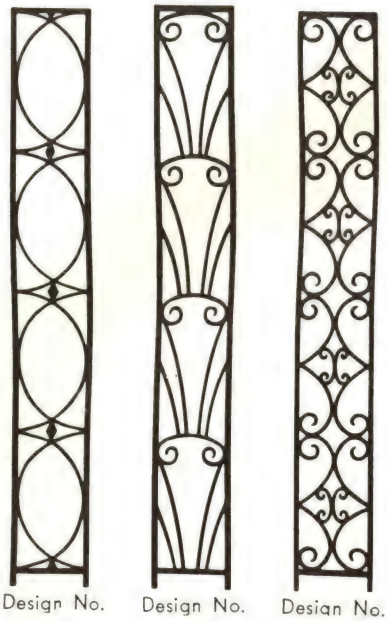
Interior rails are practical with or without a bottom runner.

Design No. 677



Design No. 777

Design No. 610



Design No. 631 | Design No. 607 | Design No. 603

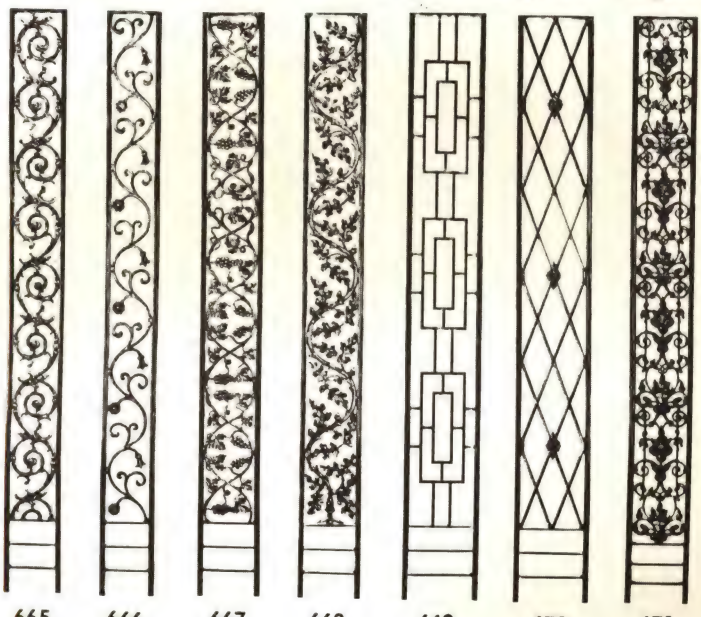
Illustrated above are only four of the many TFC designs of wrought iron columns. Matching cornices and brackets can be furnished. These are custom-built to structural requirements of each individual application. Customary column and cornice width: 10″. Bracket sizes vary according to requirements.

STANDARD ORNAMENTAL IRON COLUMNS

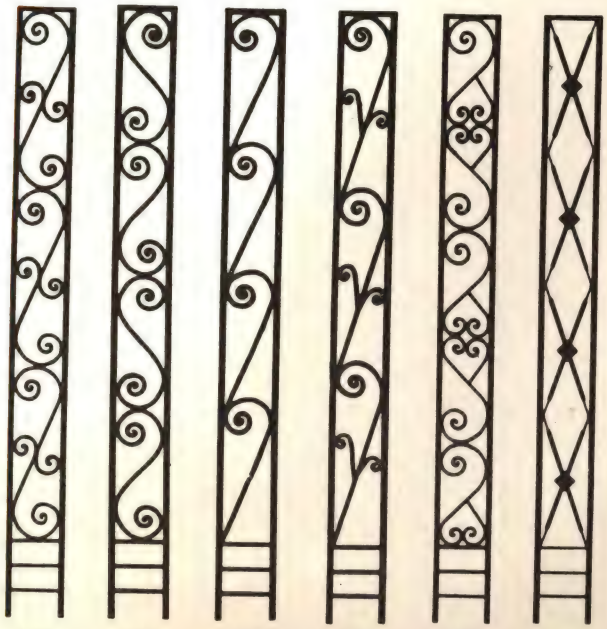
TFC Standard Ornamental Iron Columns are mass-produced to sell at slightly less costs than similar custom designs; they maintain the same high-quality standards. These columns are adjustable to desired height by cutting the bottom of the column at installation.

Regular.....8′, adjustable to 7′3″
Short.....7′4″, adjustable to 6′6″

All standard columns made in either angles or singles.



665 | 666 | 667 | 668 | 669 | 670 | 671



650 | 651 | 652 | 654 | 655 | 656

Tennessee Fabricating Company



Beautify Protect

WITH TFC ORNAMENTAL IRON FINISH

DEVELOPED ESPECIALLY FOR PAINTING ORNAMENTAL IRON, TFC ORNAMENTAL IRON FINISH is not a paint or enamel. It is a plastic product, weather and laboratory tested for finishing and refinishing ornamental iron.

TFC Ornamental Iron Finish is guaranteed to give full satisfaction and performance—to withstand Nature's elements and weather under all conditions—including salt air.

TFC Ornamental Iron Finish is furnished in two types of primer, white, four pastel colors, gloss and satin black; toners are available to mix additional colors as desired. A special Antique finish can be furnished to produce Pompeian effects over basic colors.

TFC DESIGN-ENGINEERING DEPARTMENT ALWAYS AT YOUR SERVICE

From the creation of an entirely new design to the reproduction of a rare old masterpiece, TFC Design Engineers are capable and experienced in every phase of production and architectural requirements. Every design is planned for correct use in each application.

TFC Engineers are constantly improving and developing outstanding designs in iron work to give you an endless variety for your selection. You are invited to call on them for the solution of any problem in Ornamental Iron. TFC facilities are adequate to meet all requirements.

LITERATURE AVAILABLE

Complete catalogs, scale drawing sheets of all castings and application ideas are available for use in your offices. Booklets of applications, both wrought and cast iron, are available for your clients. All this material will be sent you at no cost on request.

TENNESSEE FABRICATING COMPANY

"America's Foremost Ornamental Iron Plant"

1490 GRIMES STREET, MEMPHIS, TENNESSEE

1f
AL

genuine **Alsynite**®

The *Original* Translucent
Fiberglas Building Panel



Modern Miracle
BUILDING MATERIAL

residential
commercial
industrial

A. I. A. FILE NO. 26-A-9

Inches 1 2 3 4 5 6 7 8
Centimetres 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19

TIFFEN® Color Control Patches

© The Tiffen Company, 2007

Blue Cyan Green Yellow Red Magenta White 3/Color Black

FIESTA

CORAL

YELLOW

GREEN

BLUE

PEARL

DARK GREEN

RED

INSIST ON *GENUINE* ALSYNITE



STANDARD



ROSE

LITE GREEN



LEAF GREEN

CLEAR

MODERN MAGIC! Alsynite is the perfect answer wherever translucent beauty is desired. Colorful—functional—strong and shatterproof.

FIESTA SPECIFICATIONS

Formulated especially for outdoor coverings—cooler shade, wherever medium or low light transmission is desirable.

Series #200

(approx. .060" thick)

2½" corrugation-crinkled surface
Widths—33½", 40½"
Lengths—8', 10', 12'

Series #150

(approx. .045" thick)

2½" corrugation-crinkled surface
Widths—26", 34", 40"
Lengths—8', 10', 12'

See your dealer for further data, including light transmission figures on individual colors.



Ceilings



Partitions Awnings



STANDARD SPECIFICATIONS

Series #200 (approx. .060" thick)
Smooth surface both sides.

2½" corrugation
—width 26", 34", 40"
length 8', 10', 12'
(Also 27½" x 8'4" and all other standard Quonset sizes.) *

1¼" corrugation
—width 26"
length 8'

Flat Panels —width 24", 34"
length 4', 8'

4.2" corrugation
—width 42"
length 8', 10', 12'*

2.67" x ⅞" corr.
—width 35"
length 8', 10'*

5.3" V-Beam —width 29"
length 7'6", 9', 10'6"*

5-V Crimp —width 26"
length 8', 10'*

*Available in three colors only: [illegible] n, Maize, Opal.

See your dealer for further data, including light transmission figures on individual colors.

COLORS





INSIST ON *GENUINE* ALSYNITE


Industrial



Signs


Schools

MIST SPECIFICATIONS

Delicate pastels for the modern bath —high translucency, yet complete privacy.

Crinkled surface one side.
Widths—22" to 33"
Lengths—57" to 72"
(¼" increments)

Series #150
(approx. .045" thick)

1¼" standard corrugation
1¼" deep corrugation
2½" standard corrugation
Flat Panels

Series #200
(approx. .060" thick)

1¼" standard corrugation
1¼" deep corrugation
2½" standard corrugation
Flat Panels

Series #300
(approx. .090" thick)

Flat Panels only.

UNLIMITED DESIGN POSSIBILITIES! Use light weight, versatile Alsynite for rugged, cost-saving industrial lighting — for iridescent beauty in the bath—for filtered sunlight on the patio.

ALSYNITE ACCESSORIES

Alsynite Mastic
Pint — 1 lb. can
Quart — 2 lb. can
Special — 5 lb. can
Gallon — 8 lb. can

Alsynite Sealing Cord
20 foot roll
80 foot roll

Alsynite Plastic Lacquer
Blue
Clear
Green
Rose
White
Yellow
In Pints — Quarts — Gallons

Alsynite Adhesive
Pints — Quarts — Gallons

Alsynite Moldings
Corrugated contour moldings to match 2½" corrugation available in asphalt and wood.

Alsynite Nails
1¾" aluminum nails with neoprene washers

NOTE: Additional Alsynite products, including #200-FR, extinguishing paint, available on order.


As featured in AMERICAN MAGAZINE

Shatterproof tub enclosures and shower doors—lovely pastels to harmonize with bathroom decor —complete safety!

MIST

1f
AL



INSIST ON *GENUINE*

Alsynite®

The *Original* Translucent Fiberglas Building Panel

FIRST AND FINEST!

Oldest and largest manufacturer in the fiberglas panel industry, Alsynite has three plants to serve you — East, Midwest and West — and is sold by reputable stocking jobbers and dealers in every part of the U.S.A.

Alsynite is quality controlled to assure you complete satisfaction in use. Produced with light-stabilized resins, Alsynite is rotproof, mildewproof, impervious to termites, vermin and other pests. Alsynite has been fire tested and approved by Factory Mutual Laboratories. Not affected by extremes in temperature. Highly resistant to acid attack. (Test reports on Alsynite's various characteristics available upon request.)

Alsynite's excellent diffusion characteristics provide maximum usable light without glare. It transmits up to 90% as much light as clear glass, depending upon color selected. Proper color selection will add greatly to your pleasure in your finished installation. Remember that Alsynite transmits *colored* light, and that some colors are more appropriate than others for specific applications. The low light transmission Fiesta Colors are especially recommended for cooler shade under outdoor coverings in sunny areas.

EASY TO INSTALL!

Alsynite installs in the same manner as corrugated metal or asbestos sheets. You can nail, screw or bolt it. Pre-drilling is recommended, approximately 1/64" smaller than fastener used. Use neoprene washers for weather tightness along with Alsynite's own translucent mastic or opaque sealing cord. Rustproof metal fasteners should be used. 1¾" aluminum nails with attached neoprene washers are available, as well as corrugated contour moldings in asphalt and wood, to match the 2½" corrugation. Flat sheets install in windows just like glass. Alsynite cuts easily with any metal cutting hand or power saw, shears, or abrasive power tool.

WIDEST RANGE OF ALL!

Alsynite is available in twenty standard colors and eleven standard corrugations, to meet every design requirement. A few of the most widely used sizes and corrugations are described below:

Corrugations Pitch	Depth	Sheet Width	Edge Position	Suggested Side Lap (Corrugations)
1¼"	¼" (standard)	26"	One up, one down	1½
2½"	½"	26"	Both down	1
2½"	½"	27½"	One up, one down	1½
2½"	½"	33½"	One up, one down	1½
2½"	½"	34"	Both down	1
2½"	½"	40"	Both down	1
2½"	½"	40½"	One up, one down	1½
2.67"	⅞"	35"	One up, one down	1½
4.2"	1 1/16"	42"	Both down	1
5-V Crimp		26"	Both down	2
5.3" V-Beam		29"	Both down	½

PHYSICAL DATA

(nominal)	Series 100	Series 150	Series 200	Series 300
Weight per square foot	4.5 oz.	6 oz.	8 oz.	11 oz.
Thickness	.035"	.045"	.060"	.090"
Tensile strength	7,000 psi	10,000 psi	15,000 psi	15,000 psi
Flexural strength	12,000 psi	15,000 psi	24,000 psi	24,000 psi
Load test (2½" corr. on 4' unsupported span, standard fasteners) Lbs./sq. ft. minimum	30	70	100	125

ALSYNITE COMPANY OF AMERICA

MAIN OFFICE: San Diego 9, California

PLANTS: Paterson, N. J. • Portsmouth, Ohio • Pacific Beach, Calif.

Distributors in principal cities

No. 754—Litho in U.S.A.

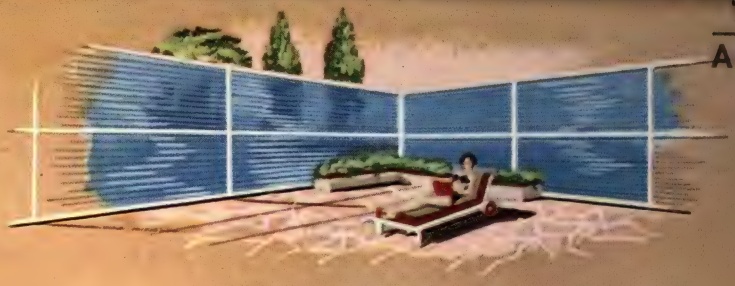
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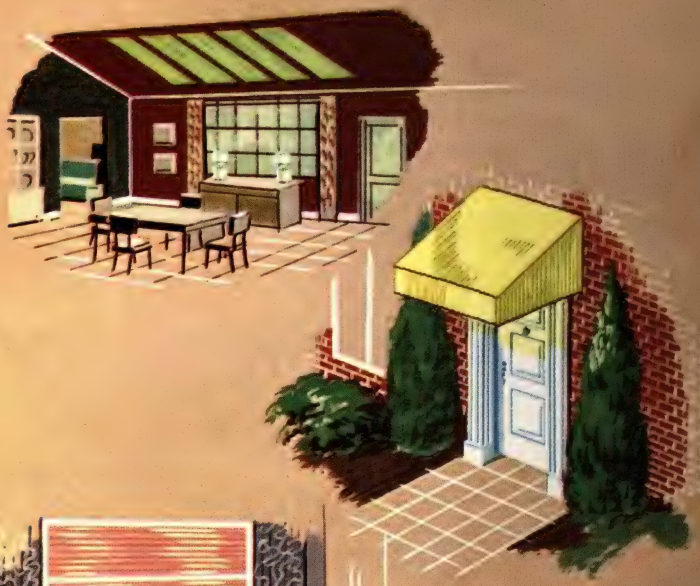
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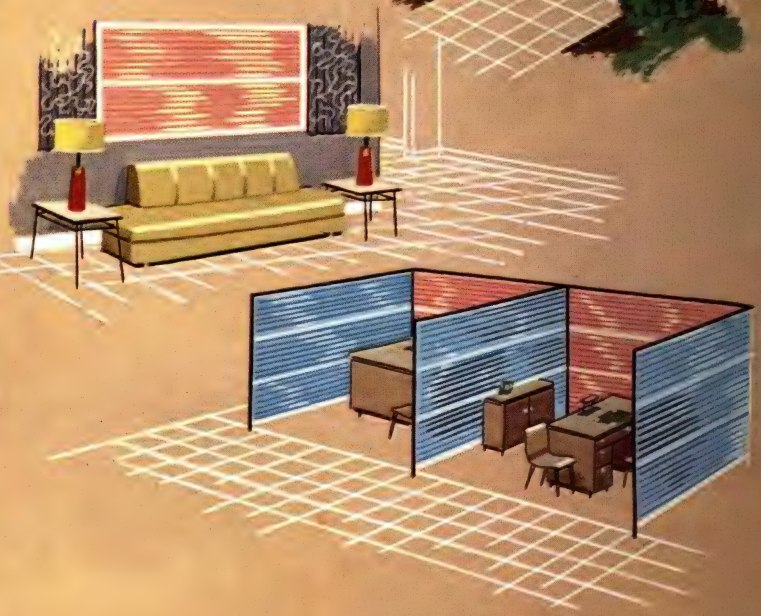
TRANSLUCENT STRUCTURAL

panal

INDUSTRIAL
COMMERCIAL
RESIDENTIAL
applications











AMERICAN

American Panal, a laminate of polyester resins and fiberglass, is a translucent structural and decorative material. Because it is made by American's exclusive continuous mechanical process, it is uniform in color, thickness and strength. It is stronger than metal of equal weight and highly resistant to shattering, crazing, fading, sharp blows and vibration. It is easily and economically installed with ordinary tools and requires little or no maintenance. Panal can be fitted to curved surfaces. It is light in weight (approximately 8 oz. per square foot) and easy to handle. It offers in one product the combined advantages of translucency, decorative beauty and strength. Panal is manufactured by American Panal Incorporated, a subsidiary of American Window Glass Company, a leader in American industry since 1889.



a wide range of applications

industrial

Ideal for skylighting and for side-wall and end-wall lighting. Nests with corrugated metals and can be installed with the same fasteners. For easily moved office partitions, diffused indirect lighting and decorative uses.



commercial

For store fronts and signs, for skylighting that provides natural or flattering light in retail stores. For display panels and partitions. For sparkling decorative and lighting effects.



residential

For patio and porch roofs, awnings, canopies, windscreens and fences, room partitions and dividers, shower and tub enclosures, skylighting, carports, garage doors, for decorative uses and for indirect lighting.

corrugations and sizes

LENGTH OF SHEETS—Panal is available in sheets from 4′ through 12′ in length in increments of 6″. Longer sheets up to 24′ are available on special order. The only additional cost is for special packing.

CORRUGATIONS AND WIDTHS—Panal is available in several corrugations and in flat sheets. The first figure under corrugations is the distance from the crown of one corrugation to the crown of the next. The second figure is the depth of the corrugation.

STANDARD CORRUGATIONS

Corrugations	Width	Cor. per Panel	Position of Edges
1¼″ x ¼″	26″	20½	Up & Down
2⅔″ x ½″	26″	10	Both Down
	27½″	10½	Up & Down
	34″	13	Both Down
	40″	15	Both Down
Flat	24″, 30″, 36″, 40″, 45″	—	—

SPECIAL CORRUGATIONS

Corrugations	Width	Cor. per Panel	Position of Edges
1¼″ x ⅜″	26″	20½	Up & Down
2⅔″ x ⅞″	34″	13	Both Down
	35″	13½	Up & Down
4.2″ x 1 1/16″	42″	10	Both Down

light and heat transmission

*The Transmission and Absorption of Daylight, Ultra-violet and Infrared

The table below shows the transmission and absorption of light by the various Panal colors in comparison with clear window glass.

	Light Transmission	Ultra-violet Absorption	Infrared Absorption
Clear Window Glass	91%	17.7%	12.4%
Crystal	85.6%	62.6%	33.7%
Opal White	52.6%	91.4%	72.3%
Peridot Green	66.1%	80.5%	48.3%
Topaz Yellow	66.4%	87.9%	57.1%
Jasper Green	71.7%	72.5%	42.6%
Rose Quartz	37.3%	95.3%	70.8%
Aquamarine	55.9%	88.1%	46.8%
Emerald Green	47.8%	96.9%	50.5%

*The Comparative Absorption and Transmission of Solar Heat Radiation

The table below shows the absorption and transmission of solar heat of the various Panal colors in comparison with clear window glass and heat-resisting glass.

	Surface Temperature of Material	Temperature of Air Behind Material
Clear Window Glass	112° F.	183° F.
Heat-Resisting Blue Glass	135° F.	152° F.
Panal Crystal	130° F.	175° F.
Panal Opal White	113° F.	144° F.
Panal Topaz Yellow	114° F.	164° F.
Panal Peridot Green	121° F.	163° F.
Panal Jasper Green	127° F.	165° F.
Panal Emerald Green	134° F.	150° F.
Panal Rose Quartz	124° F.	156° F.
Panal Aquamarine	118° F.	152° F.

*These figures are the result of a scientific study ma by the Electrical Testing Laboratories of New York. Further information c ilable on request.

other technical data

STRENGTH — Tensile—10,000 to 12,000 PSI
Barcol Hardness—50 to 60.

LOADING — Standard 1/16″ THICK PANELS (2 oz. mat)—2⅔″ x ½″ Corrugation—will support over 100#/sq. ft. on a 4′ span.

EXPANSION — The coefficient of linear thermal expansion of PANAL is .000015 in./in./°F. Approximately the same as aluminum.

STABILITY — Temperatures as low as −22° F. and as high as +200° F. have little or no effect on the physical properties of PANAL.

IMPACT RESISTANCE — American PANAL is shatter-resistant and will withstand normal impacts, vibrations and hail.

CHEMICAL RESISTANCE — Tests show that PANAL is resistant to alkalies, common solvents and both mild and strong acids.

WATER ABSORPTION — American PANAL is resistant to water absorption. The absorption rate is 0.56% during 24 hours immersion at 75° F.

ENDURANCE — The mechanical process by which American PANAL is produced insures a product that is durable. It will not sag, warp or buckle when properly installed under ordinary conditions.

FIRE RESISTANCE — American PANAL is fire resistant. Although not classified as fireproof material, the fiberglass component is fireproof and acts as a barrier to flames; cinders and matches falling on the surface will not ignite PANAL. A temperature of over 800° F. is necessary to start combustion on the surface.



OPAL WHITE

CRYSTAL

PERIDOT GREEN

COLORS by Faber Birren



The regular PANAL colors were selected by the widely known color authority, Faber Birren. Mr. Birren is the author of fifteen books and innumerable articles on the color tastes of the American public. He has made a life-long study of color preferences. The regular PANAL colors have been scientifically chosen by Mr. Birren as those colors most popular now and most likely to remain highest in color preference.

OPAL WHITE

Ideal where minimum solar heat absorption and transmission are wanted—with high light transmission. Recommended for hot climates and south and west exposures. Ideal for converting strong sunlight to soft, diffuse illumination.

CRYSTAL

Highest in light transmission. Recommended where all possible light is wanted—particularly appropriate for north and east exposures.

PERIDOT GREEN

Scientifically designed for high transmission in the yellow to yellow-green region of the spectrum where visibility is highest for the human eye. Highly recommended for installations where good light (free of glare), heat control and beauty are all wanted in one scientifically unique color.

JASPER GREEN

One of the most popular colors with almost universal applications. Excellent for offices and for industrial plants in southern regions, for patio roofs, canopies, awnings, windbreaks and similar uses. Psychologically cool and pleasing in appearance.

EMERALD GREEN

Medium light transmission (47.8%) highly resistant to solar heat. Ideal for awnings, screens, porch enclosures and for office partitions, panels and decorative fronts. Will resist heat, cut down the brilliance of sunlight and be cool and fresh appearing to the eye.

AQUAMARINE

Complements Rose Quartz. Cool, fresh appearance and low heat transmission make it ideal for hot climates where the double advantage of reduced light and reduced heat may be necessary.

ROSE QUARTZ

A warm tint suggesting the glow of a sunset or an open fireplace. Flattering to complexions and therefore most appropriate for women's stores, beauty parlors, solariums. Also ideal for skylights and partitions.

TOPAZ YELLOW

Warm, sunny quality makes it ideal for interiors or for patios, courts, solariums, recreation areas. Creates with ordinary light the illusion of direct, mellow sunlight.

AWNING COLORS

PANAL also is made in five colors designed primarily for use in awnings. The colors are Awning Yellow, Awning White, Awning Blue, Awning Green and Awning Red. These colors are much more opaque than regular PANAL colors. All awning colors can be furnished in crinkle finish.

American PANAL has two general types of usefulness. The first is functional, where Panal is used to control glare, reduce the intensity of sunlight and cut down ultra-violet and infrared radiation. Its most prominent functional applications are in industrial and commercial skylighting and side and end-wall lighting, and in residential roofing and skylighting. The second type of usefulness is decorative. This use has innumerable industrial, commercial and residential applications that remain to be discovered by the imaginative architect or designer. Although relatively new, the product has undergone comprehensive tests that insure its strength, beauty, permanence and economy.

AMERICAN panal INC.

9 WEST [illegible] WAY PITTSBURGH 12, PA.

Litho in U. S. A.

A.I.A. File No. 26-A-19

LOF GLASS

GLASS FOR CONSTRUCTION

FLAT GLASS PRODUCTS

2-3	Polished Plate Glass Golden Polished Plate Heat Absorbing Polished Plate
4-5	Mirrors of Polished Parallel-O-Plate Mirropane® Transparent Mirrors
6-7	Tuf-flex® Heat Tempered Glass Tuf-flex® Doors
8-9	Window Glass Safety Glass Bullet Resisting Glass
10-15	Thermopane®Insulating Glass Units
12-14	Thermopane® Standard Sizes
16-17	Vitrolite® Structural Glass Bent Glass
17	Decorated Glass

BLUE RIDGE PRODUCTS

18-19	Patterned Glass
20-21	Patterned Glass
22-23	Aklo® Heat Absorbing Glass
24-25	Wire Glass Securit® Glass
26-27	Securit® Interior Glass Doors Corrugated Glass

LIBBEY • OWENS • FORD

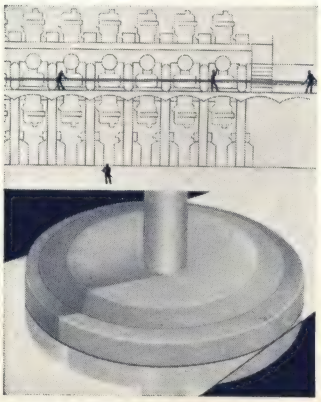
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A.I.A. File No. 26-A-1955

Parallel-O-Plate

Made by L-O-F's New Twin-Ground Process

The perfection of the new L-O-F Polished Plate Glass is achieved by the twin-grinding process, used in the United States only by L-O-F. Both sides of the glass are ground simultaneously by extremely accurate grinders weighing over 5 tons each. This produces uniformity of thickness far superior to regular plate glass, and surfaces that are parallel to a degree never achieved by any other method. These two characteristics combine to make this glass superior to any other type of Polished Plate Glass. Parallel-O-Plate is available in ¼" thickness only.



Silvering and mirror glazing quality polished plate glass is used for the finest mirrors and for high quality glazing in residences. Glazing quality polished plate glass is used for general glazing purposes.

⅛"—Small panes, mirrors, etc.

¼"—Windows of public and office buildings, residences and apartment buildings, mirrors, storefronts, show cases, shelving, table and desk tops.

½"—Long shelves, glass furniture, background for decoration, etc.

½" to 1¼"—Aquarium tanks, glass furniture, table and desk tops, etc.

Color Clear® Plate Glass

Exceptionally clear and colorless, it shows the true color of merchandise behind it.

Color Clear polished plate glass is ideal for Picture Windows, commercial refrigerator cases and mirrors.

Tuf-flex tempered *Color Clear* polished plate glass (pages 6 and 7) is supplied in ¼" thickness.

Colored Polished Plate Glass

Libbey-Owens-Ford produces polished plate glass in the following colors: blue, peach and golden. Coloring is uniformly controlled. These glasses can be used for glazing purposes. They are also highly recommended for mirrors and decorative applications. Colored polished plate glass is furnished in glazing quality only.

Colored polished plate glass may be heat treated for greater strength (see *Tuf-flex* pages 6 and 7).

Golden Polished Plate Glass

Libbey-Owens-Ford Golden Polished Plate Glass is a product of special chemical composition, light gold in color.

Golden Polished Plate Glass excludes approximately 99.7% of the ultraviolet rays in average sunlight. Ultraviolet rays are responsible for more fading of more dyed materials than any other part of the energy in sunlight. This does not mean that Golden Polished Plate Glass will *reduce* fading by 99.7% or that it will prevent fading of all colors.

Some fading of dyed materials displayed in the sunlight behind the Golden Polished Plate Glass store front window may be expected; the amount of fading depends on the duration of the exposure and the light fastness of the dye used. Fading may result from solar radiations, other than the ultraviolet, which are not excluded by Golden Polished Plate Glass. Golden Polished Plate Glass will *reduce* fading compared to regular polished plate glass only where the circumstances and location of the installation are identical.

Some colors are enhanced by the golden color of the glass. Others may be color-corrected by using illumination combining known percentages of fluorescent lighting and daylight lighting.

Heat Absorbing Polished Plate Glass

L-O-F Heat Absorbing Polished Plate Glass is a product of special chemical composition, pale bluish green in color, and made to absorb a high percentage of the total radiant energy of the sun. Part of the absorbed heat is subsequently transferred to the interior, but a considerable portion is given off to the exterior, effecting a net reduction of the solar heat entering through the glass.

Qualities

L-O-F Heat Absorbing Polished Plate Glass ¼" thick transmits 46.8% of the total solar radiation as compared with a transmission of 82.3% afforded by regular plate glass ¼" thick. The resulting reduction of solar heat transmission will produce a cooler atmosphere inside, resulting in lower initial cost for the air conditioning equipment and its cost of operation. L-O-F Heat Absorbing Polished Plate Glass reduces sun and sky glare and provides light which is restful to the eyes.

Regular, *Color Clear*, Colored, Golden Polished Plate Glass and Heat Absorbing Polished Plate Glass are described in detail on this page. Page 4 has information regarding the use of Polished Plate Glass for regular and *Mirropane* Transparent Mirrors. Page 6 has data regarding *Tuf-flex* (Heat Tempered) Polished Plate Glass, including doors. Safety Glass and Bullet Resisting Plate Glass are described on page 8. For bent plate, see pages 16-17.

Suggested Specifications

Plate glass shall be Libbey-Owens-Ford (.....) polished plate glass and shall be of (.....) quality and (. ... .) thickness as defined by Federal Specification DD-G-451a.

Chart for Specifying L-O-F Polished Plate Glass

Type or Color	Thickness	Thickness Tolerance	Standard Maximum Width and Length	Maximum Size Special Order	Approx. Weight Lbs. Per Sq. Ft.	Average Solar Radiation Transmittance Values At Normal Incidence			*Tuf-flex* (Heat Tempered)	
						Ultra-violet	Illuminant C (Average Daylight)	Total Solar Radiation*	Minimum Width	Maximum Size
Regular	1/8"	±1/32"	72" x 74"	74" x 120"	1.64	77.4	90.9	86.8		
	1/4"		120" x 170"	120" x 252"	3.27	70.8	90.0	82.3	2"	72" x 120"
	3/8"		90" x 130"	120" x 192"	4.90	72.1	89.8	85.0	2"	72" x 120"
	1/2"		90" x 130"	108" x 168"	6.54	68.9	89.5	83.2	2"	56" x 120"
	5/8"	±3/64"	72" x 120"	90" x 132"	8.17	66.0	88.9	81.4	2"	40" x 120"
	3/4"		72" x 120"	90" x 132"	9.81	63.2	88.4	79.5	2"	72" x 120"
	7/8"		42" x 96"	48" x 108"	11.44	60.8	87.9	77.7	2"	40" x 100"
	1"	±1/16"	42" x 96"	48" x 108"	13.08	58.9	87.4	76.1	2"	40" x 100"
	1 1/4"		42" x 96"	48" x 108"	16.25	55.0	86.4	73.0	2"	40" x 100"
Heat Absorbing	1/4"	±1/32"	84" x 120"	96" x 138"	3.27	45.9	78.6	46.8	2"	72" x 120"
Color Clear	1/8"	±1/32"	40" x 80"	55" x 90"	1.64	84.4	91.6	91.3		
	1/4"		72" x 120"	90" x 132"	3.27	81.9	91.5	90.8	2"	72" x 120"
Peach	7/32"	±1/32"	72" x 120"	90" x 132"	2.86	55.3	80.9	78.4	2"	48" x 72"
Golden	1/4"	±1/32"	72" x 120"	90" x 132"	3.27	0.3	81.7	78.1	2"	72" x 120"
Blue	7/32"	±1/32"	72" x 120"	90" x 132"	2.86	78.6	58.6	75.7	2"	48" x 72"

*Solar radiation values are normal incidence transmittances for source that has energy distribution of the sun at 30° altitude (air mass equals two)(approximately 10% ultraviolet, 40% visible rays, 50% infrared.)

Uses

Glazing of storefronts and display windows to reduce fading by sunlight of merchandise, glazing of windows to reduce glare, in display cases to cover important documents, fabrics, prints and valuable papers which might become obliterated by fading in sunlight.

Another use of Golden Polished Plate Glass is in the manufacture of mirrors. Mirrors made with this light golden-colored glass have a rich, warm tone which adds a touch of distinction, regardless of where they are used.

Suggested Specifications

Plate glass shall be Libbey-Owens-Ford Golden Polished Plate Glass 1/4" thick glazing quality as defined by Federal Specification DD-G-451a.

For Specifying Golden Plate

Physical properties: Not measurably affected by time and light or weather exposure. See table above for specification data. See pages 6 and 7 for use of *Tuf-flex* made with Golden Plate.

Uses

L-O-F Heat Absorbing Polished Plate Glass is particularly suited for glazing the windows of office and apartment buildings, hospitals, schools, factories, and other types of buildings where the reduction of solar heat is desired and where visibility is essential. Merchants whose wares are perishable will find Libbey-Owens-Ford Heat Absorbing Polished Plate Glass beneficial for show windows. Because of its heat absorbing characteristics, this glass helps protect merchandise such as fruits, vegetables, candy, and flowers by keeping them fresh much longer.

Suggested Specifications

Plate glass shall be Libbey-Owens-Ford Heat Absorbing Polished Plate Glass 1/4" thick glazing quality as defined by Federal Specification DD-G-451a.

For Specifying Heat Absorbing

See table above for specification data. See pages 6 and 7 for use of *Tuf-flex* made with Heat Absorbing. For use of Heat Absorbing as outside light in *Thermopane*, see page 15.

Mirrors of Parallel-O-Plate

Mirrors made from L-O-F Twin-Ground Polished Parallel-O-Plate provide an exactness of image and sparkling clarity that excells any mirrors available in the past.

Libbey-Owens-Ford Glass Company does *not* manufacture and sell chemically deposited mirrors for architectural purposes, but supplies polished plate glass to many of the leading mirror manufacturers.

Mirrors are playing an increasingly important part in modern decoration and design. Architects and designers have found that mirrors bring increased light, beauty, sparkle and spaciousness into residences, hotels, apartment houses, stores, offices and public buildings.

An excellent use of mirrors is to double the apparent size of a room or space by facing one wall or two adjoining walls with large mirror sections, attached with rosettes or mastic. To create this illusion the room must be designed as a half or a quarter of a room so that important features occur at the intersection of mirror-to-wall, mirror-to-ceiling or mirror-to-mirror.

Circular mirrors for dining rooms, fireplace-to-ceiling mirrors for living rooms, full length polished plate glass mirrors for bedrooms and dressing rooms, built-in mirrors for smart powder rooms—all aid in introducing charm and dignity into modern homes.

Commercial uses for mirrors are wide and varied—modern department stores and showrooms use large areas of mirrored surfaces for background effects, triple mirrors in clothing sections, overhead mirrors for decorative purposes. Mirrored walls and ceilings are used extensively in bars, restaurants, clubs, theaters, etc. and add decorative beauty and feeling of spaciousness where space is limited.

Qualities

Mirrors are graded according to the quality of polished plate glass used. "A"—(Silvering Quality) used only for the finest mirrors. No. 1 (Mirror Glazing Quality) used for all types of selected mirrors. No. 2 (Glazing Quality) used for all other polished plate glass mirrors which are termed "commercial" mirrors.

These standards correspond to those established by the Department of Commerce through the National Bureau of Standards as Commercial Standard CS27-36.

Specify L-O-F Polished Parallel-O-Plate Glass for mirrors to insure the finest glass quality.

Mirropane® Transparent Mirrors

Durability and long service performance are outstanding qualities of L-O-F *Mirropane*—an L-O-F product using evaporated chromium alloy for "One-Way Mirror" installations.

With a light transmission of approximately 8% ± 3% and a light reflection from the reflective side of about 50% ± 5% the specially treated glass when properly installed serves as a mirror from the front, but is transparent when viewed from the back. For example:

When L-O-F *Mirropane* is installed between two rooms one of which is brightly lighted and the other dimly lighted, an observer in the dark room can see into the lighted one, but the glass has the appearance of an opaque mirror in the illuminated room. The perfection of the performance is governed by the difference in brightness between the two rooms. The reflective side should be installed toward the room into which a view is desired.

L-O-F *Mirropane*, coated with evaporated chromium alloy, has many advantages over the chemically deposited transparent mirrors now on the market. Among its merits are durability of coating and uniformity of color of objects viewed through the mirror.

L-O-F *Mirropane* has been thoroughly tested in our laboratories and in the field through the years and, wherever used, has been found to be satisfactory. They are highly resistant to the normal action of weathering, cleaning, handling and glazing compounds encountered in commercial glazing installations.

L-O-F *Mirropane* is exceptionally uniform in quality. Such variation as may exist is not apparent to the normal eye in commercial installation.

A bare spot $\frac{3}{16}$" x 1" at the top and bottom edges of all transparent mirror stock sheets will be found. This is inherent in the manufacturing process and should be concealed in the installation.

Uses

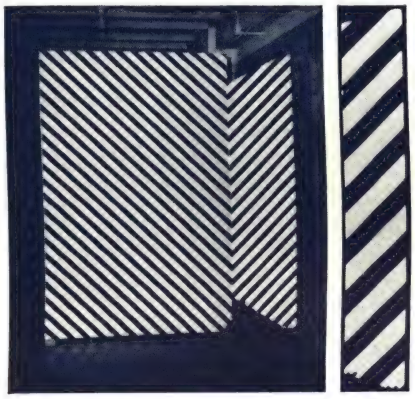
The following suggested uses for L-O-F *Mirropane* are a few of many possible applications:

In residence entrance doors, hospital observation windows (particularly psychiatric), show windows, department stores, commercial refrigerators, nursery doors in residences, toll houses, kindergartens, night clubs and taverns, security windows in government offices, banks, post offices, FBI offices, police departments private offices, factories and institutions, and colleges and universities (psychology departments). The mirrors aid in reducing shoplifting in super markets, variety stores, and others where the problem exists.

1f
Li

Size Limitations

When facing wall areas with large mirror sections, it is generally advisable to keep the size of the sections within 6 x 12 feet, although larger dimensions can be furnished for special conditions. Larger wall areas may also be covered with a series of adjacent mirrors.



Any unevenness in the mirror would make the reflected stripes wavy and distorted. The first photograph above shows what the technician's camera saw at a distance of 29 feet and an angle of 11.5°. Note the perfection of the reflected stripes. But the acid test of this L-O-F Twin-Ground Parallel-O-Plate is in the narrow photograph immediately to the right—taken at an angle of only 7.5°, and a distance of 42 feet from the board. The stripes are straight and sharp, even under these extreme conditions.

Suggested Specifications

Mirrors shall be made of Libbey-Owens-Ford Polished Plate Glass and shall be of (.....) quality and (.....) thickness as defined by Federal Specification DD-G-451a, in sizes as shown on drawings.



A wall mirror appears to double the width of a small and narrow room and add height to a low ceiling. Light is reflected from the windows opposite to give more daylight.

Sizes

L-O-F *Mirropane* is furnished in stock sheets of ⅛" and ¼" polished plate glass and in any size up to a maximum of 30" x 40" for ⅛"; and up to 30" x 60" for ¼". Other sizes available on special order.

Note: Other thicknesses of glass and other types of evaporated metal films will be considered upon application.



To the shopper this *Mirropane* window in Churchill's Super Market, Toledo, looks like a gleaming wall mirror. But from

Suggested Specifications

Transparent Mirrors shall be Libbey-Owens-Ford *Mirropane*, of (⅛" or ¼") thick Polished Plate Glass as defined by Federal Specification DD-G-451a, in sizes as shown on drawings and installed according to manufacturer's recommendation.



the manager's office on the other side an observer can view the floor area without the shopper knowing it.

Tuf-flex® Tempered Plate Glass

Tuf-flex is tempered polished plate glass made by a process of reheating and sudden cooling, as a result of which the outer surfaces are in a state of high compression while the central portion remains in tension, producing a condition highly resistant to breakage. The *Tuf-flex* process can be applied to both clear and colored polished plate glass.

Properties

Tuf-flex is three to five times stronger than plate glass of same area and thickness in sustaining loads and resisting fracture due to strain, and approximately three to five times more resistant to impact shock from blunt objects and four times more resistant to thermal shock. It is more resistant to bending stresses than polished plate glass. A piece of ¼" *Tuf-flex* 42" long and 12" wide can be twisted through an angle of 20° without breaking.

Tuf-flex retains the same appearance, clearness, hardness and coefficient of expansion as regular polished plate glass. *Tuf-flex* cannot be guaranteed against breakage. However, when its limit of resistance is reached, *Tuf-flex* does not break like ordinary glass, but disintegrates into small crystals.

Uses

The greater strength of *Tuf-flex* has resulted in its wide use for visual entrance doors in housing projects and apartment buildings (see below; additional data in Sweet's File for Architects, section $15\frac{d}{Li}$), ship's glazing, steam and oil pressure gauge covers, counter tops, show cases, and for enclosures in museums, zoological gardens and aquariums. Its ability to withstand impact makes *Tuf-flex* especially adaptable for balustrades, push and kick plates on doors, windows in gymnasiums and sports arenas, backboards for basketball and handball, and in jails, hospitals and mental institutions. The high resistance of *Tuf-flex* to thermal shock renders it advantageous as lenses for searchlights, floodlights, and spotlights where the heat generated by high intensity lamps would shatter regular glass; for sterilizing ovens; for peep hole glasses in furnaces and lehrs; for windows in oven doors.

Tuf-flex® Tempered Plate Glass Doors

L-O-F *Tuf-flex* Glass Doors are made in 16 types, of ½ inch and ¾ inch tempered glass, to finished sizes with either aluminum or bronze fittings. Because of the method of manufacture, *Tuf-flex* glass is not as flat as ordinary plate glass, particularly along the edges. This deviation from flatness is inherent and not objectionable.

The bronze and alumilited aluminum fittings with which *Tuf-flex* Doors are equipped are applied on the tempered glass at the factory and cannot be changed or altered at the point of installation without possible damage to the glass. *Tuf-flex* Doors are furnished with either continuous channel or corner fittings at the top and bottom as desired. The Libbey-Owens-Ford Glass Company assumes no responsibility regarding the installation of such doors or breakage. *Tuf-flex* can no more be guaranteed against breakage than any other glass. The beauty of *Tuf-flex* Doors is in the fact that they are completely glass with a minimum of metal fittings. Custom fittings furnished by others will be applied by the Libbey-Owens-Ford Glass Company, provided these fittings are approved by it. Concealed door holders can only be applied where continuous top channels are used.

All *Tuf-flex* Glass Doors are furnished complete with fittings only, which are designed to receive standard pivot hinges and other builders' hardware. Glass Doors are installed like any pivot hinged door. Door frames or jambs of aluminum, bronze, stainless steel or other metal are preferable. Where wood frames are desired, the best installation will result if the head jamb is reinforced with metal, or if a steel plate is added to the wood header. This is to insure complete anchorage for pivot hinges and similar builders' hardware which must be installed in the frame. *Tuf-flex* Doors are ideally suited to be operated by photoelectric control.

Push-Pull Bars

The Push-Pull bar should be in a vertical position on the swing side of the door. When it is desired to attach the Push-Pull bar to a center lock, a hole will be drilled through the lock and strike fitting.

Tuf-flex Glass Doors offer as much or more protection against burglary than typical entrance doors which contain ordinary plate glass. Overhead contact members to operate burglar alarms may be used with *Tuf-flex* Doors having top fittings for contact point. Where the tape method of protection is contemplated, only a small segment of tape need be used. (Subject to Underwriters' Laboratory approval.) A definite schedule of *Tuf-flex* Door insurance rates may be arranged with various insurance agencies.

Special Conditions

Tuf-flex can be ordered in circles, squares, rectangles and special shapes cut to pattern. It can also be supplied in a variety of edge finishes. However, since it cannot be cut after it is tempered, the exact sizes required must be specified, and intricate designs should be submitted for approval.



Tuf-flex Tempered Plate Glass windows have proved themselves to many school boards, especially on the playground side of the building where frequent breakage has made reglazing a constant expense. (Deer Park School, Fairfax, California. Architect: John Lyon Reid, San Francisco)

Suggested Specifications

All tempered glass shall be Libbey-Owens-Ford *Tuf-flex* Polished Plate Glass, (.....) thick and (.....) quality as defined by Federal Specification DD-G-451a, in sizes as shown on drawings.

Chart for Specifying *Tuf-flex* Glass

Kind	Thickness	Min. Width	Max. Size	Thickness Tolerance	Dimensional Tolerance
Regular Polished Plate Glass	1/4", 3/8", 1/2"	2"	72" x 120"	±1/32"	±1/16"
	5/8", 3/4"	2"	72" x 120"	±3/64"	±1/16"
	7/8", 1", 1 1/4"	2"	42" x 96"	±1/16"	±1/16"
Color Clear Polished Plate	1/4"	2"	72" x 120"	±1/32"	±1/16"
Colored Polished Plate	7/32"	2"	48" x 72"	±1/32"	±1/16"
Golden Polished Plate	1/4"	2"	72" x 120"	±1/32"	±1/16"
Heat Absorbing Polished Plate	1/4"	2"	72" x 120"	±1/32"	±1/16"

Circles and squares are available.

	1/4" Plate	1/4" Tuf-flex
Modulus of Rupture (Avg.) lbs./sq. in.	6,000	30,000
Resistance to Thermal Shock	100°F	400°F
Comparison of Impact:		
Height Dropped—2 lb. Steel Ball	Avg. 8"	Avg. 44"
Height Dropped—11 lb. Shot Bag	Avg. 32"	Avg. 120"

Fire Retardment

Although *Tuf-flex* withstands temperature differentials up to 400° F., it cannot be considered a fire retardant. (Does not qualify as a Fire Door in Underwriters' Laboratory Code.) However, *Tuf-flex* plate glass may be logically used in all doors where ordinary plate glass is used.



Tuf-flex Polished Plate Glass doors substantially reduce the susceptibility to breakage and furnish polished clarity to this theatre entrance. (Delman Theatre, Dallas, Texas. Architects: Raymond F. Smith and A. B. Swank)

Suggested Specifications

All doors shall be tempered plate glass (as defined by Federal Specifications DD-G-451a) (1/2" or 3/4" thick) ..... inches high by ..... inches wide, equipped with fittings of (solid bronze or aluminum) and with a ..... finish, as manufactured by Libbey-Owens-Ford Glass Company, Toledo, Ohio, and installed according to manufacturer's instructions.

Data for Specifying *Tuf-flex* Glass Doors

Made in 16 types to standard or special size of tempered glass only. Most-used types are B, P and B/P.

Sizes: Width up to 48". Length up to 108". Tolerance, plus 0, minus 3/32". Thickness: 1/2" and 3/4". Thickness tolerance: 3/64".

Six Standard Sizes

29 13/16" x 83 11/16"	35 13/16" x 83 11/16"	41 13/16" x 83 11/16"
30" x 84"	36" x 84"	42" x 84"

Clearances: Top, 1/8". Bottom, 1/8" to 1/4" (3/16" recommended). Hinged Side, 1/8". Non hinged side, 1/8" (may reach 7/32" because of 3/32" tolerance).
Holes: Minimum size, 7/8". Must be drilled before tempering at factory. Minimum distance, edge of door to nearest edge of hole, 3". Minimum distance, tip of glass corner to nearest edge of hole, 4 1/2". Tolerance between holes or in location of a hole, 3/32".
Attached metal fittings: Solid bronze or aluminum only. Finishes: polished bronze, brushed bronze, polished chrome plating, brushed chrome plating, alumilited aluminum.
Strength: 3 to 5 times stronger than plate glass of same thickness.
Kick plates: Not recommended.
Cutting or drilling: In factory only, before fabrication.
Push-pull bars: Recommended placement, 42" from bottom of door to center of bar. Recommended position, vertical, on swing side. Can be supplied by Libbey-Owens-Ford in sizes 12" and 14".
(Complete installation details are shown in catalog TF-1. Ask for a copy or see it in Sweet's File for Architects, 15d/Li.)

Window Glass

L-O-F Flat Drawn Sheet Glass—representing the result of more than 30 years of quality glass manufacturing—is exceptionally transparent and has a natural fire-finished surface. It is relatively free of distortion. L-O-F uses its own Flat Drawn Process in manufacturing sheet glass. The result is a better annealed window glass that is less subject to breakage in cutting.

Uses

Libbey-Owens-Ford Sheet Glass for glazing windows, doors and storm sash in homes, apartments and other types of buildings; cabinet fronts and shelving.

Libbey-Owens-Ford Heavy Sheet Glass for glazing windows and doors where greater strength is required but where slight distortion is not objectionable; shelving; display cases; window ventilators, jalousies and furniture tops.

Libbey-Owens-Ford Picture Glass for covering pictures, photographs, maps and prints; projector slides, novelties and instrument dials.

Shipped in soundly-constructed boxes, Libbey-Owens-Ford Sheet Glass is given neat, clean and practically moisture-proof protection.

Libbey-Owens-Ford Sheet Glass is classified on the basis of thickness as Window, Heavy Sheet and Picture Glass.

Thicknesses

Window Glass is supplied in two thicknesses:

1. Single Strength, varying from 10 to 11.8 lights per inch and identified by a *red* label.
2. Double Strength, varying from 7.5 to 8.7 lights per inch and identified by a *blue* label.

Window Glass is supplied in four standard qualities:

"AA"—Specially selected glass for high grade work.

"A"—Select glass of superior glazing quality.

"B"—Suitable for general glazing purposes.

Greenhouse—Double strength glass suitable for this purpose in sizes 16" x 18", 16" x 24", 18" x 20" and 20" x 20".

Heavy Sheet Glass is supplied in thicknesses of 3/16" and 7/32", and in qualities "AA", "A", and "B."

Picture Glass is furnished in three standard thicknesses listed in the chart to the right, and in "AA", "A", and "B" qualities.

Heat Absorbing Heavy Sheet Glass is supplied in 7/32" thickness and in standard quality.

Safety Glass

Where vision and greater protection are required, L-O-F Safety Glass has solved the problem in widely varying applications. An improved technique in bending has broadened its usefulness. For years, L-O-F Safety Glass has been a standard in the automotive and transportation industries.

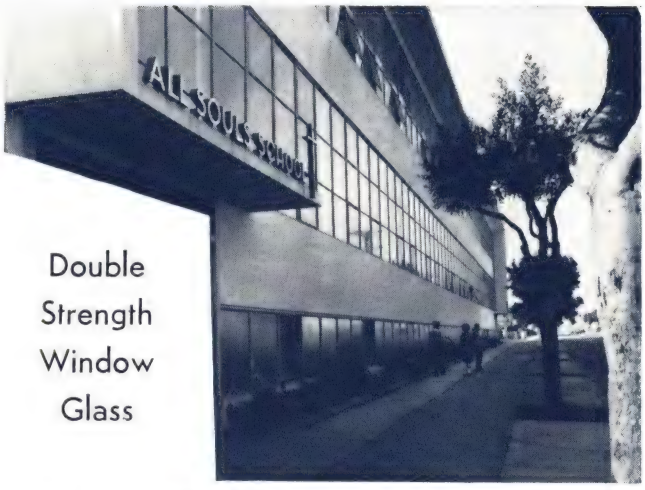
Libbey-Owens-Ford Hi-Test Safety Glass is made of two lights of polished plate or sheet glass bonded by tough transparent plastic, and represents the highest achievement in safety glass quality and performance. The interlayer is a properly plasticized polyvinyl butyral resin which has unusual strength, elasticity and adhesion. When safety glass is fractured, the particles of glass tend to adhere to the plastic, affording more protection against flying glass fragments.

While Safety Glass is considered entirely satisfactory for use in vehicles, it is not usually recommended for exterior glazing in buildings unless certain precautions are observed in setting. Since the chemical action of certain glazing compounds over a period of years may cause the plastic interlayer to deteriorate, the life of Safety Glass cannot be considered in terms of a building's expected life.

Bullet Resisting Glass

Bullet Resisting Plate Glass, composed of a minimum of four layers of glass and a minimum of three layers of Hi-Test plastic, is extensively used for glazing bank teller cages, cashier booths, jewelry store display cases, and observation windows in pressure test chambers. Thicknesses 1⅛", 1½" and 2" up to 28" x 36" inclusive are available to Underwriters' Laboratories specifications for indoor and outdoor installations in bandit-resisting enclosures. These thicknesses in larger sizes available subject to revised construction details.

Clients will appreciate the added protection which L-O-F bullet-resisting glass will afford them and their employes. An installation would pay for itself in protection of valuables, customers and workers if a single robbery were thwarted because of its use. Bullet-resisting glass is clear and, in many installations, cannot be detected without a close inspection. To an individual unacquainted and unfamiliar with this purposeful product, it appears to be an ordinary pane of glass. This characteristic adds to its protective value. For example, the illustration at the right gives absolutely no outward appearance of utilizing Bullet Resisting Plate Glass, but cashiers know the security of working, with the glass as a protective shield.



Double Strength Window Glass

The flatness and high light transmission of Libbey-Owens-Ford window glass have led to its being specified for many outstanding buildings such as the All Souls School in San Francisco, Calif. Architect: Mario Ciampi.

Suggested Specifications

All window or sheet glass shall be Libbey-Owens-Ford Flat Drawn ("A") Quality (Double Strength) as defined by Federal Specification DD-G-451a. Each light shall bear the identifying L-O-F label.

Chart for Specifying Window Glass

Classification	Quality	Thickness in Inches	Approximate Wt Sq. Ft. in Ozs.	Maximum Sizes (Under Normal Conditions)
Window Glass				
Single Strength	"AA," "A," "B"	.085–.100	19.50	90 united in.*
Double Strength	"AA," "A," "B"	.115–.133	26	120 united in.*
Double Strength	Greenhouse	.115–.133	26	16" x 18" 16" x 24" 18" x 20" 20" x 20"
3/16" **Heavy Sheet**	"AA," "A," "B"	.182–.205	40	76" x 120"
7/32" **Heavy Sheet**	"AA," "A," "B"	.205–.230	45	76" x 120"
Picture Glass 19-23 lts. per in.	"AA," "A," "B"	.043–.053	9 to 11	60 united in.*
Picture Glass 15-17 lts. per in.	"AA," "A," "B"	.058–.068	12 to 14	60 united in.*
Picture Glass 12-14 lts. per in.	"AA," "A," "B"	.070–.080	15 to 17	60 united in.*
7/32" **Heat Absorbing Heavy Sheet**	Standard	.205-.230	45	Not over 15 Sq. Ft. Per Light

*United inches is sum of width plus length.

AVERAGE SOLAR RADIATION TRANSMITTANCES OF L-O-F WINDOW GLASS AT NORMAL INCIDENCE

	Single Strength	Double Strength	3/16" Sheet	7/32" Sheet	9-11 oz.	12-14 oz.	15-17 oz.
Ultraviolet	76.6	73.4	68.8	66.8	81.6	79.9	78.1
Illuminant C (Avg. Daylight)	90.8	90.4	89.6	89.2	91.5	91.3	91.0
Total Solar Radiation*	87.3	85.7	82.9	81.5	89.6	88.8	88.0

*Solar radiation values are normal incidence transmittances for source that has energy distribution of the sun at 30° altitude (air mass equals two) (approximately 10% ultraviolet, 40% visible rays, 50% infrared.

Kinds of Glass	Number of Lights	Thickness of Safety Glass	Thickness Tolerance	Maximum Area per Lt.	Net Weight Lbs. per Sq. Ft.
Thin Safety Glass	2	5/32"	−1/32"	Up to 7 sq. ft.	1.92
S.S. Safety Glass	2	7/32"	±1/32"	Sizes up to 15 sq. ft. of area	2.49
Combination Safety Glass (S.S. & D.S.)	2	15/64"	±1/32"		2.91
D.S. Safety Glass	2	1/4"	±1/32"		3.32
Safety Plate	2	1/4"	±1/32"	60 x 90	3.16

Heavy Flat Safety Plate

Thicknesses: 11/32", 3/8", 13/32", 1/2", 5/8", 3/4", 7/8", 1".
Maximum Standard Size: 30" x 72".
Weights: Range from 4.47 to 13 lbs. per sq. ft.

Thicknesses	Thickness Tolerances	Dimensional Tolerances
11/32", 3/8", 13/32" 1/2", 5/8", 3/4", 7/8", 1"	Plus or minus 1/32" Plus or minus 1/16"	Plus or minus 1/16" Plus 0 minus 1/8"

Note: Safety Glass made with *Tuf-flex* (pages 6 and 7) has extra strength qualities.



Bullet Resisting Glass offers needed protection to tellers in banks like this. And as the degree of isolation from other tellers increases, so do the hazards. That's why L-O-F Bullet Resisting Glass is specified for the popular drive in depositories, too. (Fletcher Trust Company, Arlington Ave. Branch, Indianapolis, Indiana. Architects: Vonnegut, Wright and Yeager)

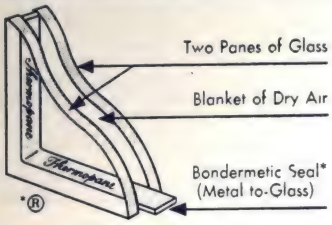
Suggested Specifications

All Bullet-Resisting Plate Glass shall be made by Libbey-Owens-Ford Glass Company ..... inches in thickness and in sizes as shown on drawings.

Thicknesses	Thickness Tolerance	Maximum Standard Size	Dimensional Tolerance	Net Weights Lbs. Per Sq. Ft. unpacked
3/4"	±1/16"	30" x 72"	+0, −1/8"	9.81
7/8"	−1/8", −0	30" x 72"	+0, −1/8"	11.45
1"	−1/8", −0	30" x 72"	+0, −1/8"	13.08
1 1/8"	±1/16", −0	30" x 72"	+0, −1/8"	14.72
1 3/16"	±1/16"	30" x 72"	+0, −1/8"	15.51
1 1/2"	−3/16", −0	30" x 72"	+0, −1/8"	19.62
1 9/16"	−3/16", −0	30" x 72"	+0, −1/8"	20.44
2"	−3/16", −0	30" x 72"	+0, −1/8"	26.16
2 3/32"	−3/16", −0	30" x 72"	+0, −3/16"	27.39
2 1/2"	±1/16"	30" x 72"	+0, −1/4"	32.70
3"	±1/16"	30" x 72"	+0, −1/4"	39.24

Thermopane® Insulating Glass

CUTAWAY OF METAL-SEAL *Thermopane*



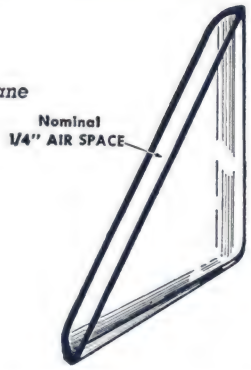
Thermopane was the first successful, mass-produced, insulating unit of its kind for general use. It is a factory-built glass unit composed of two or more lights of glass separated by ¼" or ½" of dehydrated captive air, hermetically sealed around the edges at the factory with a metal-to-glass bond.

The glass is specially washed, the air scientifically cleaned and dried, and the Bondermetic Seal* applied at atmospheric pressure. The unit is not vacuum sealed.

Thermopane units provide a high resistance to heat flow, varying with the number of panes and the thickness of the air space. In summer *Thermopane's* low heat transmission coefficient reduces the load on air conditioning systems. In winter it saves heat.

CUTAWAY OF GLASS-SEAL *Thermopane*

Glass-Seal *Thermopane* is now available in limited sizes for wood and metal panel windows. For detailed information contact your nearest L-O-F District Office.



The greater efficiency of *Thermopane* compared with single glazing makes it possible to use larger windows and keep the cost of fuel constant. For example, this means that a home could have 115 square feet of double *Thermopane* and lose no more heat than a similar home would lose with 65 square feet of single glazing. *Thermopane* permits the influx of a large amount of solar heat without a prohibitive compensating loss. *®

Glazing Information

ALL TYPES OF SASH

Thermopane is a factory sealed insulating glass unit which is subject to continuous movement due to the changes of temperature and barometric pressure. Adequate provision should be made for expansion and contraction of all metal glazing members—particularly long continuous expanses of metal members—to provide against any pressure on the glass. To insure against breakage or seal failure, a cushioning material such as glazing compound, Neoprene, or Vinyl, must be used so there is no contact between sash or glass at any point. Therefore, the warranty for *Thermopane* does not apply unless the following instructions are followed in every detail:

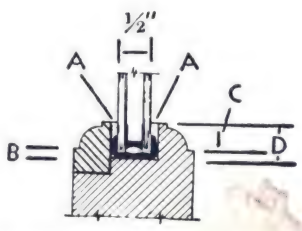
1. *Thermopane* must not be installed unless sash opening is square and plumb so that proper face and edge clearance can be maintained.
2. Face clearances between glass and stops must not be less than ⅛".
3. Edge clearances between glass and frame must not be less than ⅛" *on each edge* for ½" thick *Thermopane*, or ¼" *on each edge* for units over ½" thick.
4. Use a good knife-grade, non-hardening glazing compound, free from corrosive materials. Do not cut. DO NOT USE PUTTY.
5. To insure uniform clearances use L-O-F Neoprene Setting Blocks and Spacers on all units set with face stops.
6. Use L-O-F Metal Glazing Clips for ½" thick *Thermopane* on sash without face stops.
7. Locate Setting Blocks or Glazing Clips in from each corner a distance of one-fourth the width of the glass.
8. Use full bed of glazing compound on bottom of sash, enough at sides and top to make weather tight seal.
9. Trim and slope glazing compound from glass to outside stop for water drainage.
10. Do not nip corner or grind edges.
11. All units manufactured with any type of Heat Absorbing glass must have Heat Absorbing to *outside only*.

Installation Clearances and Rabbet Depths

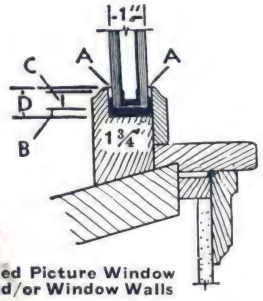
Symbol and Explanation	Glass Thickness: D. S. A. ⅛" Plate ⅛" Patterned	³⁄₁₆" Sheet Glass		¼" Plate 7⁄32" or ¼" Patterned		
Glass Sizes	under 80 united inches‡	under 80 united inches‡	from 80–120 united inches‡	under 80 united inches‡	over 80 united inches‡	over 120 united inches‡
A—Glazing compound Bed	⅛"	⅛"	⅛"	⅛"	⅛"	⅛"
B—Glazing Clearance (all edges)	⅛"	¼"	¼"	¼"	¼"	¼"
C—Metalized Edge—Depth	⅜"	⅜"	⅜"	⅜"	½"	½"
D—Total Rabbet Depth	½"	⅝"	⅝"	⅝"	¾"	¾"

‡Sum of length plus width.

It is extremely important to remember that *Thermopane* is a factory-fabricated unit and, once made to specifications, its dimensions cannot be changed at point of use. Proper installation clearances must be allowed on all *Thermopane* units, as well as sufficient rabbet depth, so that the metal seal does not show. The chart above and drawings at right give this information.



Double Hung, Casement and/or Small Fixed Sash



Fixed Picture Window and/or Window Walls

Thermal Shock

Hot air directed onto glass may cause breakage. This is true in single glass as well as *Thermopane*. When the difference in temperature within a light of glass is excessive, breakage may be expected.

Covering glass with paper and painted areas on glass (signs, etc.) should be avoided. Such coverings act as a heat trap and may cause glass failure due to increase in temperature of the areas covered.

Metal Sash

Engineering practice dictates the need for sufficient columnar strength and for suitable expansion joints in metal sash members. The design and spacing of expansion joints should be the work of the architect, engineer or metal manufacturer.

Surface Finishes

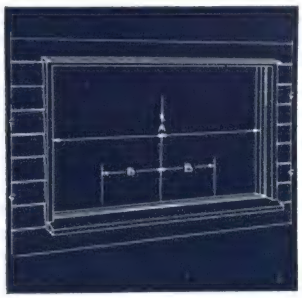
Sandblast finish is available, but details must be submitted for our approval. Sandblast is applied to the air space surface only, either to one or both lights in order to provide cleanliness. Exterior sandblast will not be furnished. As sandblasting of glass reduces its strength 50%, we do not recommend *Thermopane* units with a sandblast surface. Blue Ridge patterns should be considered when obscurity is needed.

Shapes and Pattern Cut

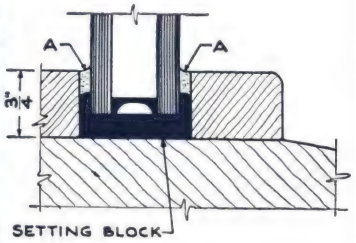
Thermopane will be manufactured to straight edge patterns for airport control towers, production accounts and for the gable ends of residences or schools where other glass used is *Thermopane*. Units can be produced with four or five sides but no angle can be less than 45° nor any one edge less than eight inches. Triangles cannot be furnished. Maximum sizes are governed by dimensional tolerances shown on page fifteen. The relation of width to height must be within 4½ times the width to height ratio.

Use of Neoprene Setting Blocks and Metal Glazing Clips

For the proper operation of *Thermopane* all units must be supported on soft-surfaced setting blocks. To enable glaziers and others to install *Thermopane* successfully, Libbey-Owens-Ford has available Neoprene setting blocks for units ½", ¾", and 1" thick. Also, for units ½" thick the company has available a metal glazing clip for use in steel, aluminum and wood sash. Drawings below show use of setting blocks and glazing clips. *Under no circumstances* should units be *forced* into any type of sash.



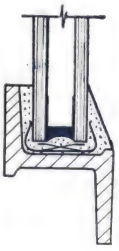
Positions of Setting Blocks



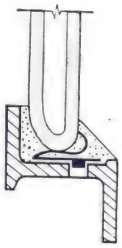
Neoprene Setting Block in Position



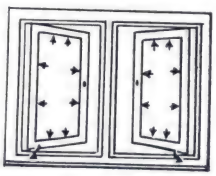
Spacer Strips in Position



Glazing Clip in Metal Sash



Glazing Clip for Glass-Seal



Arrows: Positions of Glazing Clips

Thermopane Warranty

For a period of five (5) years from the date of manufacture, we warrant that, under normal conditions, material obstruction of vision, resulting from film formation or dust collection between the interior glass surfaces of *Thermopane*, will not occur.

This warranty will be void if *Thermopane* is not installed in accordance with our installation instructions, or if any cutting, fitting, or nipping of edges or corners, is done, accidentally or otherwise, after shipment from our factory, or if the unit is damaged in handling, installation or otherwise.

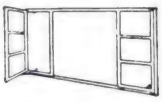
Our maximum liability under this warranty shall be the delivery of replacement lights of *Thermopane* to the railroad shipping point nearest the place of installation.

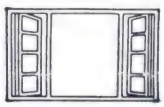
This warranty does not apply to such replacement lights beyond the original five year period applying to the original unit; nor does it apply when *Thermopane* is used in ships, railroad cars or other vehicles, or is used outside continental United States.

Standard Sizes of 1" Thick Thermopane Units

(SEE FACING PAGE FOR ½" THICK UNITS)

(2 panes ¼" Polished Plate With ½" Air Space)

Sash Manufacturer	Window Style	Sash Opening Width	Sash Opening Height	Glass Size Width	Glass Size Height
Any manufacturer shown on this page can provide picture window sash without flanking units.	Picture Window Alone 			Use any size shown on this page	
Window walls can be constructed by using a series of Picture Window sash separated by mullions.	Window Wall 	Glass sizes shown are for 8' and 8½' ceiling heights respectively, allowing 1'-6" from floor to sill and 1'-0" from head to ceiling		42" x 66" 56½" x 66" 64½" x 66" 72½" x 66" 84" x 66" 96" x 66" 42" x 72" 84" x 72" 96" x 72"	
Andersen Corp. Bayport, Minn. Anderson Mfg. Co., Inc. Owensboro, Ky. Binswanger and Co., Inc. Richmond 21, Va. Carr Adams & Collier Co. Dubuque, Iowa Chicago & Riverdale Lumber Co. Chicago, Ill. Cole Mfg. Co. Memphis, Tenn. Curtis Companies, Inc. Clinton, Iowa Exchange Lumber & Mfg. Co. Spokane, Wash. Farley & Loetscher Mfg. Co. Dubuque, Iowa General Woodcraft Co., Inc. North Bergen, N. J. Hallack & Howard Lumber Co. Denver, Colo. Harris Bros. Lbr. Co. Chicago 9, Ill. Edward Hines Lbr. Co. Chicago 8, Ill. Huttig Mfg. Co. Muscatine, Ia. Huttig Sash & Door Co. St. Louis, Mo. Ideal Company Waco, Texas Malta Mfg. Co. Malta, Ohio Prefabricators, Inc. Denver 17, Colo. Radford Co. Oshkosh, Wis. Roach & Musser Co. Muscatine, Iowa Rock Island Millwork Rock Island, Ill. Weather-Seal, Inc. Barberton, Ohio Wisconsin Window Unit Co. Merrill, Wis.	Standard Wood Picture Window Units with Flanking Double Hung Sash 	4'-4" x 4'-2" 5'-0" x 4'-2" 5'-8" x 4'-2" 6'-4" x 4'-2" 4'-4" x 4'-6" 5'-0" x 4'-6" 5'-8" x 4'-6" 6'-4" x 4'-6" 7'-0" x 4'-6" 8'-4" x 4'-6" 4'-4" x 5'-2" 5'-8" x 5'-2" 6'-4" x 5'-2" 7'-0" x 5'-2" 8'-4" x 5'-2" 10'-0" x 5'-2" 5'-0" x 5'-10" 5'-8" x 5'-10" 6'-4" x 5'-10"		48½" x 46" 56½" x 46⅛" 64½" x 46" 72½" x 46" 48½" x 50" 56½" x 50" 64½" x 50" 72½" x 50" 80½" x 50" 96½" x 50" 48½" x 58" 64½" x 58" 72½" x 58" 80½" x 58" 96½" x 58" 116½" x 58" 56½" x 66" 64½" x 66" 72½" x 66"	
Gate City Sash & Door Co. Fort Lauderdale, Fla. Fox Bros. Mfg. Co.* St. Louis 4, Mo. *Furnished only in Protexol fire-proofed wood	Standard Wood Picture Window Units with Flanking Awnings 	Buck Opening 75⅛" x 51" 67⅛" x 51" 51⅛" x 51" 72¾" x 57" 60¾" x 57" 48¾" x 57" 119⅛" x 63"		72½" x 46" 64½" x 46" 48½" x 46" 70⅛" x 52½" 58⅛" x 52½" 46⅛" x 52½" 116½" x 58"	
Reynolds Metal Co. Louisville, Ky. Ware Laboratories, Inc. Miami, Fla.	Standard Aluminum Picture Window Units with Flanking Casements 	4'-5⅛" x 4'-2⅝" 4'-5⅛" x 5'-3" 5'-9⅜" x 4'-2⅝" 5'-9⅜" x 5'-3"		50⅜" x 47¾" 50⅜" x 60⅛" 66⅜" x 47¾" 66⅜" x 60⅛"	

Sash Manufacturer	Window Style	Sash Opening Width	Sash Opening Height	Glass Size Width	Glass Size Height
		(Including Casements)			
Andersen Corp. Bayport, Minn. Only sizes marked * Brown-Graves Co. Akron, Ohio. For list of sizes contact manufacturer. Curtis Companies, Inc. Clinton, Iowa. For list of sizes, contact manufacturer. Farley & Loetscher Mfg. Co. Dubuque, Iowa Only sizes marked ‡ Rolscreen Co. Pella, Iowa Only sizes marked * Rock Island Millwork Co. Rock Island, Ill. For list of sizes, contact manufacturer. Wisconsin Window Unit Co. Merrill, Wis. For list of sizes, contact manufacturer.	Standard Wood Picture Window Units with Flanking Casements 	*6'-5¼"	x 3'-2¾"	*35½"	x 36"
		*8'-1"	x 3'-2¾"	*55¼"	x 36"
		*9'-8¾"	x 3'-2¾"	*75"	x 36"
		*6'-5¼"	x 4'-2⅜"	*35½"	x 48⅛"
		*8'-1"	x 4'-2⅜"	*55¼"	x 48⅛"
		*9'-8¾"	x 4'-2⅜"	*75"	x 48⅛"
		*6'-5¼"	x 5'-2¾"	*35½"	x 60⅜"
		*8'-1"	x 5'-2¾"	*55¼"	x 60⅜"
		*9'-8¾"	x 5'-2¾"	*75"	x 60⅜"
		*3' 10¾"	x 3'-2¾"	*44½"	x 36"
		*5'-11"	x 5'-2¾"	*68¾"	x 36"
		*3'-10¾"	x 4'-2⅜"	*44½"	x 48⅛"
		*5'-11"	x 4'-2⅜"	*68¾"	x 48⅛"
		*3'-10¾"	x 5'-2¾"	*44½"	x 60⅜"
		*5'-11"	x 5'-2¾"	*68¾"	x 60⅜"
		*4'-3"	x 4'-4"	*48"	x 48"
		*6'-3"	x 4'-4"	*72"	x 48"
		*4'-3"	x 5'-4"	*48"	x 60"
		*6'-3"	x 5'-4"	*72"	x 60"
		‡5'-0"	x 5'-10"	‡56½"	x 66"
		‡5'-8"	x 5'-10"	‡64½"	x 66"
		‡6'-4"	x 5'-10"	‡72½"	x 66"
General Bronze Corp. Garden City, L. I. Contact manufacturer for additional sizes of sash for non-standard Thermopane	Aluminum Sash Picture Window Units 	4'-0"	x 4'-8"	46⅛"	x 52½"
		5'-0"	x 4'-8"	58⅛"	x 52½"
		6'-0"	x 4'-8"	70⅛"	x 52½"
		4'-0"	x 5'-0"	46⅛"	x 56½"
		5'-0"	x 5'-0"	58⅛"	x 56½"
		6'-0"	x 5'-0"	70⅛"	x 56½"
Adams & Westlake* Elkhart, Ind. Cupples Products Co. Maplewood, St. Louis 17, Mo. Fleet of America Buffalo 2, N. Y. General Bronze Corp., Alwintite Div.* Garden City, L. I. Ceco Steel Products Corp. Sterling Aluminum Window Div. New York 17, N. Y. *Indicates These Firms Manufacture to Order	Standard Aluminum Picture Window Units with Flanking Double Hung Sash 	3'-2"	x 4'-2"	35½"	x 48⅛"
		4'-4"	x 4'-6"	48½"	x 50"
		5'-0"	x 4'-6"	56½"	x 50"
		5'-8"	x 4'-6"	64½"	x 50"
		6'-4"	x 4'-6"	72½"	x 50"
		7'-0"	x 4'-6"	80½"	x 50"
		5'-8"	x 5'-2"	64½"	x 58"
		6'-4"	x 5'-2"	72½"	x 58"
		7'-0"	x 5'-2"	80½"	x 58"
Wm. Bayley Co. Springfield, Ohio Bliss Steel Products Co. E. Syracuse, N. Y. Ceco Steel Products Co. Chicago 50, Ill. Detroit Steel Prod. Co. Detroit 11, Mich. Michael Flynn Mfg. Co. Phila. 24, Pa. Hopes' Windows, Inc. Jamestown, N. Y. Merker Bros. St. Louis, Mo. J. S. Thorn Co. Phila. 32, Pa. Truscon Steel Co. Youngstown, Ohio	Residential Steel Sash Picture Window Units 	4'-5⅛"	x 4'-2⅝"	50⅜"	x 47¾"
		4'-5⅛"	x 5'-3"	50⅜"	x 60⅛"
		5'-9⅜"	x 4'-2⅝"	66⅜"	x 47¾"
		5'-9⅜"	x 5'-3"	66⅜"	x 60⅛"
Solar Air-Flo, Inc. Elkhart, Ind. Wisconsin Window Unit Co. Merrill, Wis. For list of sizes, contact Manufacturer	Standard Wood Picture Window Units with Louvres (3) 	39⅜"	x 53¾"	35½"	x 36"
		39⅜"	x 65¾"	35½"	x 48⅛"
		39⅜"	x 77¾"	35½"	x 60⅜"
		49⅞"	x 65¾"	46"	x 48½"
		49⅞"	x 74¾"	46⅛"	x 56½"
		49⅞"	x 89¾"	46"	x 72½"

This does not purport to be a complete list of manufacturers of sash for Thermopane. Neither does it show all the styles of sash made by the manufacturers listed. Many *local* sash and door manufacturers are now fabricating sash suitable for Thermopane. Since this list was prepared other manufacturers may now be making Thermopane sash. This list is intended only as a guide to you in contacting your normal source of supply for obtaining Thermopane sash.

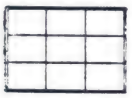
Thermopane made with window glass should not be turned when set . . . specify width first. All Thermopane units made of polished plate glass can be installed with either dimension set vertically. Window openings will vary according to individual sash manufacturer's specifications. Therefore, manufacturers should be contacted for full information regarding their units.

Standard Sizes of 1/2"* Thick Thermopane Units

(SEE FACING PAGE FOR 1" THICK UNITS)

(2 panes 1/8" Polished Plate, or DSA Window Glass, With 1/4" Air Space)

Sash Manufacturer	Window Style	Sash Opening Width	Sash Opening Height	Glass Size Width	Glass Size Height
Binswanger Co., Inc. Richmond 21, Va. Chicago & Riverdale Lumber Co. Chicago, Ill. Exchange Lbr. & Mfg. Co. Spokane, Wash. General Woodcraft Co., Inc. North Bergen, N. J. Harris Bros. Lumber Co. Chicago 9, Ill. Ed. Hines Lumber Co. Chicago 8, Ill. Olson Millwork Company Cedar Rapids, Iowa	Double Hung Wood Windows (2-Light) 	2'-0"	4'-2"	20"	22"
		2'-4"	4'-2"	24"	22"
		2'-4"	4'-6"	24"	24"
		2'-8"	4'-6"	28"	24"
		3'-0"	4'-6"	32"	24"
		3'-4"	4'-6"	36"	24"
		3'-8"	4'-6"	40"	24"
		4'-0"	4'-6"	44"	24"
		2'-4"	5'-2"	24"	28"
		2'-8"	5'-2"	28"	28"
		3'-0"	5'-2"	32"	28"
		3'-4"	5'-2"	36"	28"
		3'-8"	5'-2"	40"	28"
		4'-0"	5'-2"	44"	28"
Binswanger Co., Inc. Richmond 21, Va. Chicago & Riverdale Lbr. Co. Chicago, Ill. Exchange Lbr. & Mfg. Co. Spokane, Wash. General Woodcraft Co., Inc. North Bergen, N. J. Harris Bros. Lbr. Co. Chicago 9, Ill. Ed. Hines Lbr. Co. Chicago 8, Ill. Olson Millwork Company Cedar Rapids, Iowa	Double Hung Wood Windows (4-Light) 	2'-0"	4'-2"	20"	10 3/8"
		2'-4"	4'-2"	24"	10 3/8"
		2'-4"	4'-6"	24"	11 3/8"
		2'-8"	4'-6"	28"	11 3/8"
		3'-0"	4'-6"	32"	11 3/8"
		3'-4"	4'-6"	36"	11 3/8"
		3'-8"	4'-6"	40"	11 3/8"
		4'-0"	4'-6"	44"	11 3/8"
		2'-4"	5'-2"	24"	13 3/8"
		2'-8"	5'-2"	28"	13 3/8"
		3'-0"	5'-2"	32"	13 3/8"
		3'-4"	5'-2"	36"	13 3/8"
		3'-8"	5'-2"	40"	13 3/8"
		4'-0"	5'-2"	44"	13 3/8"
Rolscreen Co. Pella, Iowa	Wood Casements 	23"	40"	20"	36"
		23"	52"	20"	48"
		23"	64"	20"	60"
		27"	28"	24"	24"
		27"	36"	24"	32"
		27"	40"	24"	36"
		27"	52"	24"	48"
Curtis Companies, Inc. Clinton, Iowa Gate City Sash & Door Co. Ft. Lauderdale, Fla. General Woodcraft Co., Inc. North Bergen, N. J. Ludman Corporation Miami, Fla. Metz Mfg. Co. Dubuque, Iowa Roach & Musser Co. Muscatine, Iowa	Wood Awning Windows 			20"	16"
				32"	16"
				44"	16"
				28"	18"
				36"	18"
				44"	18"
Bliss Steel Products Co. E. Syracuse, N. Y. Druwhit Metal Products Co. Los Angeles 11, Cal. Michael Flynn Mfg. Co. Philadelphia 24, Pa. Hopes' Windows, Inc. Jamestown, N. Y. Soule Steel Co. San Francisco 24, Cal. Truscon Steel Co. Youngstown, O.	Residential Steel Casements (Without Muntins) 	For detailed information about omitting muntins contact any L-O-F district office		T-1 15 15/16"	x 35 3/16"
				T-2 15 7/8"	x 36 7/16"
				T-3 15 15/16"	x 47 1/2"
				T-4 15 15/16"	x 48 3/4"
				T-5 17 3/16"	x 36 7/16"
				T-6 17 3/16"	x 48 3/4"
WOOD Builders Products, Inc. Cleveland, Ohio Curtis Companies Clinton, Iowa Curtis Companies Lincoln, Nebr Curtis Companies Topeka, Kansas Curtis Companies Chicago, Ill. Curtis Companies Wausau, Wis. Curtis Companies Minneapolis, Minn. Dyke Bros. Little Rock, Ark. Fabrow Mfg. Co. Toledo 9, Ohio	Panel Window System (Wood) 	45 3/4"	25 3/4"	45 1/2"	25 1/2"
		Fred Reuten, Inc. Closter, N. J. Falls Lumber Co. Cuyahoga Falls, Ohio Goshen Sash & Door Co. Goshen, Ind. Lubbock Sash & Door Co. Lubbock, Texas Ohio Plate Glass Co. Toledo 4, Ohio Pease Woodwork Co. Cincinnati 23, Ohio Pre-Fabricators, Inc. Denver 17, Colo Randall Bros. Atlanta, Ga.			Royal Glass Works Long Island City, N. Y. Rust Sash & Door Co. Kansas City, Mo. Universal Window Co. Austell, Ga. Universal Window Co. Charlotte, N. C. Wadsworth Millwork Co. Wadsworth, Ohio Wisconsin Window Unit Co. Merrill, Wis. Work-Millwork Monterey, Calif. Solar Air-Flo, Inc. Elkhart, Ind.	

Sash Manufacturer	Window Style	Sash Opening Width	Sash Opening Height	Glass Size Width	Glass Size Height
WOOD All manufacturers of the wood panel window system listed above manufacture wood ventilators. ALUMINUM A B C Steel Equipment Co New York City 10, N. Y. Aluminum Home Products Co. Knoxville, Tenn. Marmet Corp. Wausau, Wis. Superior Window Company Miami, Florida Ware Laboratories, Inc. Miami, Fla.	Ventilator for Panel Window System 	45 3/4"	25 3/4"	42 1/2"	22 1/2"
		These sizes will be furnished in Glass-Seal Thermopane unless Metal-Seal is specified.			
STEEL Detroit Steel Products Co. * Detroit, Mich. Truscon Steel Co. Youngstown, Ohio ALUMINUM Marmet Corp. Wausau, Wis. Superior Window Company Miami, Florida Ware Laboratories, Inc. Miami, Fla. * Detroit Steel Products manufactures a non-standard size ventilating unit.	9-Light Panel Wall 			36"	24"
	Awning Ventilator for 9-Light Panel Wall 			34 11/16"	22 11/16"
		These sizes will be furnished in Glass-Seal Thermopane unless Metal-Seal is specified.			
Solar Air-Flo, Inc Elkhart, Ind. Wisconsin Window Unit Co. Merrill, Wis.	Panel Wall with Louvres 	49 3/8"	104"	45 1/2"	25 1/2"
Fabrow Mfg. Co. Toledo 9, Ohio Fred Reuten, Inc. Closter, N. J. Wadsworth Millwork Co. Wadsworth, Ohio	Modified Panel Window (Wood) 	45 3/8"	x 52"		
		*Except as follows: To be manufactured with 2 lights of 1/4" Plate and 1/8" Air Space; also, 2 lights of 3/16" Sheet and 1/2" Air Space.			

Standard Sizes for Farm Service Buildings

These 7/8"-thick *Thermopane* units for farm buildings are made with 3/16" sheet glass only and 1/2" air space only. They are stenciled for use in farm buildings.  			1/2" Air Space and 3/16" Sheet Glass only 36" x 44" 36" x 60" 40" x 68"
These 1/2"-thick units for farm buildings are made with double strength A-quality window glass only and 1/4" air space. 	Studs 24" on center for fixed windows with stops nailed to studs		Five Sizes Below 1/4" Air Space and DSA Glass only 22" x 28" 22" x 36"
Steel sash manufactured by Clay Equipment Corp., Cedar Falls, Iowa. *Thermopane* units 1/2"-thick made only with double strength A-quality window glass only and 1/4" air space. 		32" x 36"	31 1/2" x 35 1/2"
		32" x 36"	30 1/4" x 22" (Top) Tilting 31 1/2" x 11 3/8" (Bottom) Fixed

Sash for Non-standard Size Thermopane Units

Some representative sash manufacturers of different styles of windows are listed on this page. This listing does not purport to be a complete listing of manufacturers and styles, nor does it necessarily include all styles and sizes made by the listed manufacturers. Those shown have units which will accept ½" thick units of *Thermopane* and, in some instances, ¾" thick units. Most have been approved by Libbey-Owens-Ford; some are undergoing approval tests. Because thickness tolerances, dimensional tolerances and edge clearances of *Thermopane*, and strength of sash, are important to satisfactory glazing, these factors should be carefully checked with the sash manufacturer before entering order for sash or *Thermopane* units.

DOUBLE HUNG ALUMINUM WINDOWS

Adams & Westlake
Elkhart, Ind.

Cupples Products Co.
Maplewood, St. Louis 17, Mo.

Flour City Ornamental Iron Co., Minneapolis, 6 Minn.

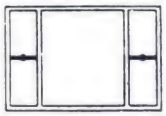
Ceco Steel Products Corp.
Sterling Aluminum Window Div., Chicago 50, Ill.



STEEL PICTURE WINDOW UNITS WITH FLANKING DOUBLE HUNG STEEL SASH

J. S. Thorn Co.
Philadelphia 32, Pa.

Truscon Steel Co.
Youngstown, Ohio



ALUMINUM FOLDING WINDOWS

Flour City Ornamental Iron Co. Minneapolis 6, Minn.

Universal Corp
Dallas 9, Texas



ALUMINUM AWNING WINDOWS

Ludman Corp.
Miami 28, Fla.

General Bronze Corp.
Garden City, Long Island, N. Y.

Brown & Grist
Newport, News, Va.

Security Products Co.
St. Louis 4, Mo.

Ware Laboratories, Inc.
Miami, Fla.



ALUMINUM PROJECTED SASH

Wm Bayley Co
Springfield Ohio



ALUMINUM REVERSIBLE WINDOWS

Adams & Westlake
Elkhart, Ind.

Gall Reversible Window Co.
Bedford, Ohio

Ware Laboratories, Inc.
Miami, Fla.



ALUMINUM CASEMENT WINDOWS

Reynolds Metal Co.
Louisville 1, Ky.

ABC Steel Equipment Co.
New York 10, N. Y.

Ware Laboratories, Inc.
Miami, Fla.



ALUMINUM HORIZONTAL SLIDING SASH

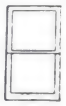
General Bronze Corp.
Garden City, Long Island,

Glide Windows, Inc.
N. Hollywood, Calif.



WOOD SPECIAL PIVOTED DOUBLE HUNG SASH

Williams Pivoted Sash Co.
Cleveland, Ohio



ALUMINUM SPECIAL SASH

Flour City Ornamental Iron Co. Minneapolis 6, Minn.

General Bronze Corp.
Garden City, Long Island, N. Y.

E. K Geyser Co.
Pittsburgh 3, Pa.

Kesco Products, Inc.
Bristol, Ind.

ALUMINUM STOREFRONTS

Brasco Mfg. Co.
Harvey, Ill.

Kawneer Co
Niles, Mich

Natcor Storefronts Co
Taunton, Mass.

ALUMINUM SLIDING DOORS STEEL

Bilt-Rite Aluminum Co.
Seattle, Washington

General Bronze Corp.
Garden City Long Island

Glide Windows, Inc.
N. Hollywood, Calif

Panaview Co.
N. Hollywood, Calif.

Arcadia Metal Products Co.
Arcadia, California

Malibou Corporation
Los Angeles, California

Frank B. Miller Mfg. Co.
Burbank, California

Steel-Bilt, Inc.
Los Angeles 22, Calif.

DOUBLE HUNG STEEL WINDOWS

S. H. Pomeroy Co.*
New York 54, N. Y.

*These sash accept ½" thick or ¾" Thermopane.



Steel Sash

COMMERCIAL – ARCHITECTURAL – INDUSTRIAL

(Intermediate casements, projected, pivoted and combinations)

Sash manufacturers should be consulted while projects are still in the design stage to be sure Thermopane can be used.

In steel sash, the metalized edge will show in some instances. Some sash will accept ¾" thick units of *Thermopane* as well as ½" thick units.

Wm Bayley Co.
Springfield, Ohio

Bliss Steel Products Co.
E. Syracuse, N. Y.

Bogert & Carlough Co
Paterson, N. J.

Ceco Steel Products Co
Chicago 50, Ill.

Copco Steel & Mfg. Co
Detroit 27, Mich.

Detroit Steel Products Co
Detroit Mich

Druwhit Metal Products Co
Los Angeles 11, Calif

Michael Flynn Mfg Co
Philadelphia 24, Pa.

Hopes' Windows, Inc.
Jamestown, N Y.

Mesker Bros.
St Louis, Mo.

Soule Steel Co
San Francisco 24 Calif.

J S. Thorn Co.
Philadelphia 32, Pa.

Truscon Steel Co.
Youngstown, Ohio

1f
Li

Heat Transmission Table

The over-all heat transmission coefficient U varies with the ranges of temperature at which the coefficient is determined. For most practical heat loss calculations, coefficient U is the value determined at ten degrees outside temperature, 70 degrees inside temperature, 15 mph outside air velocity, 0.25 mph average inside air velocity. The following table gives such values from actual tests with glass sizes 30" x 30":

Number of Panes	Glass Thickness	U Value		
		Air Space		
		None	¼"	½"
Single Glass	⅛"	1.16		
	¼"	1.15		
Double *Thermopane* (one air space)	⅛" or ¼"		.65	.58
Triple *Thermopane* (two air spaces)	¼"		.47	

Reduction of Cooling Load

Thermopane in many cases reduces the size and cost of air conditioning equipment and provides a saving in over-all cost of operation of the air cooling system. The amount saved will depend largely on the window orientation and will be increased by the use of *Thermopane*, made with any type of heat absorbing glass, where the windows are exposed to direct sunshine.

Suggested Specifications

All insulating glass shall be double *Thermopane* of sizes indicated on the drawings and composed of an innerpane of . . . . . glass . . . . . inches thick and an outerpane of . . . . . glass . . . . . inches thick, hermetically-sealed with a metal-to-glass bond and separated by a (¼" or ½") dehydrated air space, or glass edge sealed (¼" air), as manufactured by Libbey-Owens-Ford Glass Company, Toledo, Ohio, and installed according to manufacturer's instructions.

FOR COMPLETE TECHNICAL DATA, ASK FOR A COPY OF THERMOPANE MANUAL

Chart for Specifying Non-Standard Size Units of Double *Thermopane* for Buildings
Types, Sizes, Thicknesses, Tolerances and Weights

Type of Glass	Min. Size ¼" or ½" Air Space	Maximum Size With ¼" Air Space*	Maximum Size With ½" Air Space*	Thickness Range		Dimensional Tolerance	Approx. Average Net Wt. per Sq.Ft.
				¼" Air Space	½" Air Space		
D.S.A. (Window Glass) ⅛" Blue Ridge Hammered ⅛" Blue Ridge Velvex ⅛" Blue Ridge Flutex ⅛" Blue Ridge Hammered Aklo ⅛" Polished Plate ⅛" Heat Absorbing Plate	8" x 8"	Maximum Dimensions 38" and 76" Within a maximum total area of 1700 square inches. **See footnote.	Maximum Dimensions 24" and 76" Within a maximum total area of 1700 square inches. **See footnote.	7/16" to 9/16"	11/16" to 13/16"	8" to 38" high to 48" wide ±1/16" 48" to 76" wide +1/8" −1/16"	3¼ lbs.
3/16" A Sheet (Window Glass)	8" x 8"	Maximum Dimensions 50" and 76" Within a maximum total area of 3200 square inches. *See footnote	Maximum Dimensions 50" and 76" Within a maximum total area of 3200 square inches. *See footnote	9/16" to 11/16"	13/16" to 15/16"		5 lbs.
¼" Polished Plate ¼" Heat Absorbing Plate	8" x 8"	Maximum Dimensions 48" and 132" Within a maximum total area of 4800 square inches. **See footnote	Maximum Dimensions 98" and 132" Within a maximum total area of 9600 square inches. **See footnote	11/16" to 13/16"	15/16" to 1 1/16"	8" to 36" high +1/8" −1/16"	6½ lbs.
7/32" Blue Ridge Hammered 7/32" Blue Ridge Velvex 7/32" Blue Ridge Flutex	8" x 8"	48" x 100"	48" x 100"	7/8" to ¾"	7/8" to 1"	36" to 98" high +3/16" −1/16"	6¼ lbs.
¼" Blue Ridge Hammered Aklo	8" x 8"	42" x 100"	42" x 100"	5/8" to ¾"	7/8" to 1"		
¼" *Tuf-flex* Polished Plate ¼" *Tuf-flex* Heat Absorb-Plate	8" x 8"	40" x 48"	40" x 48"	11/16" to 7/8"	15/16" to 1⅛"		6½ lbs.

**For building exteriors, all Thermopane units with one dimension 48" or less can be manufactured with either ¼" or ½" air space. When both dimensions exceed 48" the units will be manufactured with ½" air space only For units up to 16", but not including 16" on one dimension and when the second dimension is more than 4½ times greater than the first, submit for consideration and price.*

***NOTE: IMPORTANT Note carefully maximum size limitations because the total square inches govern the maximum widths and heights. For example, when a double Thermopane unit is manufactured of Polished Plate ¼" and ½" air space, and the size is 72" in one dimension then the other dimension cannot be over 132" to be within the 9600 square inches or 67 square feet total area. This would hold true on a unit 82" x 116" and 98" x 98" A unit 98" x 132" could not be furnished as it totals 12,836 square inches. The same principle holds true for both double and triple sizes noted above by the double asterisk.*

Vitrolite® Structural Glass

Vitrolite is opaque structural glass, 11/32" or more in thickness, which can be applied to walls and other vertical or horizontal areas except floors. It offers a practical means of attaining unusual beauty—colorful beauty that is preserved by characteristics inherent in glass.

Vitrolite is opaque, homogeneous, non-absorbent, and impervious to moisture. It possesses high tensile and crushing strength, and is highly resistant to abrasion. *Vitrolite* will not warp, swell, shrink or craze. Liquids in common use cannot penetrate it, and it will not absorb liquids or gases that give off unpleasant odors. It is not easily stained and will not burn. It is difficult to write or mark upon, and is easily cleaned by the whisk of a damp cloth—or, in extreme cases, by the application of soap and water. *Vitrolite* has slight variations in shade and cannot be guaranteed to match exactly.

Libbey-Owens-Ford *Vitrolite* is installed in interiors with Vitro-cement. Joints are buttered with joint cement. For exterior installation, it is attached with asphaltic mastic and supported at the lower edge adjoining sidewalk and at horizontal joints by metal members having facing shapes that overlap the *Vitrolite*. All joints on exteriors should be 1/16", buttered and pointed with joint cement.

Direct contact with metal, concrete, or other hard substances should be avoided and a cushioning material should always be provided. Abutting edges ground and chamfered, exposed edges polished and chamfered or finished with quarter round. Avoid sharp mitered corners. Corners subjected to rough usage should have metal guards. The *Vitrolite* at the extremities of a storefront installation should be protected with a suitable metal member. Top courses should have projecting member of metal or other material provided with a drip. Distance from background wall or surface to face of *Vitrolite*, 5/8" to 3/4" for 11/32" *Vitrolite*, 3/4" to 7/8" for 7/16" *Vitrolite*. Details and specifications for construction available upon request.

Uses

Facing of storefronts and exteriors of buildings. Lobbies of hotels and office buildings. Wainscoting and partitions for corridors, washrooms, toilets, and shower baths in public buildings. In homes—for wainscoting of bathrooms, kitchens, breakfast rooms and splash panels. For walls, ceilings, and wainscoting in laboratories and dairies and breweries. In hospitals—for operating rooms, diet kitchens, laboratories and bathrooms. Wainscoting and display fixtures in bakeries, meat markets and candy stores. Industrial worktable tops for handling of food, sorting, spotting, etc. Wainscoting and mirror cases in barber shops.

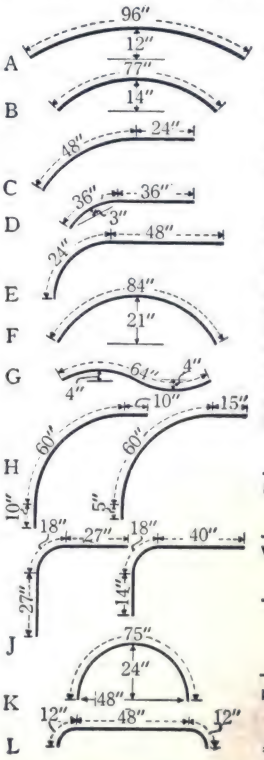
Bent Glass

Most bent glass shapes are produced by causing flat glass to form in a mould by the action of heat and gravity only. It is not a machined product, and is subject to more distortion and wider tolerances than flat polished plate or window glass.

Explanation of Diagrams

Dimensions on diagrams are to illustrate maximum limits of proportions. Radii of curves may not be less than 6". Radii should be specified to outside surface of glass. Maximum rise of bends J and K must not exceed 36". Depth of G bends not to exceed 1 in 16; example, pane 64", depth 4". Flat portions of bent glass cannot be kept entirely flat where large flat areas are required. It is recommended that flat portions be ordered as separate lights. It is recommended that bent *Vitrolite* panels should not exceed 6 sq. ft. in area for exterior work. For *Vitrolite* or Blue Ridge Glass specify which face of glass is concave or convex. Requirements for bends in glass of greater thicknesses than listed at right or for sizes in excess of the maximum dimensions listed should be submitted for consideration.

Maximum Sizes of Bends (in inches)*



Types A, B, C, D, E, F, H, J

	Girth	Height
Regular Plate		
1/8"	60 or 48	48 or 60
1/4"	144 or 120	120 or 144
Color Clear		
1/8"	40	60
1/4"	70	140
Colored		
7/32"	90	116
Golden	90	116
Heat Absorbing	100 or 144	144 or 100
Single Strength	24	48
Double Strength	60 or 48	48 or 60
Heavy Sheet		
3/16"	60	84
7/32"	84	96
Blue Ridge		
1/8"	60 or 48	48 or 60
7/32"	84 or 48	48 or 84
Vitrolite		
11/32"	48	48
7/16"	48	48

Types G, K, L
Same As Above Except

Regular Plate		
1/4"	110	144

*36 inch maximum rise regardless of type of bend.



Gleaming walls of *Vitrolite* retain their luster for years. *Vitrolite* is particularly suited for use in bathrooms, kitchens, corridors, store fronts, etc., because of the ease with which it is cleaned and its long-lived beauty.

Suggested Specifications

All structural glass shall be *Vitrolite*, ...(.....) thick, of (.....) color, (in thickness, size and colors indicated on the drawing) as manufactured by Libbey-Owens-Ford Glass Company.

Chart for Specifying *Vitrolite*

COLORS	Thickness	Thickness Tolerance	Lbs. Per Sq. Ft.	Finish
White	11/32"	±1/32"	4.4	ALL COLORS GROUND AND POLISHED
	7/16"	±1/32"	5.6	
Jade	11/32"	±1/32"	4.4	
Light Gray	11/32"	±1/32"	4.4	
Taupe	11/32"	±1/32"	4.4	
Alamo Tan	11/32"	±1/32"	4.4	
Cadet Blue	11/32"	±1/32"	4.4	
Red	11/32"	±1/32"	4.4	
Dark Gray	11/32"	±1/32"	4.4	
Cactus Green	11/32"	±1/32"	4.4	
Black	11/32"	±1/32"	4.4	
	7/16"	±1/32"	5.6	
	3/4"	±1/32"	10.2	

Stock Sizes of Ashlars
8" x 12", 8" x 16", 12" x 16", 16" x 16", 24" x 24".

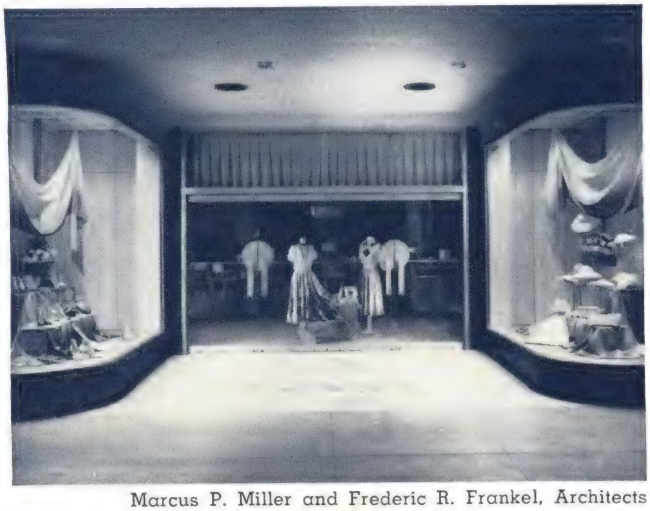
Size Limitations Recommended:
Store Fronts: 6 square feet.
Bathroom Walls: 8" x 12" to 24" x 24".
Kitchen Walls: 8" x 12" to 24" x 24".
Commercial Buildings (Interior Walls): Up to 30" x 36".
Toilet Partitions: Up to 60" x 60".

Vitrolite Colors are available subject to stocks on hand or additional manufacture. *Vitrolite* has slight variations in shade and cannot be guaranteed to match exactly.

For additional information, ask for Catalog V-129.

Uses

Bent glass is used in store fronts, show windows, store front bulkheads and facades, display cases. The use of bent *Vitrolite* enables one to maintain a functional and pleasing architectural design as shown in the photo below where the *Vitrolite* is curved to conform to the bent glass above it.



Marcus P. Miller and Frederic R. Frankel, Architects

The attractive lines which bent polished plate glass give to this functional store front in Tucson, Ariz., are shown in this photo. Bent glass "leads" customers to door.

Suggested Specifications for Bent Glass

All bent glass shall be Libbey-Owens-Ford (polished plate, window glass, *Vitrolite* or Blue Ridge glass), as defined by Federal Specification DD-G-451a, in thicknesses, sizes and color as shown on the drawings.

Decoration on Glass

Libbey-Owens-Ford offers three types of sandblast decorative finish on *Vitrolite*, polished plate and Blue Ridge glass. They are:

surface sandblast—Uniform sandblasting over all or part of glass, in grades from very slight to complete removal of polished surface.

shaded sandblast—Gradations of shading ranging from natural surface to complete obscuration of polish.

deep sandblast—Decoration cut below surface of glass but without modeling or gradation.

Blue Ridge Glass Libbey·Owens·Ford is sales agent in the United States and Canada for Blue Ridge Glass Corporation, manufacturer of glass



A partition of Fluxtex Glass provides privacy as desired and still admits light. Designer: S. S. Silver & Co. New York, N. Y.

in a wide range of patterns and characteristics. Basically, Blue Ridge Glass is of two types: (1) *Patterned Glass*—described on pages 18-21 and (2) *Aklo*® *Glass*—a heat absorbing glass described on pages 22 and 23.

Patterned Glass

Blue Ridge Patterned Glass is semitransparent, with distinctive geometric or linear designs on one or both surfaces to provide diffused light transmission with various degrees of privacy, and to meet special requirements in decorative or functional uses. Five of the patterns are made in Wire Glass for greater resistance to fire hazards. The four most popular decorative patterns are illustrated on page 19; thirteen others on pages 20 and 21.

FINISHES—Five types of surface finish are available:

1. PLAIN ROLLED FIRE FINISH—clear surfaces as they come from the lehr without further treatment.

2. *SATINOL*® FINISH—treatment of one or both surfaces provides a soft satin-like appearance, increases obscurity, and spreads transmitted light uniformly over a wide area. Does not finger mark or collect dust and dirt. Easily cleaned with a dry or damp cloth.

3. FROSTED FINISH—acid etching of one or both glass surfaces to improve distribution of transmitted light and to reduce glare. *Not recommended for partitions or any other decorative use.*

4. SANDBLASTED FINISH—increases obscurity and diffuses transmitted light very well but it is much harder to clean than *Satinol*. Reduces light transmission by as much as 30% if applied to both surfaces of the glass.

5. TEXTURED FINISH—a stippled surface rolled into one side to "soften" the linear pattern and to provide increased obscurity midway between Plain Rolled Fire Finish (clear) and *Satinol* Finish. Now available in Flutex and Linex patterns only.

Processes

1. *SECURIT*® —practically all Blue Ridge Patterned Glass (unwired) exceeding ⅛" thickness may be Securitized (heat-tempered) for increased resistance to thermal and physical shock. For data see pages 24 and 25.

2. BENDING—Blue Ridge Glass may be bent for special purposes and decorative effects. For dimensional limitations and other data see pages 16 and 17.

USES—Residences, stores, hotels, offices and industrial buildings—for windows, doors, partitions, transoms, skylights, decorative panels, cupboard doors, shelving backgrounds, displays, signs and lighting fixtures. An ideal partition material. It transmits diffused light, guards privacy by obstructing vision, decorates two rooms at one time. A completely finished surface that requires no upkeep to maintain its new appearance.

SUGGESTED SPECIFICATIONS—*All Blue Ridge Glass conforms with Federal Specification DD-G-451a.*

"Where Patterned or Polished Wire or Obscure Glass is specified herein, or shown on plans, it shall be ( ) inches in thickness and shall be ( ) pattern (if wired, specify type), and shall be manufactured by the Blue Ridge Glass Corporation."
If a surface other than Plain Rolled Fire Finish is desired, the type of finish, such as *Satinol* or Frosted, should be specified. If increased resistance to thermal and physical shock is desired, specify *Securit* processing.

The Standard *Satinol* or Frosted (Glare Reducing) Finish Specification is: "Where Patterned or Obscure Glass is specified herein or shown on plans, it shall be ( ) inches in thickness and shall be ( ) pattern *Satinol* (one or both surfaces) or have Frosted (Glare Reducing) finish on one or both surfaces, and each light shall bear the label of Blue Ridge Glass Corp."



A partition of Doublex Glass permits light to be "borrowed" from another room but helps to maintain privacy.

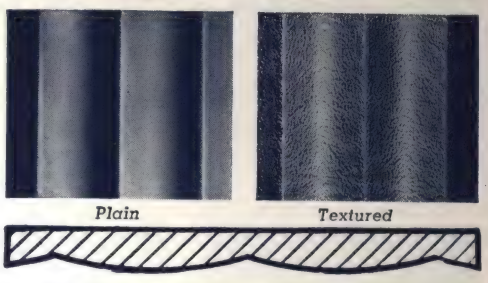
Flutex

Uses

Decorative interior and exterior glazing, particularly windows, partitions and doors.

MAXIMUM WIDTH AND LENGTH MANUFACTURED

Approx. Lt. Trans.* Plain Rolled Fire Finish (Unwired)	Thickness	Plain Rolled Fire Finish †	Satinol *†	Textured †	Approx. Net Weight Sq. Ft.
89%	1/8"	54"x132"	54"x132" (1 side only)	54"x132"	1¾ lbs.
	7/32"	54"x136"	54"x136"	54"x136"	2¾ lbs.



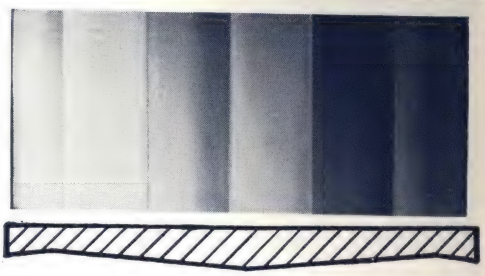
(Cross section shows actual size). 1" convex flutes, sharp definitive pattern. Relatively transparent in Plain Rolled Fire Finish (clear). Textured and *Satinol* finishes increase obscurity and diffusion.

Louvrex

Uses

Decorative interior and exterior glazing, particularly windows, partitions and doors.

90.4%	1/8"	54"x132"	54"x132" (1 side only)		1¾ lbs.
	7/32"	54"x136"	54"x136"		2¾ lbs.



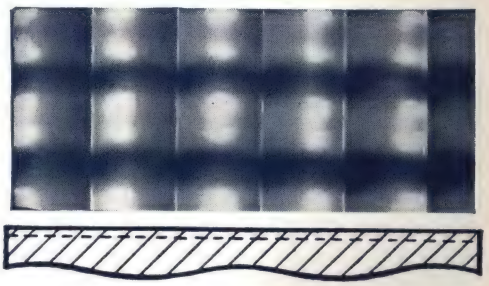
(Cross section shows actual size). Alternate 1" angular planes resemble louvers in venetian blinds. Relatively transparent in Plain Rolled Fire Finish (clear). *Satinol* finish increases obscurity and diffusion.

Doublex

Uses

Decorative interior and exterior glazing. Widely used for partitions, screens, illuminated wall panels, obscured windows, cupboard doors. Sets up striking light patterns.

87%	7/32"	54"x136"	54"x136" (1 side only)		2¾ lbs.



(Cross section shows actual size). A 1" checkered pattern with flutes on one surface running at right angles to the corrugations on other side. Very good diffusion and obscurity, especially when *Satinol*-finished.

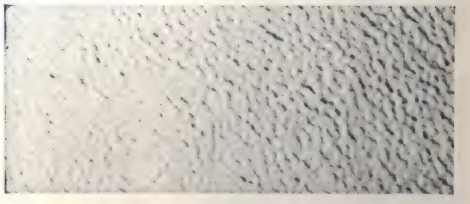
Muralex

Finely engraved, fairly obscure all-over pattern. Medium distribution of light at moderate angle. Rich looking. Easy to clean.

Uses

For distinctive effects in partitions, doors, transoms, walls, ceiling lights.

86%	1/8"	48"x132"	48"x132" (1 side only)		1¾ lbs.
	7/32"	48"x136"	48"x136"		2¾ lbs.
	3/8"	60"x144"	60"x144"		5 lbs.

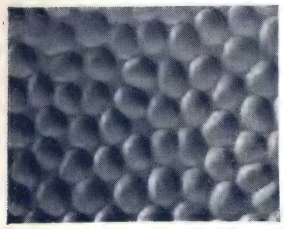


***Satinol** on one surface decreases light transmission approximately 3% — both surfaces approximately 6%. Frosting decreases light transmission approximately 15 to 20%.
†Some patterns available in widths up to 60" depending upon stocks on hand, but maximum width of Frosted finish is 48" regardless of glass pattern.

Other Popular Patterned Glass

The thirteen patterns shown here provide a wide selection to meet varied requirements as to appearance, light transmission, diffusion and obscurity. Although attractive, they are somewhat less popular as a decorative medium than the four patterns shown on the preceding page. However, some patterns are particularly suitable for special decorative effects, as a review of their illustrations and descriptions will prove. Five of the patterns are available in wire glass—see the table on page 25.

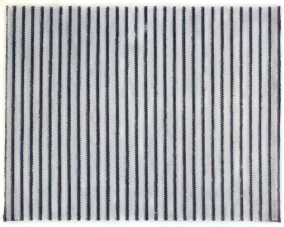
(All patterns are shown actual size)



Hammered

An all-over series of raised, adjacent lenses that diffuse light at a moderate angle in all directions.

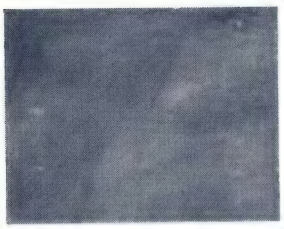
Uses Popular for industrial glazing, both interior and exterior.



Ribbed

Approximately twenty-one fine parallel ribs per inch spread light along one axis only, perpendicularly to ribs.

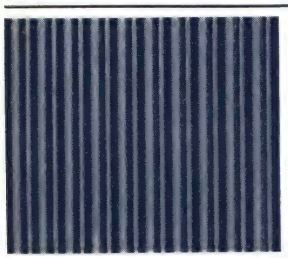
Uses Mainly for factory glazing.



Luminex

Almost transparent, high light transmission but only slight diffusion.

Uses For industrial plants or commercial glazing where maximum light is desired. When *Satinol*-finished, attractive for partitions.



Skytex

Eight parallel ribs per inch diffuse light perpendicularly to direction of ribs and drain off condensation. Usually glazed with ribs vertical.

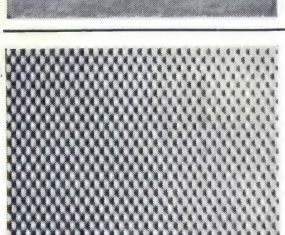
Uses Ideal for skylights; equally suitable for industrial glazing, fluorescent fixtures.



Velvex

A semitransparent glass with a shallow pattern—only slightly diffusing.

Uses Popular for interiors — doors, partitions, transoms and shower stalls. *Satinol* finishing adds obscurity, provides excellent diffusion.



Industrex

Tiny lens-shaped figures diffuse light over wide area. Easily cleaned.

Uses Primarily factories. Suitable for some commercial structures but not partitions in offices, hospitals, etc.

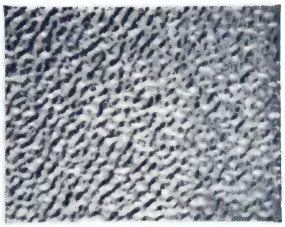
MAXIMUM WIDTH AND LENGTH MANUFACTURED

Approx. Lt. Trans.* Plain Rolled Fire Finish (Unwired)	Thickness	Plain, Rolled Fire Finish†	Satinol*†	Frosted*†	Approx. Net Weight Sq. Ft.
90%	1/8"	48"x132"	48"x132" (1 side only)	48"x132"	1¾ lbs.
	7/32"	48"x136"	48"x136"	48"x136"	2¾ lbs.
	3/8"	48"x100"	48"x100"	48"x100"	5 lbs.
	1/2"	48"x100"	48"x100"	48"x100"	6 lbs.
84.4%	1/8"	48"x132"	48"x132" (1 side only)	48"x132"	1¾ lbs.
	7/32"	48"x136"	48"x136"	48"x136"	2¾ lbs.
	3/8"	48"x100"	48"x100"	48"x100"	5 lbs.
	1/2"	48"x100"	48"x100"	48"x100"	6 lbs.
88.4%	1/8"	48"x132"	48"x132" (1 side only)	48"x132" (2 sides only)	1¾ lbs.
	7/32"	48"x136"	48"x136"	48"x136" (2 sides only)	2¾ lbs.
78.9%	1/8"	48"x132"	48"x132" (Flat side only)	48"x132"	1¾ lbs.
	7/32"	48"x136"	48"x136" (Flat side only)	48"x136"	2¾ lbs.
89%	1/8"	48"x132"	48"x132" (1 side only)	48"x132" (2 sides only)	1¾ lbs.
	7/32"	48"x136"	48"x136"	48"x136" (2 sides only)	2¾ lbs.
88.2%	1/8"	48"x132"	48"x132" (1 side only)	48"x132"	1¾ lbs.
	7/32"	48"x136"	48"x136"	48"x136"	2¾ lbs.

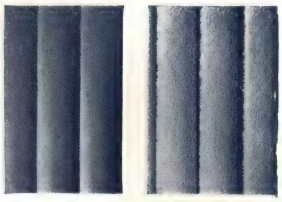
***Satinol** on one surface decreases light transmission approximately 3%—both surfaces approximately 6%. Frosting decreases light transmission approximately 15 to 20%.
†Some patterns available in widths up to 60" depending upon stocks on hand, but maximum width of Frosted finish is 48" regardless of glass pattern.
*†Satinol 1 Surface is on smooth side of glass.
*†Frosting 1 Surface is on patterned side of glass.
*†Frosting 1 Surface—maximum width is 44 inches.

(All patterns are shown actual size)

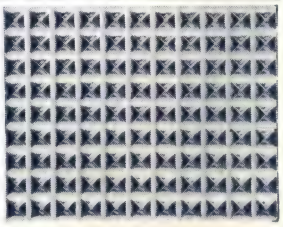
	Approx. Lt. Trans.* Plain Rolled Fire Finish (Unwired)	Thickness	MAXIMUM WIDTH AND LENGTH MANUFACTURED: Plain Rolled Fire Finish†	Satinol*†	Frosted*†	Textured†	Approx. Net Weight Sq. Ft.
Fine-Tex A fine texture pattern for glazing industrial buildings—provides medium distribution of light and is easy to clean.	89%	1/8"	48"x132"		48"x132"		1¾ lbs.
Pointex Nearly transparent. Allover pattern of tiny irregularly-sized bosses. Made only in thin 1/8" thickness. **Uses** Interior glazing requiring thin, non-diffusing glass. When Frosted, excellent for lighting fixtures and signs.	92.5%	1/8" (thin)	48"x120"		48"x120" (2 sides only)		1½ lbs.
Linex **Uses** Decorative interior and exterior glazing. Particularly attractive in any location where narrow, ribbon-like effect is desired. (Frosted finish is effective in lighting fixtures but it is not recommended for decorative uses such as partitions, doors, etc.)	80%	1/8"	54"x132"		48"x132" (2 sides only)	54"x132"	1¾ lbs.
		7/32"	54"x136"	54"x136" (flat side only)	48"x136" (2 sides only)	54"x136"	2¾ lbs.
Reglex 64 pyramidal-shaped indentations to the square inch diffuse light very well in a cross-shaped light pattern; highly obscure. **Uses** Interior and exterior glazing, especially effective in doors and partitions.	52.3%	1/8"	48"x132"	48"x132" (1 side only)			1¾ lbs.
		7/32"	48"x136"	48"x136"			2¾ lbs.
Diffusex Small, slightly elevated lenses provide uniform illumination, moderate angle of diffusion. Lenses are spaced to avoid dirt-collecting pockets; easily cleaned. **Uses** Interior or exterior. For walls, partitions, transoms in offices, factories.	87.6%	1/8"	48"x132"	48"x132" (1 side only)			1¾ lbs.
		7/32"	48"x136"	48"x136"			2¾ lbs.
Pebblex Deeply imprinted, irregular pebble design. Highly obscure. Unusually brilliant appearance. Diffuses light at wide angles. **Uses** Well-lighted privacy for office partitions and general interior glazing.	79.7%	1/8"	48"x132"	48"x132" (1 side only)			1¾ lbs.
		7/32"	48"x136"	48"x136"			2¾ lbs.
Florex A graceful floral pattern of unusual brilliance without dirt-collecting sharp grooves or corners. **Uses** Interior glazing — partitions, transoms, doors and windows.	86.2%	1/8"	48"x132"	48"x132" (1 side only)			1¾ lbs.

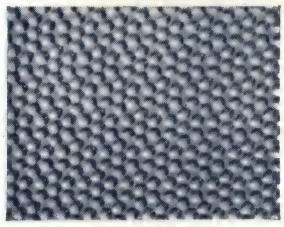


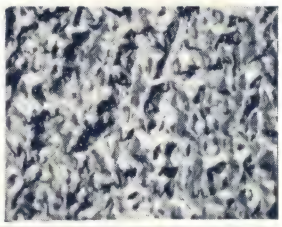


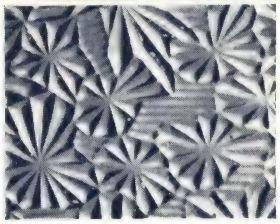


Plain *Textured*









***Satinol** on one surface decreases light transmission approximately 3%—both surfaces approximately 6%. Frosting decreases light transmission approximately 15 to 20%.
†Some patterns available in widths up to 60" depending upon stocks on hand, but maximum width of Frosted finish is 48" regardless of glass pattern.
*†Satinol 1 Surface is on smooth side of glass.
*†Frosting 1 Surface is on patterned side of glass.
*†Frosting 1 Surface—maximum width is 44 inches.

Aklo® Glare-Reducing and Heat Absorbing Glass

COLOR—Soft, blue-green, much like better-quality sunglasses. Maximum daylight transmission of *Aklo* Glass is in that portion of the spectrum most restful to the eyes—blue, green, yellow—nature's most prevalent colors. The resulting Filtered Daylight fulfills the fundamental requirement of good illumination—a higher quality of lighting which makes seeing easier and reduces eye fatigue. Due to the special composition of Aklo Glass some color variation may occur.

GLARE REDUCTION—To obtain maximum eye comfort, *Aklo* Glass must be frosted. The result is more uniformly diffused daylight, subdued brightness. This means less eye fatigue, better seeing, happier personnel—with resulting improvement of quality of work and fewer accidents.

EXCLUDES SOLAR HEAT—*Aklo* Glass absorbs practically all of the heat-loaded infra-red rays of the sun. This heat is dissipated, much of it externally, so that incoming solar heat is substantially reduced. The result is a cooler interior—more comfort, less material spoilage, lower air-conditioning costs. See charts at right.

LOWER EXPANSION—Any glass that absorbs heat becomes much hotter than ordinary glass. Sudden cooling by rain or hail may cause breakage unless the glass is of low expansion. Blue Ridge *Aklo* Glass has this all-important property of resisting thermal shock—about 25% greater than diffusing patterned or wire glass. This means lower maintenance costs.

PATTERNS—Blue Ridge *Aklo* Glass is made in Hammered and Fine-Tex Patterns (unwired) and in Hammered, Fine-Tex and Skytex Patterns (wired).

SUGGESTED SPECIFICATION—To combine glare reduction and solar heat exclusion, specify "Frosted *Aklo* ¼" thick (Hammered or Fine-Tex wired or unwired) or (Skytex-wired). All other skylights and windows facing north or in permanent shade and designated on the drawings to receive obscure glass shall be glazed with non-heat-absorbing glass of the patterns, thicknesses and types indicated herein".

Blue Ridge *Aklo* Glass conforms with Federal Specification DD-G-451a. *Aklo Wire Glass longer than 60" should not be used under any circumstances.*

Complete information on *Aklo* glare-reducing and heat-absorbing glass can be found in Sweet's Plant Engineering File.

Note: Due to special composition of Aklo Polished Wire Glass it will contain imperfections not allowable in non-heat-absorbing Polished Wire Glass.



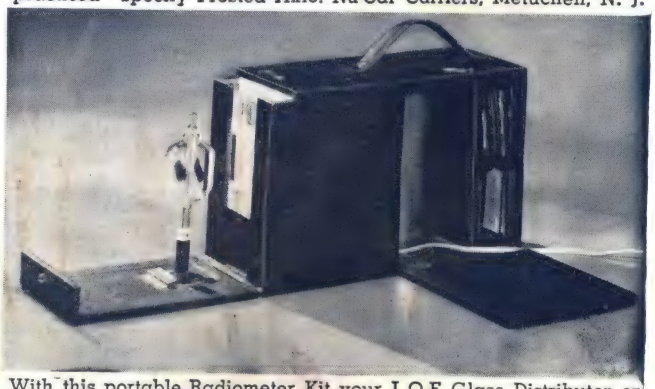
Workers enjoy Filtered Daylight for precision work in the plant of the Richmond Auto Parts Company of Richmond, Va.



Aklo reduces sun heat in this laundry. Designed and constructed under supervision of Dept. of Public Works, City of New York.



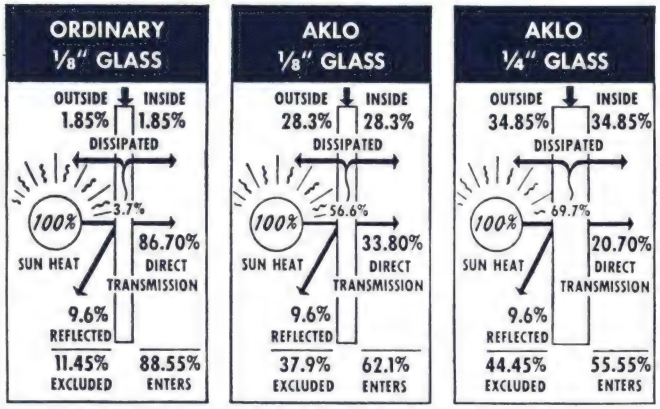
Office, factory, school—where critical seeing or long use of eyes is practiced—specify Frosted *Aklo*. Nu-Car Carriers, Metuchen, N. J.



With this portable Radiometer Kit your L-O-F Glass Distributor or our district representative will gladly demonstrate—in your own office—the effectiveness of *Aklo* Glass.

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How Aklo Glass Reduces Incoming Sun Heat

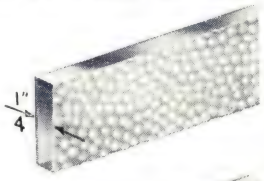


Blue Ridge *Aklo* Glass is a practical and economical answer to the problem of heat reduction. The charts above show how it dissipates absorbed solar heat to the outdoors. Note how much more sun heat is filtered out by *Aklo* Glass than by ordinary glass of equal thickness. More than three times as much sun heat is excluded.

HOW TO SELECT THE RIGHT *Aklo Glass*

Determine the relative importance of glare reduction, heat exclusion and maximum light transmission. Then your decision can be based on these recommendations:

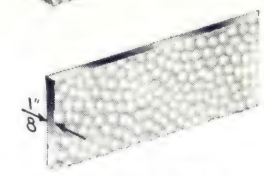
For maximum heat exclusion only—use ¼" *Aklo* Glass.



For maximum comfort—minimum heat and glare —use ¼" FROSTED *Aklo* Glass.



For heat exclusion with maximum light transmission—use ⅛" *Aklo* Glass.



Comparative Qualities of Aklo and Ordinary (non-heat-absorbing) Glass

Thickness and kind of Glass	Heat: Total Heat of Sun Entering Room Through Glass — Reradiated by the glass	Heat: Total Heat of Sun Entering Room Through Glass — Transmitted directly through glass	Heat: Total Heat of Sun Entering Room Through Glass — Total heat entering through the glass	Efficiency: Ratio of heat passing directly through glass to light transmission
HAMMERED PATTERN				
⅛" Aklo Glass—Unwired	28.30%	33.80%	62.10%	1 : 1.87
⅛" Ordinary Glass—Unwired	1.85	86.70	88.55	1 : 1.03
⅛" Frosted Aklo Glass—Unwired	34.00	23.00	57.00	1 : 1.87
¼" Aklo Glass—Unwired	34.85	20.70	55.55	1 : 2.58
7/32" Ordinary Glass—Unwired	3.70	83.00	86.70	1 : 1.07
¼" Aklo Glass—Wired	35.70	19.00	54.70	1 : 2.57
¼" Ordinary Glass—Wired	5.60	79.20	84.80	1 : 1.07
¼" Frosted* Aklo Glass	38.70	13.60	52.30	1 : 2.58
FOR COMPARISON ONLY				
⅛" Aklo Glass—Polished	27.00	38.00	65.00	1 : 1.87
⅛" Ordinary Glass—Polished	1.85	88.30	90.15	1 : 1.03
¼" Aklo Glass—Polished	35.50	21.00	56.50	1 : 2.57
¼" Ordinary Glass—Polished	3.75	84.50	88.25	1 : 1.07

Maximum Width and Length Manufactured

(Aklo Wire Glass longer than 60" should not be used under any circumstances.)

Product	Thickness	Plain Rolled Fire Finish	Gr. & Pol. Both Surfaces	Frosted*	Satinol	Approx. Net Weight Sq. Ft.
Aklo—HAMMERED & FINE-TEX	unwired ⅛"	42"x132"		2 sides 42"x132" 1 side 38"x132"	42"x132" (Ham. side only)	1¾ lbs.
	unwired ¼"	42"x136"		2 sides 42"x136" 1 side 38"x136"	42"x136" (Ham. side only)	3 lbs.
HAMMERED & FINE-TEX	wired ¼"	40"x144"		2 sides 40"x144" 1 side 38"x144"	40"x144" (patt. side only)	3½ lbs.
SKYTEX	wired ¼"	24"x144"		24"x144"		3½ lbs.
Aklo—POLISHED WIRE	¼"		24"x 60"			3½ lbs.

***For maximum comfort—minimum heat and glare—specify ¼" Frosted Aklo Hammered or Fine-Tex pattern.**
Note: Frosting 1 Surface — maximum width 4" narrower than 2 surface sizes shown in table.

Blue Ridge Wire Glass

DESCRIPTION—A continuous process wire glass wherein the mesh is chromium dipped to insure both clean wire and firmer adhesion of the glass to the wire. To insure greater strength, wire is embedded as closely as possible to the center of the glass.

Polished Wire Glass is described in column at right. On page 20 will be found descriptions of Hammered, Ribbed, Luminex, Skytex and Industrex Patterned Glass. These patterns are produced either with or without wire. For information on *Aklo* Heat Absorbing Glass, wired and unwired, see pages 22 and 23.

APPROVED FIRE RETARDANT—Blue Ridge Wire Glass is an approved fire retardant, bearing number R-2129 of Underwriters' Laboratories, Inc. The rules of the National Board of Fire Underwriters limit the size of wire glass which can be glazed in openings exposed to fire hazard. In no case shall the unsupported area of the glass measure more than 48 inches in either dimension or exceed 720 square inches (5 sq. ft.). Typical maximum sizes which satisfactorily meet that requirement are 15 x 48, 18 x 40, 20 x 36 and 24 x 30 inches. It should also be noted that wire glass used for this purpose must be set in noninflammable materials.

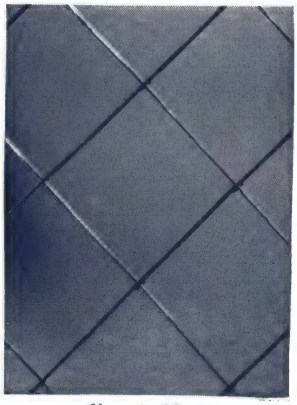
For openings which are not subject to N.B.F.U. rules, maximum satisfaction will be obtained by limiting the length of the glass to 60 inches.

POLISHED WIRE GLASS—Used in all openings where clear vision and the security of non-scatterable, fire-retardant glass are desired. Note that wire is clean—no bubbles to mar the sharp outline or distort the vision.

Approved fire retardant bearing number R-2129 of Underwriters' Laboratories, Inc.



Hexagonal Mesh



Nuweld Mesh
(Polished Wire Only)

Blue Ridge Securit* Patterned Glass

DESCRIPTION—*Securit* is made by subjecting Blue Ridge Patterned Glass, which has been annealed in the regular manner, to a special process of heat treatment and rapid cooling that creates a highly compressed zone at the outer surface. The tensile strength of *Securit*, as determined by its modulus of rupture, is from three to five times greater than "non-*Securitized*" glass of similar pattern and thickness. When the limit of its strength is reached, *Securit* disintegrates into small, rounded, relatively smooth particles. Note: Patterned Glass ⅛" thick and Wire Glass cannot be *Securitized*.

In addition to its greater strength, *Securit* is extremely resistant to temperature variations which may affect a whole sheet, or only portions.

ADVANTAGES—Due to its special heat treatment, *Securit* Blue Ridge Patterned Glass possesses the following advantages:

1. Three to five times stronger than "non-*Securitized*" patterned glass.
2. Withstands impact shock far beyond the limits of ordinary rolled glass.
3. More resistant to thermal shock.
4. A safer glass for, when it does break, it disintegrates into small, diced particles.

Uses

Office doors or partitions which are subjected to considerable slamming or bumping.
Lighting fixture diffusing glass, and lenses for lamps.
Ceiling sash or sub-skylights.
Tops for cutting tables or counters.
Push plates and kick plates.
Commercial and residential shelving.
Guards around areas subjected to intense heat.
Balustrades and stair railings.
Windows frequently broken by impact.
Bath tub enclosures and shower doors.

With its special physical qualities, numerous patterns and surface treatments, *Securit* is a versatile product. Practical uses are being found for it almost daily. We welcome inquiries from architects and opportunities to solve their problems. *®

Maximum Width and Length Manufactured

Pattern and Approx. Light Trans.* ¼" Thickness	Thickness	Plain Rolled Fire Finish†	Gr. & Pol. Both Surfaces	Satinol*†	Frosted*†	Approx. Net Weight Sq. Ft.
HAMMERED 84%	¼"	48"x144"		48"x144"	48"x144"	3½ lbs.
	⅜"	48"x120"		48"x120"	48"x120"	5 lbs.
	½"	48"x100"		48"x100"	48"x100"	6½ lbs.
RIBBED 78.4%	¼"	48"x144"		48"x144"	48"x144"	3½ lbs.
	⅜"	48"x120"		48"x120"	48"x120"	5 lbs.
	½"	48"x100"		48"x100"	48"x100"	6½ lbs.
LUMINEX 82.4%	¼"	48"x144"		48"x144"	48"x144"	3½ lbs.
SKYTEX 72.9%	¼"	48"x144"		48"x144"	48"x144"	3½ lbs.
INDUSTREX 82.2%	¼"	48"x144"		48"x144"	48"x144"	3½ lbs.
FINE-TEX 83%	¼"	48"x144"		48"x144"	48"x144"	3½ lbs.
POLISHED WIRE 84.0%						
Hexagonal	¼"		60"x144"			3½ lbs.
Nuweld	¼"		58"x142"			3½ lbs.

*Satinol on one surface decreases light transmission approximately 3%—both surfaces approximately 6%. Frosting decreases light transmission approximately 15 to 20%.
†Some patterns available in widths up to 60" depending upon stocks on hand, but maximum width of Frosted glass is 48" regardless of pattern.
*†Single Surface Frosting is on patterned side and maximum width is 44". Single Surface Satinol is on smooth side.



Blue Ridge *Securit Glass* may be used in bath rooms as a tub enclosure or shower door, like this. *Securit Glass* provides beauty, extra safety and minimizes breakage replacement costs.

PHYSICAL CHARACTERISTICS—As determined by laboratory tests:

Modulus of Rupture—28,800 lbs. per sq. in. of cross section.
Hardness (Mohs' Scale)—6
Thermal Endurance—400° F. differential
Safe Working Temperature (maximum)—650° F.

WARNING: *Securit* Glass is supplied by the Blue Ridge Glass Corp. in the actual shapes and sizes required, but it cannot be subsequently cut or ground. Cutting, puncturing the surface, or chipping the edges will cause immediate disintegration of the glass.

Chart for Specifying Blue Ridge Securit Patterned Glass

Pattern	Plain Rolled Fire Finish	Satinol 1 Surface	Maximum Size
Diffusex Pebblex Reglex Muralex	7/32"		30"x72"
Linex Louvrex Flutex	7/32"	7/32"	30"x72"
Luminex Velvex	7/32"	7/32"	30"x72"
Skytex Industrex Textured Linex Textured Flutex	7/32"		30"x 72"
Hammered Ribbed	7/32" 3/8" ½"		30"x 72"
Aklo (unwired) Frosted **Aklo** (unwired)	¼" ¼"		40 united inches (sum of width plus length)

For descriptions of patterns, see pages 18-21.

Note: Patterned glass ⅛" thick and Wire Glass cannot be *Securitized*.

Blue Ridge Securit® Patterned Glass Doors

Doors of Blue Ridge *Patterned* Glass add beauty to any room. They're rugged—heat tempered by the *Securit* process. Their reasonable price makes them practical for use in almost any type of building. They are for interior use only.

GLASS. 3/8" thick Muralex Glass patterned on both surfaces—conforms to federal specifications DD-G-451a. This glass lets in an abundance of softly diffused light and provides adequate privacy for most uses. If wider diffusion and greater obscurity are required specify Satinol finish on both surfaces. For minimum light transmission and maximum privacy specify white Ceramic Enamel coating on both surfaces.

HARDWARE. Locks, hinges and door closers for Securit Doors are available in dull bronze and brushed chrome finishes.

REVERSIBLE. Because the glass is patterned on both surfaces, this door can be used either right or left hand.

These doors cannot be cut or ground after manufacture. Order the exact size you need. Non-standard sizes can be made, but involve extra time and cost.

BEAUTY. The jewel-like, 3/8" thick patterned glass adds an exciting touch to interior decoration.



Privacy with well diffused light are two of the benefits *Securit* Doors offer. Keeps people from seeing in freely, but lets in light. (Architect: Selman T. Franklin)

Blue Ridge Corrugated Glass



Smartly functional are these walls of Corrugated Glass. The delicate Muralex pattern is the same as the pair of *Securit* Doors adding a distinctively modern look.

The Muralex pattern, so highly popular on flat Patterned Glass and on Securit Interior Glass Doors, is rolled into both surfaces of Blue Ridge Corrugated Patterned Glass. In the forming process the pattern is flattened on one side to provide a matte finish cutting surface.

Blue Ridge Corrugated Patterned Glass in walls and windows highlights the clean modern lines of today's buildings. And, it's lovely, subdued pattern creates beautiful decorative effects in remodeling older structures.

Surface Finish: Normally fire polished but can be made with Satinol finish on the heavily patterned surface to provide greater obscurity.

Contour of Corrugations: Conforms to federal specifications DD-G-451a—deep angle corrugation—2.50" pitch.

Sizes and Weights

SERIES "D"

Sizes	Code No.	Weights
2'6"x6'8"	2668D	95 lbs.
2'8"x6'8"	2868D	100 lbs.
3'0"x6'8"	3068D	110 lbs.
3'0"x7'0"	3070D	115 lbs.

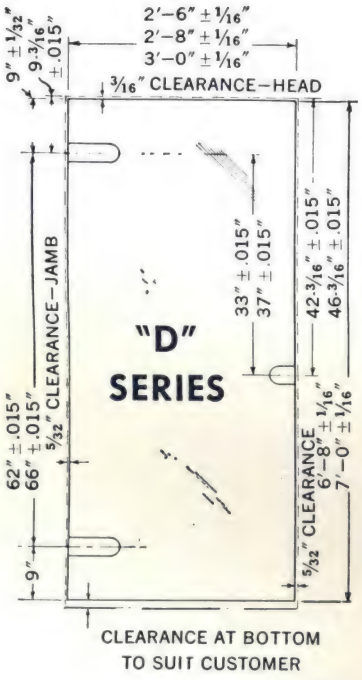
SERIES "F"

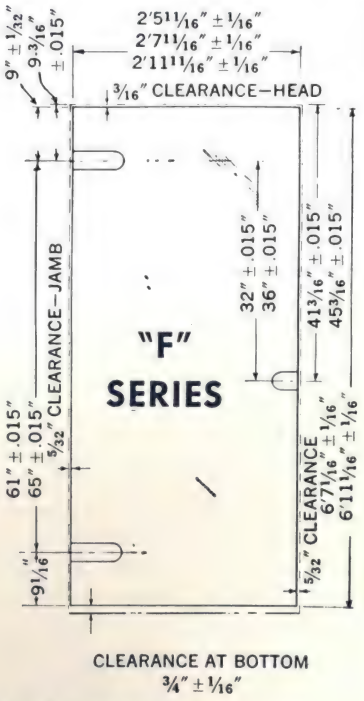
2' 5 11/16"x6' 7 1/16"	2668F	95 lbs.
2' 7 11/16"x6' 7 1/16"	2868F	100 lbs.
2'11 11/16"x6' 7 1/16"	3068F	110 lbs.
2'11 11/16"x6'11 1/16"	3070F	115 lbs.

SUGGESTED SPECIFICATIONS

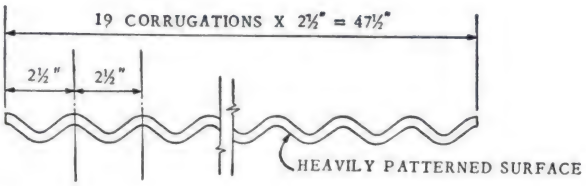
Where Tempered Patterned or Obscure Glass Doors for interior use are specified herein or shown on plans, they shall be 3/8" thick Securit Interior Glass Doors manufactured by Blue Ridge Glass Corporation and each door must be identified by the name SECURIT® enameled on the hinged edge of the glass. (Note: State surface finish of glass and hardware).

For more information on *Securit* doors see Sweet's file for architects 15d/Lib.





NOTE: If manufacturer of jamb welds nuts for hinge attachments, he must use dimensions and tolerances as shown.



Maximum Width: 47½".

Maximum Length: Normally 120" but glass up to 144" long can be rolled to special order.

Glass Thickness: 3/8" plus or minus 3/64".

Over-all Thickness: 1" plus or minus 1/8".

Approximate Weight: 5.1 lbs. per sq. ft.

Cutting Information: As cutting on the centerlines of corrugations provides the best edges it is desirable to design for glass widths in multiples of 2½".

Setting Metal: Precut metal framing for Blue Ridge Corrugated Patterned Glass is manufactured by O. E. Stelzer, South Bend, Indiana.



Windbreaks of Corrugated Glass enhance the modern architectural lines of this building and make a striking frame for the clear glass entrance doors. (Architect: Leland K. Cardwell, Johnson City, Tenn.)

Services

The Libbey-Owens-Ford Glass Company is one of the world's largest manufacturers of flat glass. The main office is in Toledo, Ohio. Sales offices in principal cities are listed on this page. Factories are located in Rossford, Ohio; East Toledo, Ohio; Ottawa, Ill.; Shreveport, La.; Charleston, W. Va , and Brackenridge, Pa.

Libbey-Owens-Ford Glass Company is sales agent for products manufactured by the Blue Ridge Glass Corporation, Kingsport, Tenn.

Architects, designers, construction engineers and builders will find it helpful to consult Libbey-Owens-Ford on any question pertaining to the design and installation of flat glass products. In this connection, the company maintains in Toledo three excellent facilities—research department, technical laboratory and department of design.

All Libbey-Owens-Ford and Blue Ridge products for building purposes are sold and installed by leading glass distributors and/or dealers. For additional information, contact any L-O-F office, any L-O-F glass distributor (listed in the yellow section of telephone directories), or write us direct.

LIBBEY - OWENS - FORD GLASS COMPANY
TOLEDO 3, OHIO

a Great Name in **GLASS**

L O F GLASS

DISTRICT OFFICES

Atlanta 3, Ga. Lamar 5239
1001-1004 Whitehead Building
223 Peachtree Street, N.E.

Boston 16, Mass. Hubbard 2-0100
1437 Statler Building
20 Providence Street, Park Square

Buffalo 3, N. Y. Cleve. 0291
1112 Rand Building
14 Lafayette Square

Chicago 3, Ill. Central 6-2490
Room 1400-1410
120 So. LaSalle St.

Cincinnati 2, Ohio Main 6174
912 Enquirer Building
617 Vine Street

Cleveland 13, Ohio Main 1-7180
1302 Terminal Tower Building

Dallas 1, Texas Riverside 4026
1402 Tower Petroleum Building

Dayton 2, Ohio Michigan 8315
901 Third National Building

Denver 2, Colo. Tabor 5-8015
414 Tramway Building

Detroit 2, Mich. Trinity 5-0080
610 Fisher Building

Indianapolis 4, Ind. Melrose 7-1363
724 Circle Tower Building
5 East Market Street

Kansas City 6, Mo. Victor 5360-61
619 Dwight Building
1004 Baltimore Street

Los Angeles 5, Cal. Dunkirk 8-0641
1101 Tishman Building
3440 Wilshire Boulevard

Memphis 3, Tenn. 37-7589
540 Sterick Building
8 North Third Street

Milwaukee 3, Wis. Broadway 2-2887
5154 Plankinton Building
161 West Wisconsin Avenue

Minneapolis 2, Minn. Main 8429
506 WCCO Building

New York 16, N. Y. Murrayhill 2-6511
99 Park Avenue

Philadelphia, Pa. Midway 2-8825, 2-8826
121 Coulter Ave. 2-8827
Ardmore, Pa.

Richmond 19, Va. 3-3034
1122 Mutual Assurance Society Bldg.
909 East Main Street

St. Louis 1, Mo. Central 1-9863
Ambassador Building
411 N. 7th Street

San Francisco 5, Cal. Sutter 1-4360
635 Rialto Building
116 New Montgomery Street

Seattle 1, Wash. Seneca 2513
210 Lloyd Building
Sixth and Stewart Streets

Toledo 3, Ohio Fairfax 5781
608 Madison Ave.

Washington 6, D. C. Sterling 3-4472
806 Connecticut Avenue

See the yellow pages of your Telephone Directory for your nearest Libbey-Owens-Ford Glass Distributor

Form SA-55

Printed in U.S.A. Sept. '54-T-JWC

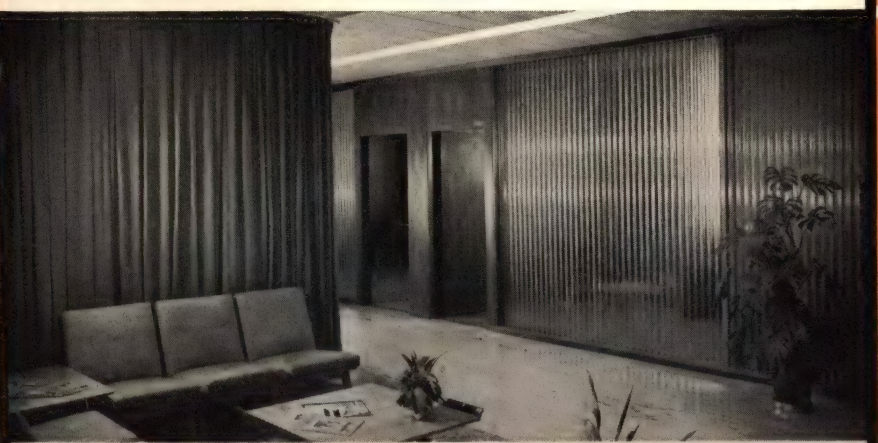


MISSISSIPPI GLASS CO.

glass

For residential

commercial use



mississippi glass

advantages

time tested

The traditionally preferred material for vertical sidewall and skylight glazing, glass and glass alone, affords the proven performance needed for better daylighting at ultimately the lowest cost. Glass posseses the chemical stability, permanence of finish, color, shape, surface hardness, non-inflammability and other desirable characteristics available in no other product. Glass is the proven material that has withstood the tortuous test of time. There is no substitute for glass.

- **It is non-combustible . . . won't burn.**
- **It is rigid . . . doesn't sag, warp or bend.**
- **It has a permanently hard, impervious surface, unaffected by time, abrasion and exposure to the elements.**
- **It resists corrosion and staining.**
- **It resists chemicals, acids, solvents, etc.**
- **It retains its original clarity, brilliance and lustrous beauty.**
- **It is easily installed, maintained and cleaned by conventional methods.**

As the world's largest manufacturer of rolled, figured and wired glass, Mississippi Glass Company offers an extensive selection of conventional and modern patterns with surface finishes and light transmission characteristics that fulfill the requirements of any design or specification. Brilliancy, strength, true cutting surface and excellence of quality assure maximum possible advantage from controlled illumination characteristics and decorative effects, and combine with moderate cost to make Mississippi Glass the choice of thousands of architects, engineers, builders and decorators.

nation wide acceptance

Mississippi Glass is widely known and has been favorably regarded for 81 years. Its primary functions of diffusion, decoration and protection along with a secondary function of heat absorption, results in a variety of types each designed and engineered to accomplish a specific purpose. Its service in industrial, residential, commercial buildings and in schools has become so well established as to be taken for granted.

important functions

LIGHT DIFFUSION AND GLARE REDUCTION

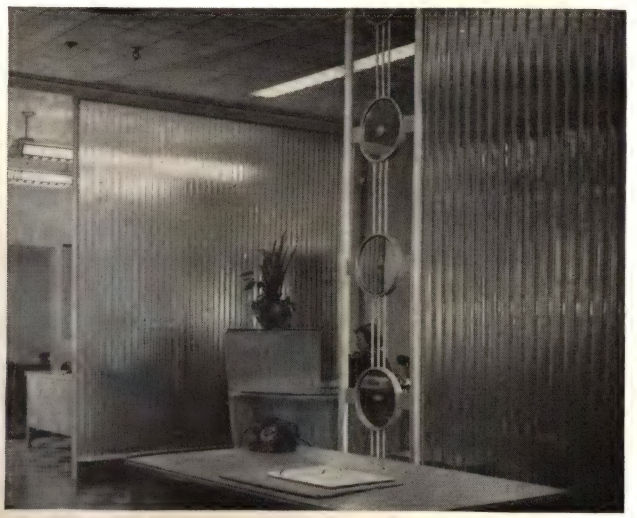
The properties of light diffusion and glare reduction are two of the most useful tools available to an architect, engineer or designer. By these means, rooms can be adequately daylighted far from windows, small skylight areas can cover large floor areas with shadowless daylight, privacy can be secured, light can be controlled.



Light becomes a vibrant, interesting part of the decorating scheme, transforming a utilitarian stair landing into a point of high interest. Burton Schutt, Architect. Reprint from Sunset Magazine.

DECORATION

Translucent figured glass by Mississippi affords the architect countless opportunities for creating new and striking effects . . . helps to achieve a feeling of warmth and unity that is as utilitarian as it is beautiful.



Daylighting partitions of Structural Corrugated Glass in modern office.

Daylight can assume new beauty in the home when transmitted through decorative, figured glass. Translucent, light diffusing glass not only redistributes light but, through available surface treatments can control light and minimize objectionable glare. As opposed to walls and enclosures of the conventional type, decorative glass borrows light from one room for another, yet its obscurity assures strict privacy.



Rhythmic pattern of Structural Corrugated Glass adds elegance and practicality unattainable with conventional materials.

Translucent light diffusing glass is a versatile medium with countless decorative opportunities for every room in the home. Modern, practical, it never wears out, is easy to clean and always beautiful to behold. From basement to bathroom—in homes traditional or contemporary—decorative glass affords an exciting way to achieve the new and different.



Pattern for beauty . . . this partition of Pluralite glass adds unusual interest by separating living areas while preserving a feeling of unity and spaciousness.

choices available

Figured glass by Mississippi is available in a wide variety of patterns and surface finishes, combining interesting texture with modern practicality that have proven to be of wide appeal and tremendous usefulness both in interiors and exteriors. Pattern selections afford light transmission characteristics to satisfy any decorative inspiration.

accurate diffusion data

The light distribution charts in ensuing pages along with pattern illustrations and specification data have been found to assist architects, contractors and designers in their choice of the Mississippi pattern best suited to a particular installation.

finishes

For maximum glare reduction and striking decorative effects, many patterns may be given varying degrees of obscurity by sand blasting or glare reducing. Sand blasting may be applied to either one or both surfaces while the glare reducing finish will be applied to either the pattern side or both surfaces of the glass. Our glare reducing and sand blasting are applied to full face only. Polished finish for clear vision is applied only to Polished Misco and polished wire glass. In this connection and where fire protection is a factor nearly all decorative glass patterns by Mississippi are available with wire.

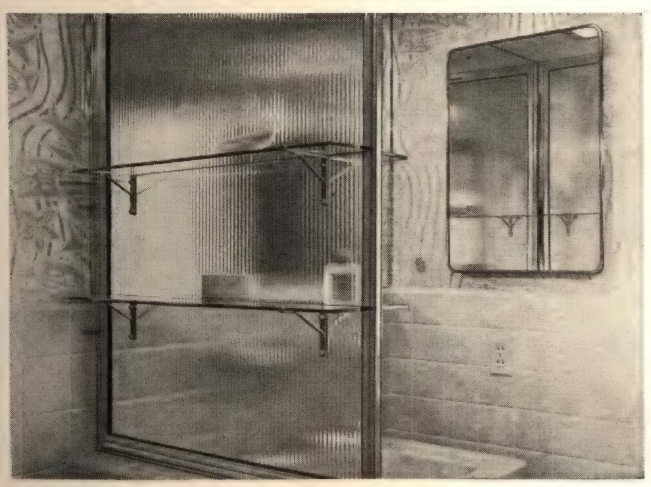
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types primarily for non-structural decoration



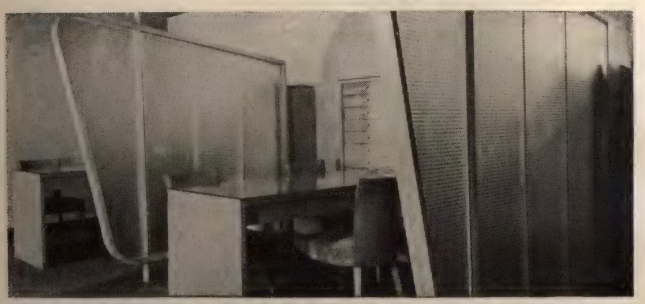
A new accent in decor beauty for bathrooms is achieved with a partition of Hylite glass.



Luxury for the lavatory results from this easily installed partition.



Maximum light distribution at lowest cost is achieved by installation of Pentecor glass glazed in vertical sidewall sash. Vision strip in lower two lights.



Partitions of Magnalite "A" lend a note of modern beauty, simplicity and smartness to buying booths of Fownes Glove Co., New York.

Glass by Mississippi sets the pace for the smartest interiors. Planned for good living, the air of grace and charm here illustrated bear evidence of the dramatic decorative effects made possible with obscure glass. Here the distinctively different has been attained without betraying good taste. Here is charm and originality that cannot be duplicated in any other medium. No wonder decorative glass enjoys a well-deserved place in contemporary interiors.

Suggestive of the limitless opportunities for decorative glass is the inspiring way in which it adds warmth and atmosphere, yet creates an illusion of spaciousness and the ability to cast off the shackles imposed by the use of conventional walls and partitions.

Figured glass is as easy to keep spotlessly clean as windows. Its hard impervious surface does not mar or easily scratch like paint or wood finishes. Its beauty is easily preserved. Readily cut to wanted dimensions, simple to install and maintain, the use of figured glass eliminates mortar joints, plastering, painting and refinishing.

The patterns described on page 5 are employed primarily for non-structural decoration. Typical applications appear at left.

significant pattern characteristics are as follows:

1. HYLITE with its attractive surface finish affords maximum light plus diffusion. Areas glazed with Hylite are bright with a pleasant light that makes them cheerful and inviting.

2. SMOOTH ROUGH is a pattern in the modern mood with good obscurity. It is particularly recommended for partitions, shower doors and stalls and for decorative accents to suit the fancy of the user.

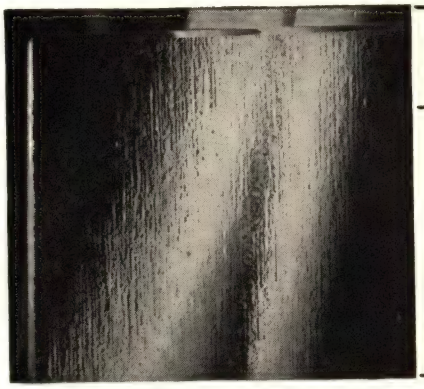
3. PENTECOR is a handsome ribbed pattern that has proved to be a glass widely favored by architects. Designed to afford maximum light distribution, it diverts softened, diffused light deep into interiors. A very popular pattern.

4. MAGNALITE "B" an arresting pattern in which specially designed cylindrical lenses on each surface run at right angles to each other to produce an unusual type of light distribution. Magnalite "B" is extensively used for commercial partitions and for decorative effects in commercial buildings as well as residences.

The obscurity required for glazing bathroom windows, a most popular use of figured glass, recommends the use of Factrolite, a pattern that is both attractive and inexpensive. Pattern photo not shown.



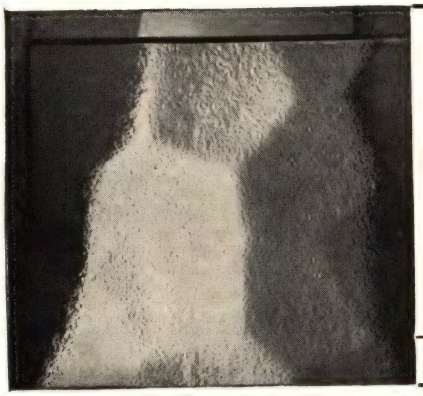
Elegance in the bath is achieved with a sliding glass tub enclosure of Mississippi Smooth Rough. Privacy is completely protected.



HYLITE

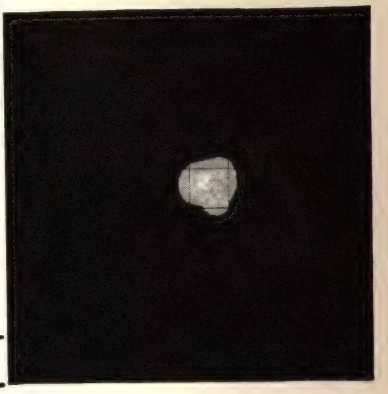
1/8"	90.5%	2.0	48 x 132	48 x 132	—
7/32"	89.9%	2.8	60 x 136	48 x 136	—
1/4" Wired	89.6%	3.3	60 x 144	48 x 144	—

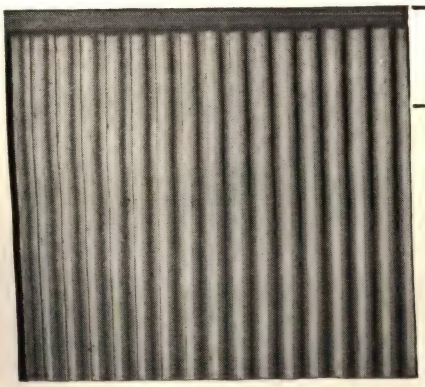




SMOOTH ROUGH

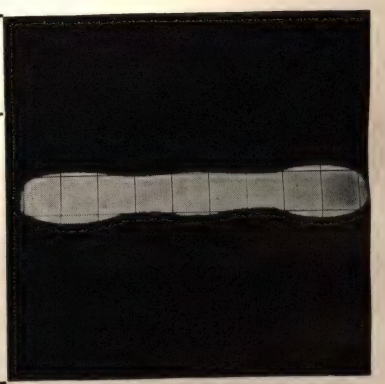
1/8"	87.8%	2.0	48 x 132	48 x 132	—
7/32"	86.3%	2.8	60 x 136	48 x 136	—
3/8"	82.5%	5.0	60 x 144	—	—
1/4" Wired	85.6%	3.3	60 x 144	48 x 144	—
1/4" Misco	85.6%	3.3	60 x 144	48 x 144	—

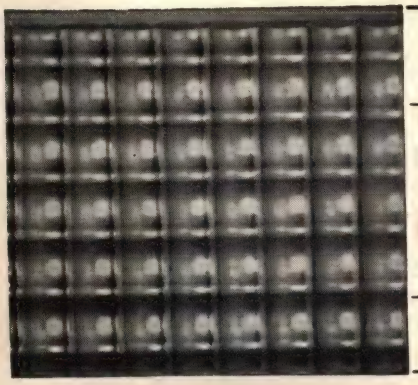




PENTECOR

1/8"	88.5%	2.0	48 x 100	48 x 100	48 x 100
7/32"	87.3%	2.8	60 x 136	48 x 136	48 x 136
1/4" Wired	86.6%	3.3	60 x 144	48 x 144	48 x 144

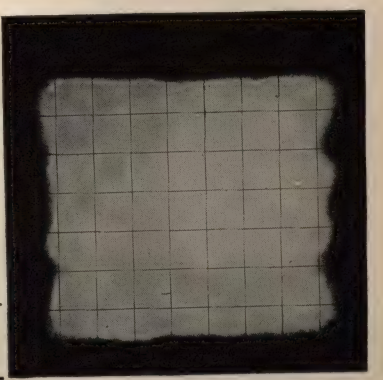




MAGNALITE B

7/32"	81.9%	3.0	60 x 144	—	—
1/4" Misco	80.5%	3.4	60 x 144	—	—

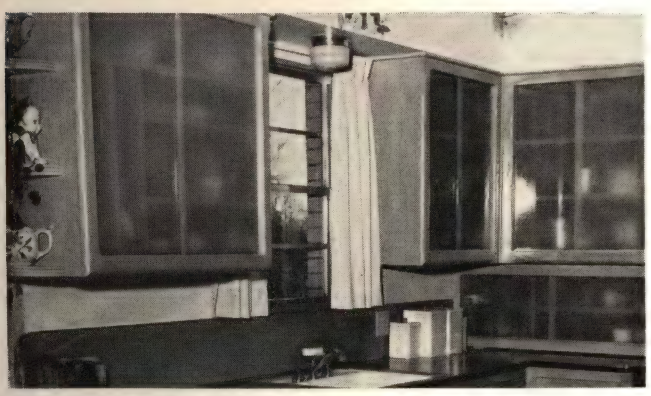
This pattern not glare reduced. Sand blasting is the only surface treatment available.



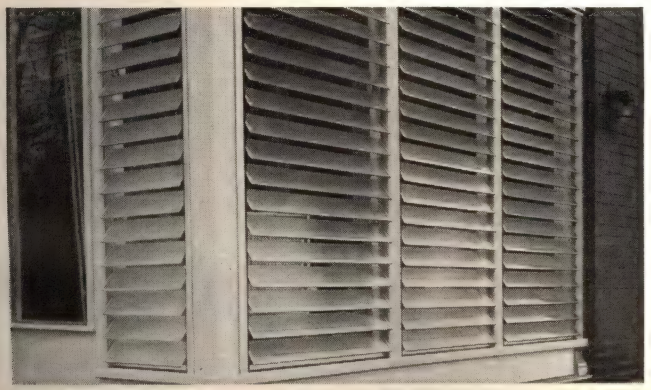
types for non-structural decoration



Eye-soothing daylight is admitted through Bandlite glass in this hotel lobby. An unwanted view is excluded.



Sliding cabinet front of Pluralite Glass, glare reduced on one surface, offers glowing beauty and cleaning ease.



Obscure glass jalousies provide the ultimate in beauty and protection . . . direct breezes and softened sunlight as desired.

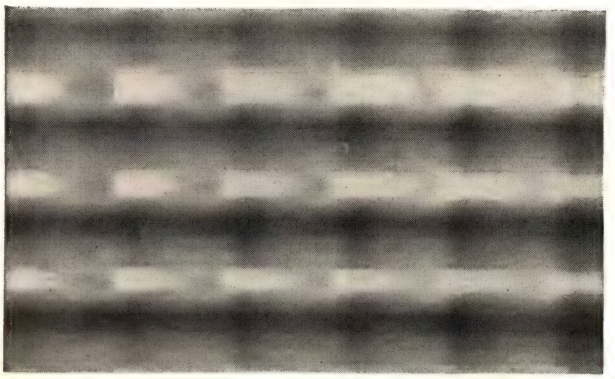


The streamlined pattern of Broadlite Glass creates lustrous texture and supplies "borrowed light" in this modern office.

In buildings new or old, figured glass by Mississippi capitalizes on available light without sacrificing privacy. Versatile is the word for decorative glass. You can suit any mood . . . add exciting beauty . . . enliven and brighten areas throughout the house . . . make each room radiant with interest—all at a cost far less than you might expect. With the advent of figured glass, unattractive painted walls that enclose outmoded space in semi-darkness have given way to modern eye pleasing figured glass partitions that provide architects, designers and decorators with an inspiring new medium that accents their ability and creates settings of lasting freshness and individuality.

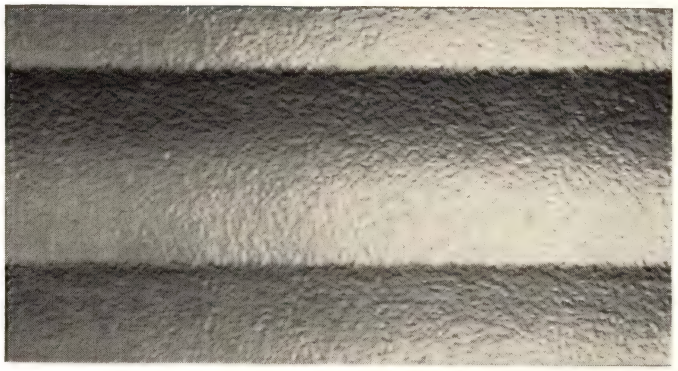
MAGNALITE "A" illustrated below, as well as Broadlite, Pluralite, Bandlite and Bevelite, shown on the following page, are conspicuous for brilliance and obscurity and provide a lustrous, pleasing characteristic that creates an atmosphere of richness and quality. Note the opportunities for straightline effects so popular in modern architecture.

Pattern Actual Size



THICKNESS	WEIGHT UNPACKED Lbs.-sq. ft.	MAXIMUM SIZE
MAGNALITE A		
¼"	3.6	60 x 144

Magnalite "A" not glare reduced. Sand blasting is the only surface treatment available.



THICK-NESS	APPROX. LIGHT TRANSM'N	WEIGHT UNPACKED Lbs.-sq. ft.	MAXIMUM SIZES UNTREATED	MAXIMUM SIZES G-R 2 SIDES	MAXIMUM SIZES G-R 1 SIDE
BROADLITE					
7/32"	86.3%	2.8	60 x 136	48 x 136	*48 x 136

*G-R on flat side only



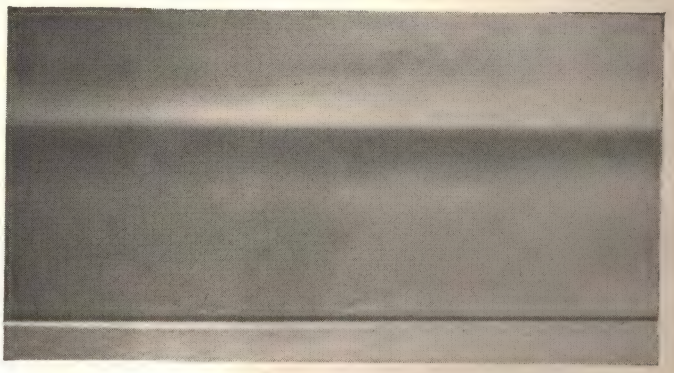
THICK-NESS	APPROX. LIGHT TRANSM'N	WEIGHT UNPACKED Lbs.-sq. ft.	MAXIMUM SIZES UNTREATED	MAXIMUM SIZES G-R 2 SIDES	MAXIMUM SIZES G-R 1 SIDE
PLURALITE					
1/8"	88.0%	1.9	48 x 132	48 x 132	48 x 132
7/32"	86.5%	2.8	60 x 136	48 x 136	48 x 136

Patterns Actual Size



THICKNESS	MAXIMUM WIDTH	MAXIMUM LENGTH	WEIGHT UNPACKED Lbs.-sq. ft.
BANDLITE			
1/8"	54"	132"	2.0
7/32"	54"	136"	2.7

The only finish available on this pattern is Softone—applied to either one or both surfaces.



THICKNESS	MAXIMUM WIDTH	MAXIMUM LENGTH	WEIGHT UNPACKED Lbs.-sq. ft.
BEVELITE			
1/8"	54"	132"	2.0
7/32"	54"	136"	2.7

The only finish available on this pattern is Softone—applied to either one or both surfaces.

types primarily for structural decoration

Structural Corrugated and Structuralite Glass have proven to be items of wide appeal and tremendous usefulness in residential, commercial and industrial applications, both interior and exterior. These modern materials provide the architect with a new media that accents his abilities and creates settings of lasting freshness, beauty and individuality. This is particularly true since the advent of metal moldings which enhance appearance, contribute ease of installation and amplify design possibilities. Of the limitless opportunities for Structural Corrugated Glass, possibly its advantages find fullest expression in partition work. Here, as opposed to walls and enclosures of the conventional types, they borrow light from one room for another . . . flood areas with soft, mellow illumination. Easily cut to wanted dimensions, simple to install and maintain, the use of Structural glass eliminates mortar joints, plastering, painting and refinishing. Glass never wears out . . . is easy to clean. And Structural Corrugated Glass partitions can be removed if necessary and used again elsewhere.

advantages

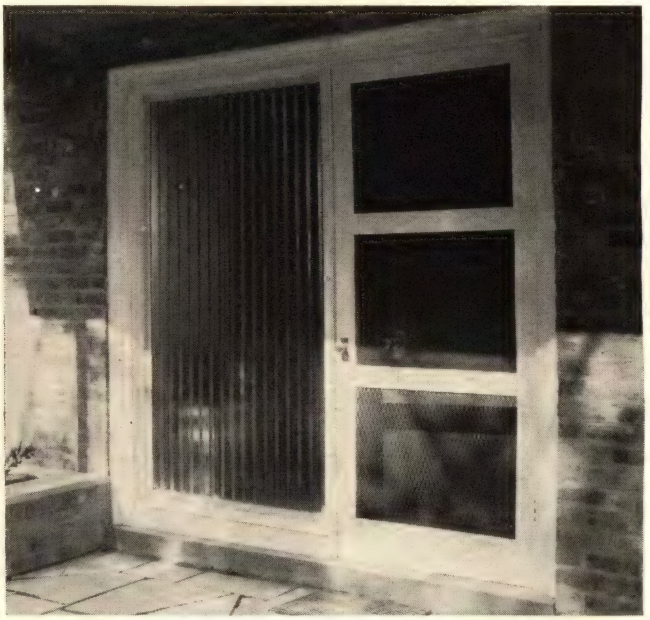
Brilliance, strength, true cutting surface and excellence of quality combine with moderate cost to make Mississippi Structural Corrugated Glass and Structuralite the choice of thousands of architects, engineers, builders and contractors. Architects are constantly developing new and interesting uses for these two types of glass and the universal application of these patterns is indicative of the many intriguing possibilities in this outstanding new medium of architectural expression.

when ordering

The first dimension (width) is across the corrugations. The second dimension (length) is parallel to the corrugations. The standard widths are 25″ and 50″. Our price to the distributor is based on these standard widths. A light under 25″ wide is billed as though it were 25″ wide and a light between 25″ and 50″ wide is billed as being 50″ wide. "Combination" widths are not furnished as such; for example, a light 30″ wide and one 20″ wide will not be supplied as one 50″ light, but will be charged for as one light 50″ wide and one 25″ wide. Lengths are charged at the actual length furnished (with fractions raised to the next inch).



Nothing short of magic is the way in which this porch has been converted to an attractive living room in a lovely garden setting with a partition of Structural Corrugated Glass.



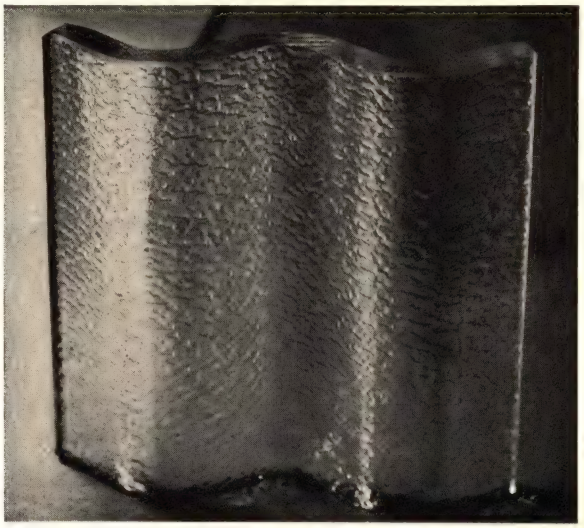
Homes have a brighter look . . . added eye appeal, with a decorative entrance way of Structural Corrugated Glass.



Contemporary design combined with the luxurious simplicity is achieved through a partition of Structural Corrugated Glass in residence of Kemper Nomland, A. I. A.

STRUCTURAL CORRUGATED GLASS





CROSS SECTION HALF SIZE

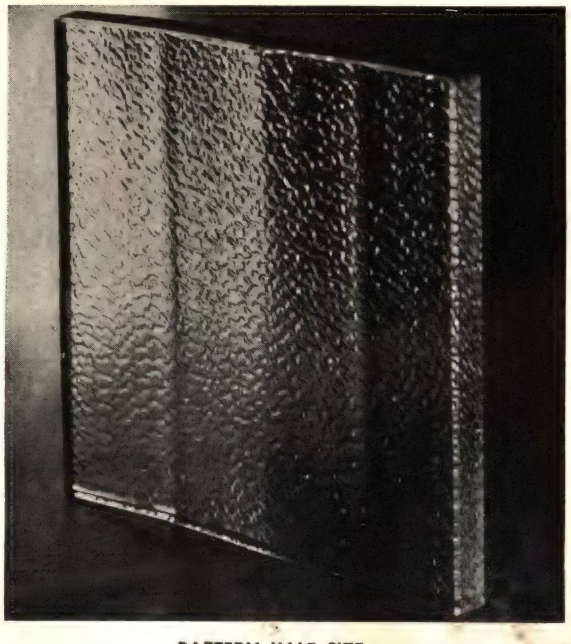
PATTERN HALF SIZE

THICKNESS	WEIGHT UNPACKED Lbs.-sq. ft.	MAXIMUM SIZE
3/8" Overall 1"	6.3	50 x 144

This pattern not glare reduced. Sand blasting is the only surface treatment available.

STRUCTURALITE GLASS





CROSS SECTION HALF SIZE

PATTERN HALF SIZE

THICKNESS	WEIGHT UNPACKED Lbs.-sq. ft.	MAXIMUM SIZE
3/8" Overall 1/2"	5.3	50 x 144

This pattern not glare reduced. Sand blasting is the only surface treatment available.

surface treatments

With one surface slightly stippled in the manufacturing process to afford obscurity and light diffusion, Structural Corrugated Glass and its companion product, Structuralite transmit soft light that dramatizes any setting in which they are employed.

SAND BLASTING

Either or both surfaces can be furnished sand blasted in sizes up to 50" by 144". The factory's charge for sandblasting is based on actual size furnished without regard to the standard widths.

PAINTING

Structural Corrugated Glass that will be exposed to the sun or that is close to radiators should never be painted. Breakage may occur when this instruction is not heeded.

edgework

CUT EDGES

So called "clean cut" edges cannot be furnished; factory cut edges will usually contain some spalls, projecting points and cutbacks.

GROUND EDGES

All edges can be furnished flat ground, but are subject to some spalls. We cannot furnish seamed or polished edges, but distributors may be able to do such work.

dimensional tolerances

WIDTH TOLERANCE

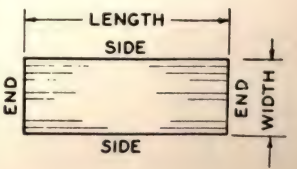
With cut sides, plus or minus 1/8"

With ground sides, plus or minus 1/16"

LENGTH TOLERANCE

With cut ends, plus or minus 3/16"

With ground ends, plus or minus 1/8"



(See drawing at right)

design

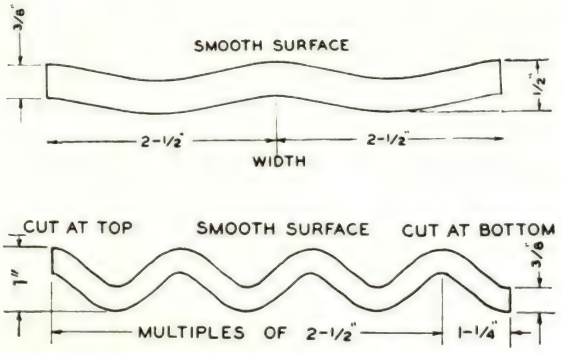
Wherever possible sketches showing installation details should be sent to us by distributors. Where a length run of butt-joined edges is involved, we can obtain more accurate results if we know also the size of the opening to be filled. We are anxious to assist in any way possible in solving any problem that may arise in connection with the use of Structural Corrugated and Structuralite Glass.

types primarily for structural decoration

measuring and cutting

STRUCTURAL CORRUGATED

Measuring and cutting of Structural Corrugated Glass are always done on the smooth surface. Cutting to width (splitting) is ordinarly done at the top of the corrugation, resulting in widths that are multiples of 2½". When necessary, cuts may also be made along the bottom of a corrugation, yielding widths that are multiples of 1¼". However, such cutting results in the two edges lying in different planes. While cutting to width can be done at any other part of the sheet, this invariably results in either a flare or a cutback that must be gound off. An extra charge is made for edge grinding of any light cut on the slope of the corrugation. Slope-cut edges cannot be butt-joined.



STRUCTURALITE

Structuralite Glass can be cut to any given width subject to our usual tolerances without the necessity of grinding an edge to achieve widths that are not multiples of 2½" or 1¼". Dimensional tolerances are the same as those for Structural Corrugated Glass. The following table along with illustrations at right will be of assistance in problems involving edge work.

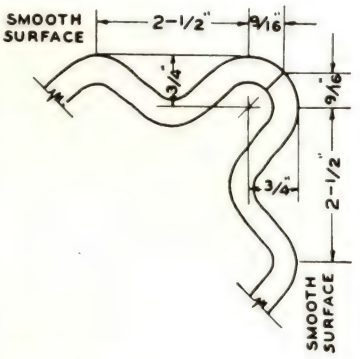
mitering

STRUCTURAL CORRUGATED

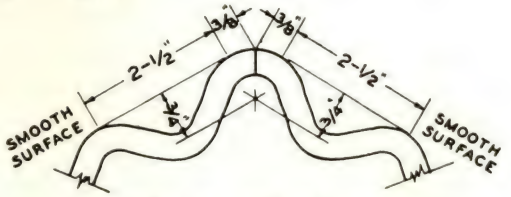
Sides parallel to the corrugation can be furnished mitered ground to any reasonable angle. Mitering cannot be done at the top or bottom of a corrugation. The angle is turned about a point ¾" from the surface of each light. As the included angle decreases, the width of the glass increases as shown in table on this page. (The amount of increase in width is the sine of ½ of the included angle by ¾".) All measurements and cuts made on the smooth surface. If absolutely necessary to have the smooth surface on the included side of the angle, measurements and cuts can be made on the rough surface but the resulting edgework may be inaccurate and inferior.

Note: STRUCTURALITE—The conditions applying to Structuralite are identical with those for Structural Corrugated Glass. Please supply full details.

Included Angle	Increase in width Nominal	(Actual)
180°	0"	
170°	1/16"	(.0654)
160°	1/8"	(.1302)
150°	3/16"	(.1941)
140°	1/4"	(.2565)
130°	5/16"	(.3170)
120°	3/8"	(.3750)
110°	7/16"	(.4302)
100°	1/2"	(.4821)
90°	9/16"	(.5303)
80°	9/16"	(.5745)
70°	5/8"	(.6144)
60°	5/8"	(.6495)



INCLUDED ANGLE = 90°

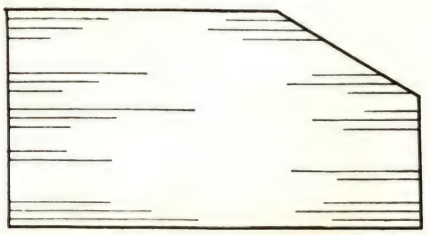


INCLUDED ANGLE = 120°

special operations

PATTERN CUTTING

Lights with shapes other than rectangles are considered pattern lights, which include shapes with circular sides, diagonal sides, etc. Pattern cutting is generally done with a diamond saw or by masking and sandblasting. An extra charge is made for this work. When obtaining quotations, sketches clearly showing the required shapes, with dimensions, should be submitted. (See drawing at right).



A PATTERN LIGHT

NOTCHING

Simple corner notches can be supplied. These notches greatly increase the chances of breakage in transit and in installation. No responsibility can be assumed for such breakage. Prices for notching will be quoted to distributors upon receipt of sketch and specifications. (See drawing at right).

HOLES

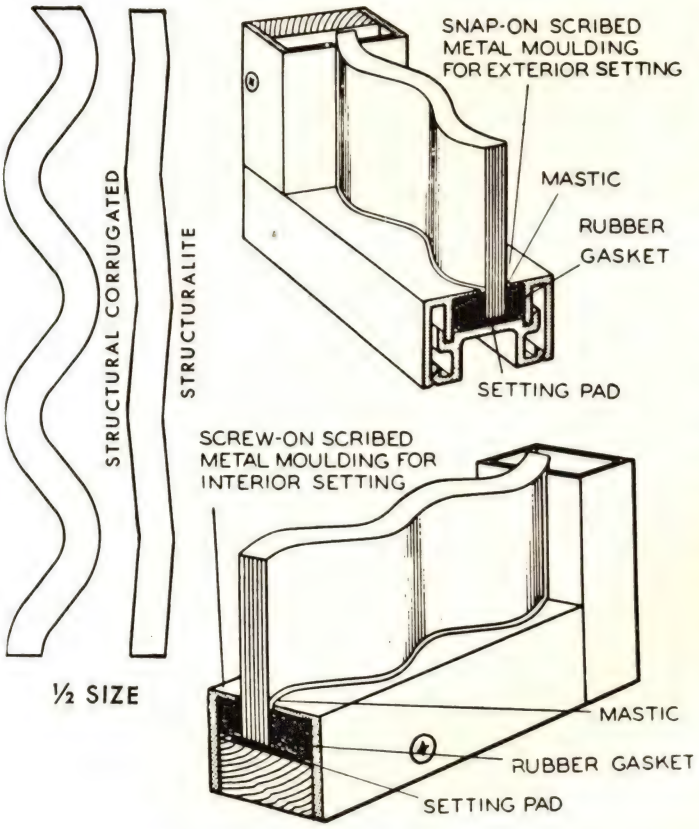
Small holes up to 1" diameter can be drilled by sandblasting or diamond drill. Prices quoted distributors upon request. Holes naturally weaken the glass and no responsibility can be assumed for breakage. Large holes cut out of the interior of the sheet are not practical.

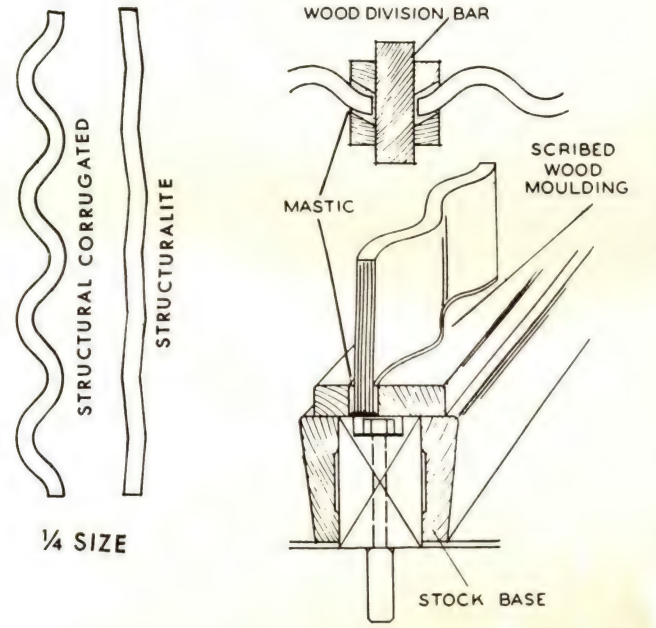
BENDING

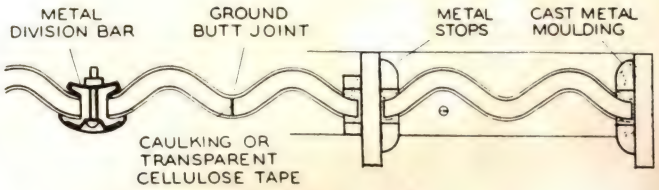
While the manufacturer does no bending, the glass can be bent by companies having suitable bending equipment. Full information should be obtained from concerns performing this type of work.



A CORNER NOTCH







installation

GENERAL SETTING PRACTICE

Structural Corrugated Glass should never be glazed directly on hard metal, masonry, or other unyielding base. Where a base of this kind is necessary, wood setting blocks or other cushioning material of adequate size and shape should be used. This glass should never be set directly in concrete, nor wedged tightly into an opening. Allow not less than ⅛″ on each side jamb. The factory does not supply molding trim or fittings.

INTERIOR SETTING PRACTICE

Butt Joints—Where this glass is set edge to edge, the sides of the abutting lights must be accurately ground. For better appearance ground edges are first painted with a clear cellulose acetate lacquer or transparent cellulose tape may be applied. This will serve to remove the white, ground-glass edge when viewing the installation from an oblique angle, and will prevent touching and spalling.

Division Bars—This glass can be set with division bars of metal, wood or plastic which may either be specially designed for the purpose are made up of stock shapes. Unless the division bars provide coverage of at least ½″ from the edge of each light, the edges of the glass should be ground.

Moldings—Head and sill moldings are generally used to hold the glass in place. Unless used in connection with ground edges, moldings should be at least 1″ deep to cover any spalls or chips. Moldings may be of wood or metal and may be made to bend the contour of the glass, or may be straight with the contour filled by scribed wood fillers, gypsum casting plaster, putty or glazing compound. Wood molding should be primed before setting and the material used to fill the contour should be colored to match the finish trim.

Setting Without Molding—This glass is sometimes set with pegs or blocks shaped to fit one or more corrugations. Installations of this type require ground edges. Care must be used to fit the pegs to insure a firm setting. It is often necessary to adjust the opening to fit the glass by the use of fillets or furring.

EXTERIOR SETTING PRACTICE

Butt Joints—All butt joints, including mitered joints in exterior installations should be made waterproof by using a filler much as show case cement.

Division Bars—Weatherproof tape should be used between the division bars and the glass, both inside and outside.

Moldings—The glass should be bedded in glazing or caulking compound, colored to match the molding and head, sill and side jambs. Plaster filling should not be used for exterior installations.

MISSISSIPPI GLASS

ordering

Glass should always be ordered sufficiently in advance of actual need so as to allow ample shipping and installation time. When specifying sizes it should be remembered that the first dimension is understood to be the width, which is across the pattern as rolled. The second dimension is understood to be the length which is the direction in which the figured or fluted pattern runs.

assistance

The services of Mississippi Glass Company representatives and its network of distributors are available to architects. Special problems are frequently referred to our Research department for attention. Literature is available on all types of Mississippi Glass for use in residential, commercial and industrial installations. Free samples on request.

distribution

Mississippi Glass is available from most leading distributors of quality glass in all principal cities of the United States and in Canada from Canadian Pittsburgh Industries Limited, Hobbs Glass Division.

MISSISSIPPI GLASS COMPANY

GENERAL SALES OFFICES

88 ANGELICA ST., ST. LOUIS 7, MO.

DISTRICT OFFICES

200 Fifth Avenue, New York 10, New York

201 North Wells Street, Chicago 6, Illinois

Fullerton, California

FACTORIES

St. Louis, Missouri

Floreffe, Pennsylvania

Fullerton, California

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Pittsburgh Glass

for better homes and stores

A little extra glass means a lot of extra charm

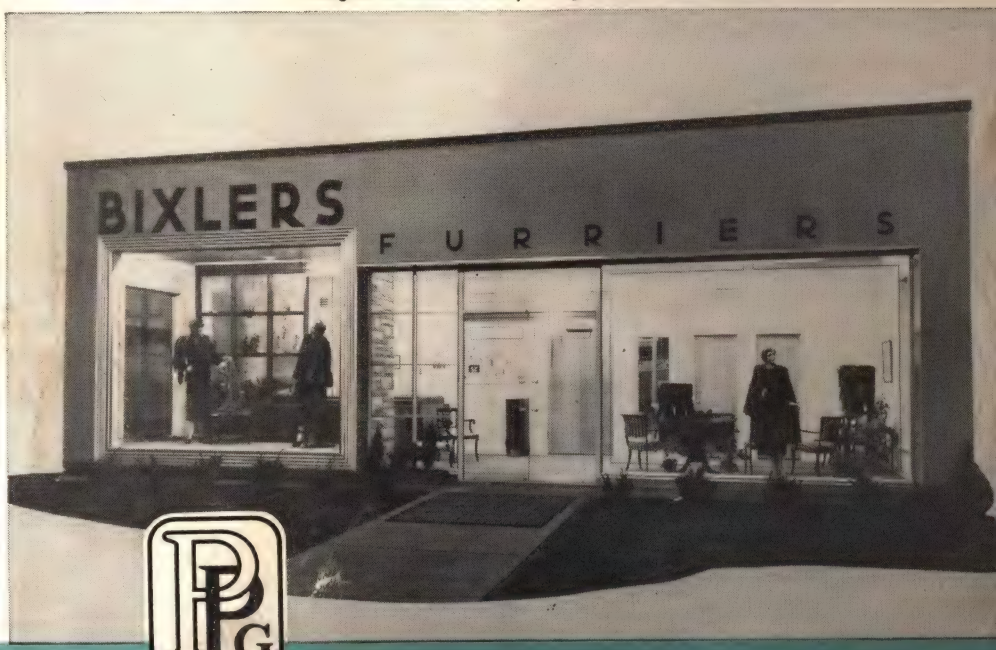


Architect: Edward T. Wassell, Wilkes-Barre, Pa.



Designer & Builder: Henry Doelger, San Francisco, Calif.





PITTSBURGH PLATE GLASS COMPANY

Glass Helps to Sell Homes

Builders everywhere have proved to their profit what the adequate use of glass in their homes can do. They've found that glass provides that extra measure of value that always appeals to prospective home buyers, regardless of the price class. They've discovered that every nickel they spend for glass *shows!* And they've proved that glass can effect all these benefits at less cost than any other material.

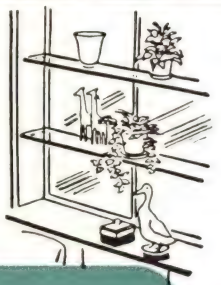
Pittsburgh has been a pioneering force in the development of glass products for residential construction for more than fifty years. Some of these products are illustrated and described on this and following pages. Why not use Pittsburgh Products in homes you build—to make them more attractive and easier to sell?

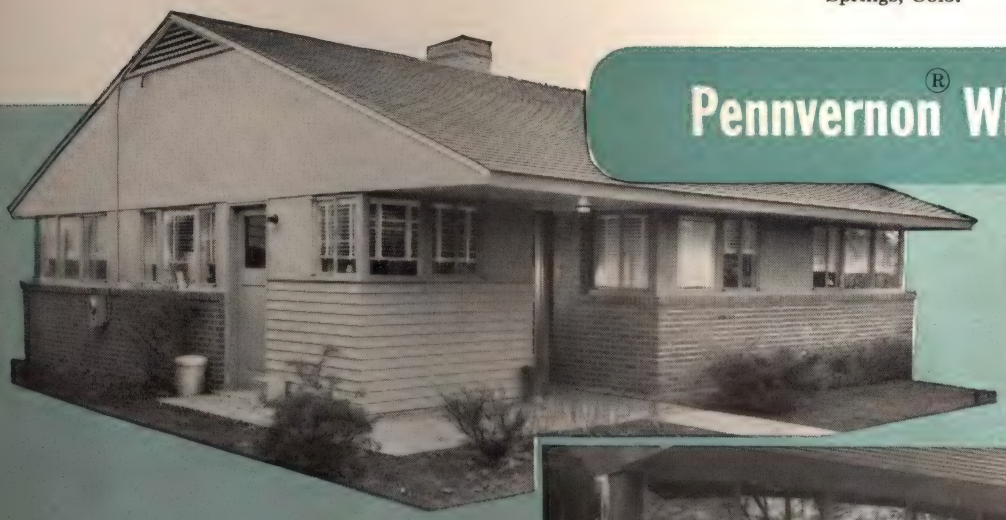
Pittsburgh Polished Plate Glass

Recognized as the aristocrat of transparent flat glass products, Pittsburgh Polished Plate Glass is brilliant and accurately reflective of surface. It permits perfectly clear, undistorted vision through it at any angle. Among its many uses are: windows, shelves of all kinds, furniture and cabinet tops, shower doors and enclosures, bar and table tops, sill covers, push plates. It's available in four colors: regular, flesh tinted, blue, green—in thicknesses from $\frac{13}{64}$″ to $1\frac{1}{4}$″.



EVEN in the low-priced home, Pittsburgh Polished Plate Glass can be used in many effective ways. For picture windows, as shown here, this glass is ideal, adds "see-able" value to your homes. And Plate Glass shelves, as sketched at right, bring smartness and appeal to any home. Designer: Jan Ruhtenberg, Colorado Springs, Colo.





Pennvernon® Window Glass

IN homes of all types, Pennvernon Window Glass assures good vision. That's because it has an unusually brilliant and reflective surface for sheet glass; one that is unmarred on both sides of the sheet.

Builder: Carl M. Freeman, Inc., Washington, D. C.

Here's a quality window glass that's known nationally as "window glass at its best!" It has excellent visional properties and a high degree of transparency, flatness and freedom from defects. Its dense surface structure permits easy cleaning. Pennvernon is widely used for windows, French doors, shelves, corner windows, sun porches, skylights, greenhouses and winter windows.



Saddle-Wood Homes—Tandy & Allen, Builders, Hillside, N. J.

TWINDOW has the edge!



This stainless steel frame makes handling easier and safer . . . saves installation time on the job.

Twindow, Pittsburgh's window with built-in insulation, is as simple to install as a single pane of glass. It adds exceptional "buy-appeal" to any home. It admits an abundance of daylight, frames a striking view for enjoyment from within the house. It cuts heat loss, eliminates downdrafts. And under normal conditions, it reduces the tendency for condensation to form. Forty-seven standard Twindow sizes are available to meet almost any need. See list of these sizes and other pertinent information on the next page.

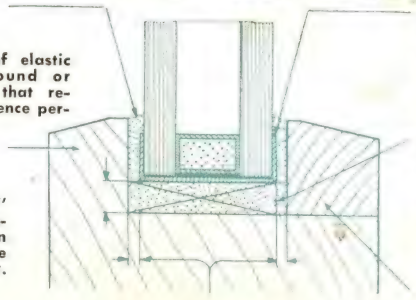




HERE'S proof of the efficient insulating properties of Twindow. Notice the absence of fogging or condensation on the Twindow unit at the left. On the other hand, the single panes at right have a thick icy formation, indicating high heat loss. Subsequently a second Twindow unit was installed to replace the single pane window. Architect: H. S. Starin, Duluth, Minn.

How to Glaze

PICTURE WINDOW GLAZING



GLAZING COMPOUND
Exclusive use of elastic glazing compound or other material that retains some resilience permanently.

EDGE CLEARANCE
1/8" — 3/16" — 1/4" at all edges, depending upon size. Distribute proportionately. Do not force.

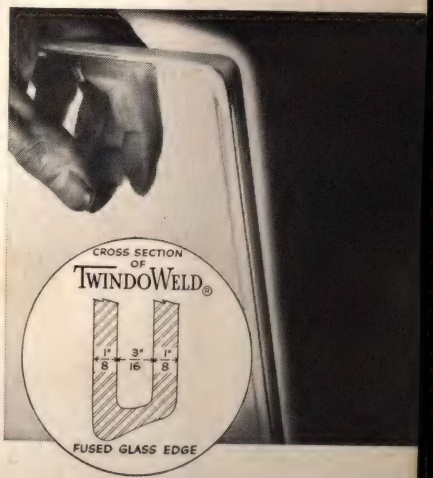
LATERAL CLEARANCE
At least 1/16" for glazing compound.

EDGE COVERAGE
Stainless steel channel covered for uniform appearance and maximum edge insulation.

SETTING BLOCKS
Two, lead or treated wood, 3" to 4" long, located 1/4 of the width in from each end of the unit on all units wider than 36" or heavier than 50 lbs. Shims equally helpful in spacing smaller, lighter units.

STOP
Glass stop does not bear on unit.

TWINDOWELD® ... the all-glass insulating window with electrically-welded all-glass edge



TwindoWeld is the result of years of research and test installations in scores of homes. It is simple in design. It's homogeneous, permanent, with an all-glass seal. It's composed of two panes of quality Pennvernon window glass (1/8" thick), separated by a 3/16" air space. It is as easy to install as a single pane of glass.

Under average conditions, TwindoWeld will reduce the amount of heat transfer by nearly one-half of that which is normally transferred through conventional single-glazed windows. This means actual savings in home heating and air conditioning costs.

TwindoWeld reduces condensation problems, too; there is less tendency for room side glass fogging during winter months. And the vision it permits offers greater enjoyment of the outdoors from indoors. Ideal for wood window-wall construction in 45 1/2" x 25 1/2" and 42 1/2" x 22 1/2" sizes; for metal window-wall construction in 36" x 24" and 34 11/16" x 22 11/16" sizes. TwindoWeld is also available in any special size where a quantity of this size is needed.

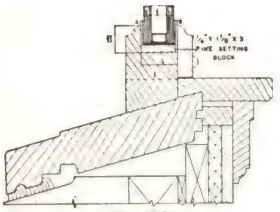
TWINDOW Standard Sizes for Picture Windows

Twindow Insulating Units Composed of 2 Pieces of Polished Plate Glass with ½" Air Space

STANDARD SIZES

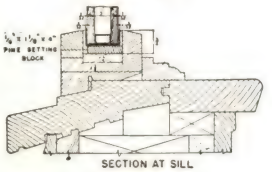
	GLASS WIDTH HEIGHT	SASH WIDTH HEIGHT	SASH MANUFACTURER (Other sash manufacturers not listed may be able to supply equally satisfactory sash in these or modified designs.)
GROUP I	48½ x 46 56½ x 46⅛ 72½ x 46 48½ x 50 56½ x 50 64½ x 50 72½ x 50 80½ x 50 96½ x 50 64½ x 58 72½ x 58 80½ x 58 96½ x 58 116½ x 58	4'4" x 4'2" 5'0" x 4'2" 6'4" x 4'2" 4'4" x 4'6" 5'0" x 4'6" 5'8" x 4'6" 6'4" x 4'6" 7'0" x 4'6" 8'4" x 4'6" 5'8" x 5'2" 6'4" x 5'2" 7'0" x 5'2" 8'4" x 5'2" 10'0" x 5'2"	Anson & Gilkey, Merrill, Wisc. Carr, Adams & Collier Co., Dubuque, Iowa †Curtis Companies, Inc., Clinton, Iowa & Wausau, Wisc. Farley & Loetscher Mfg. Co., Dubuque, Iowa Huttig Mfg. Co., Muscatine, Iowa Morgan Co., Oshkosh, Wisc. Rock Island Millwork Co., Rock Island, Ill. Semling-Menke Co., Merrill, Wisc. *Andersen Corporation Pressure Seal Picture Window Sash differing only slightly from the design shown will take the three 1* sizes, also 48½" x 46"; 56½" x 46⅛"; 64½" x 58"; 48½" x 50"; 64½" x 50"; 56½" x 50". Brown-Graves Co., Akron, Ohio, do not manufacture wood sash in this design but their sash will take sizes 48½" x 46"; 72½" x 46"; 48½" x 50"; 64½" x 50"; 72½" x 50".
GROUP I*	64½ x 46 48½ x 58 56½ x 58⅛	5'8" x 4'2" 4'4" x 5'2" 5'0" x 5'2"	Cupples Products Co., St. Louis, Missouri, manufacture aluminum sash to take sizes 48½" x 50"; 56½" x 50"; 64½" x 50"; 72½" x 50"; 80½" x 50"; 64½" x 58"; 72½" x 58"; and 80½" x 58". Weather-Seal Corp., Barberton, Ohio. Weather-Seal sash, outside glazed, will take sizes 48½" x 50"; 56½" x 50"; 64½" x 50"; 72½" x 50"; 64½" x 58"; 72½" x 58". †Curtis regular picture window sash modified to take sizes 56½" x 50"; 64½" x 50"; 72½" x 50" only. Sash and frames also available without flanking double hung windows.
GROUP II	35½ x 36 55¼ x 36 75 x 36 35½ x 48⅛ 55¼ x 48⅛ 75 x 48⅛ 35½ x 60⅜ 55¼ x 60⅜ 75 x 60⅜	3'1¾" x 3'2 3/16" 4'9½" x 3'2 3/16" 6'5¼" x 3'2 3/16" 3'1¾" x 4'2⅜" 4'9½" x 4'2⅜" 6'5¼" x 4'2⅜" 3'1¾" x 5'2 9/16" 4'9½" x 5'2 9/16" 6'5¼" x 5'2 9/16"	Andersen Corporation, Bayport, Minnesota Sash and frames also available without flanking casement windows.
GROUP III	50⅜ x 47⅞ 66⅝ x 47⅞ 50⅜ x 60¼ 66⅝ x 60¼	4'5⅛" x 4'2⅝" 5'9⅜" x 4'2⅝" 4'5⅛" x 5'3" 5'9⅜" x 5'3"	Ceco Steel Products Co., Chicago, Ill. Hopes Windows, Inc., Jamestown, N. Y. Mesker Brothers Iron Co., St. Louis, Mo. J. S. Thorn Co., Philadelphia, Pa. Truscon Steel Co., Youngstown, Ohio The sizes included were developed in cooperation with the Metal Window Institute, an association of steel sash manufacturers, to be used as picture windows in steel sash, with or without flanking casement windows. Sash and frames also available without flanking casement windows.
GROUP IV	46⅛ x 52½ 58⅛ x 52½ 70⅛ x 52½ 46⅛ x 56½ 58⅛ x 56½ 70⅛ x 56½	4'0" x 4'8" 5'0" x 4'8" 6'0" x 4'8" 4'0" x 5'0" 5'0" x 5'0" 6'0" x 5'0"	Aluminum Window Corp., Garden City, L. I. Sash and frames also available without flanking double hung windows.
GROUP V	56½ x 66 64½ x 66 72½ x 66	8'7 3/16" x 5'7 5/16" 9'3 3/16" x 5'7 5/16" 9'11 3/16" x 5'7 5/16"	Farley & Loetscher Mfg. Co., Dubuque, Iowa ("UNIPAK" PICTURE WINDOW GROUPS) Sash and frames available only with flanking casement windows.
GROUP VI	48 x 48 72 x 48 48 x 60 72 x 60	4'3" x 4'4" 6'3" x 4'4" 4'3" x 5'4" 6'3" x 5'4"	Rolscreen Co., Pella, Iowa Sash and frames also available without flanking casement windows.
GROUP VII	42 x 66 84 x 66 96 x 66 42 x 72 84 x 72 96 x 72		Six miscellaneous even inch sizes have been added for simplicity. These sizes are not intended for any specific type of sash.

GROUP I



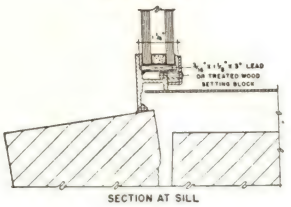
SECTION AT SILL

GROUP II



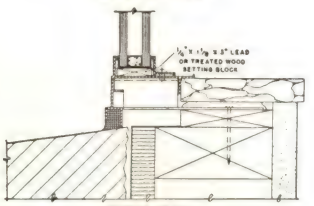
SECTION AT SILL

GROUP III



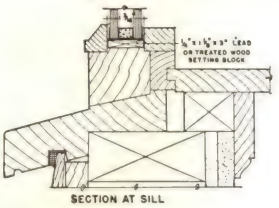
SECTION AT SILL

GROUP IV



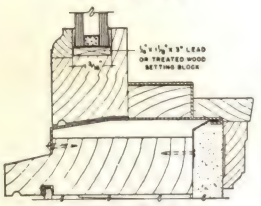
SECTION AT SILL

GROUP V



SECTION AT SILL

GROUP VI



SECTION AT SILL

Twindow units in all groups may be stop glazed in structural wood members without using sash as such.

Extreme caution should be taken that any built-up wood members are true, structurally sufficient to support the weight of Twindow, and constructed from well-seasoned wood.

Twindow sizes in all groups may be reversed, width and height, making, in effect, 94 sizes.

Pittsburgh Structural Mirrors



Mirror Installation made easy

With the introduction of its new mirror brackets, the Pittsburgh Plate Glass Company has greatly simplified the installation of many Plate Glass Structural Mirrors. As shown in the photo, two parallel brackets are installed on the wall with screws or toggle bolts. The mirror is then set in the stationary clips on the lower bracket. The top ratchet clips are pushed down in place over the mirror—and the whole job is finished. Complete instructions and correct size brackets will be furnished with the mirror.

You can make your homes look more attractive to buyers with well-placed Pittsburgh Structural Mirrors. They make a narrow room appear wider and dark corners seem brighter. Pittsburgh Mirrors include types and styles for every structural and decorative purpose. They are made from genuine Pittsburgh Plate Glass and offer superior reflectivity. For striking and unusual effects, Pittsburgh Mirrors may be obtained made from blue, flesh tinted or green (Solex) Plate Glass. In addition to the regular silver backing, they are available with a beautiful gold backing and a smart gunmetal backing. Where protection against weather and moisture is required, Pittsburgh Copper-Back Mirrors are recommended.



Room by B. Altman & Company, New York, N. Y.

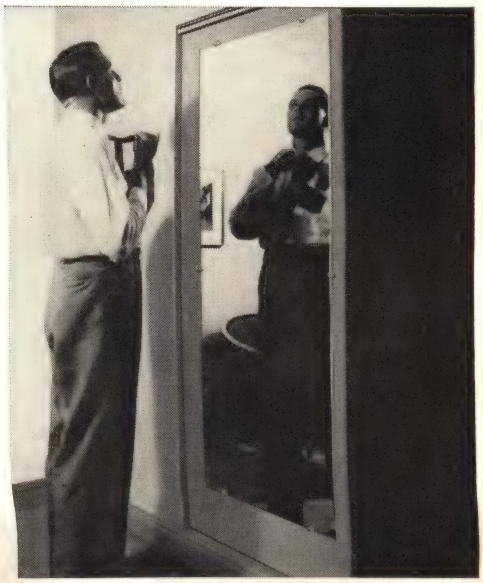
MADE PG FROM PITTSBURGH PLATE GLASS

SHOW THIS LABEL . . .

it's the mark of quality Plate Glass

This familiar Pittsburgh Blue Label is widely advertised to consumers; is generally accepted as the mark of Plate Glass quality. Each Pittsburgh Mirror carries it. We suggest you show it on the mirrors in your homes. It will help give an over-all feeling of quality and added value.

Pittsburgh Full-Length Door Mirrors



It's easy to give your homes that "extra-value" look. Just install several of these much-wanted full-length door mirrors —in bedrooms and entrance halls, for instance. You'll find the additional cost slight and very much worth-while.

Installation of Venetian and Framed Full-Length Mirrors on wood doors

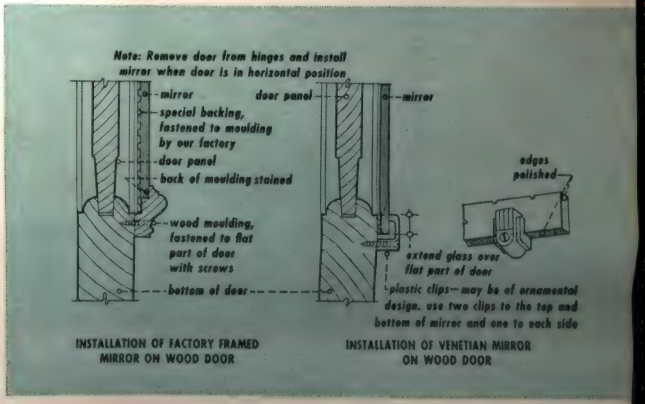
It is suggested that the door be removed from the hinges and the mirror installed with the door in a horizontal position.

How to measure for Door Mirrors

Simply measure the distance from edge to edge of the door itself. This over-all width determines which of the five standard door mirror sizes, listed at left, will cover the recessed door panel.

Door Width	Mirror Size Venetian or Framed
2′	16″ x 68″
2′2″	18″ x 68″
2′4″	20″ x 68″
2′6″	22″ x 68″
2′8″	24″ x 68″

Note: These mirrors are all 68″ high and are made to fit correctly all standard interior residential doors of 6′8″ or 80″ high. Mirrors for doors other than standard heights can be fabricated by your nearest Pittsburgh Plate Glass Company branch.



Carrara® Structural Glass

More and more, homeowners all over the country are demanding that Carrara Structural Glass be included when they build or remodel a home. When you use Carrara Glass for the walls and ceilings of bathrooms and kitchens, you underscore the *extra value* built into your homes.

With all its recognized high quality, Carrara Glass is not a "luxury" material. For higher income groups, there is of course no substitute for a bathroom or kitchen completely walled with Carrara Structural Glass. Where costs and budget considerations are a limiting factor, Ready-Built Carrara Glass Panels (described on the opposite page) will ideally solve the problem. These panels place Carrara Glass within the reach of the home buyer of modest income.

For truly distinctive, easily sold homes—for the kind of remodeling jobs that increase your reputation for fine work and bring you more business—give people the added beauty and advantages of Carrara Structural Glass. Here is the finest and loveliest of wall coverings. Like fine Plate Glass, Carrara is mechanically ground and polished to a flawless, brilliant surface. It's unmatched in richness, color and elegance. It lasts indefinitely. It doesn't fade, stain, or change color with age. It won't absorb odors or moisture. Grease, grime, grit, acids, water and pencil marks can't affect it. And it's easily kept clean and sparkling with just a damp cloth.

USES: Carrara Glass is nationally recognized as the finest wall covering available for bathrooms, powder rooms, and kitchens—either in ceiling-height applications or as wainscots of various heights. It is excellent for window sills, niche linings, mantels and surrounds for fireplaces. In the kitchen it is ideal for splashboards and stove backings, since it is impervious to grease, grime, acids, water, etc., and is easily cleaned.

CARRARA Glass window sills, like the one sketched here, add a lot of sales appeal to your homes. It's the kind of added feature that makes one house stand out from others of similar style. Carrara is waterproof.



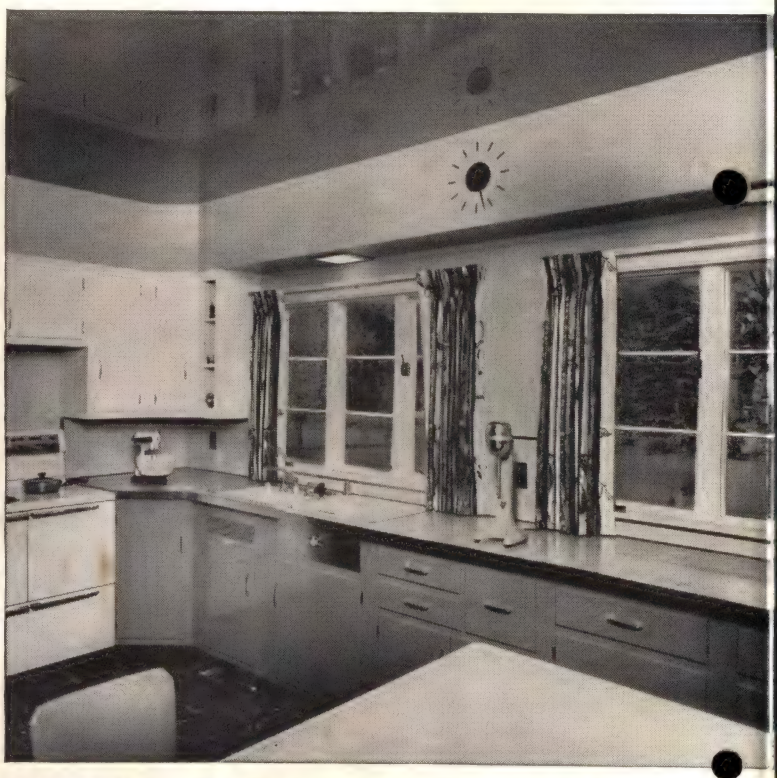
INSTALLATION: Carrara Glass is easy to install. To assure that installations are made according to our standards, we maintain our own crews of workmen. Carrara Glass may be installed over any hard, firm wall surface. It's applied by means of a plastic cement which bonds permanently with the glass and the wall, yet allows for settling, shrinkage and expansion.

COLORS AVAILABLE: Ten attractive colors are available: Black, Gunmetal, White, Ivory, Tranquil Green, Forest Green, Gray, Rembrandt Blue, Wine, and Shell Pink.

THICKNESSES: Black, White, Gray, Ivory—$\frac{11}{32}$", $\frac{7}{16}$", $\frac{3}{4}$", $\frac{7}{8}$", 1$\frac{1}{4}$". Black is also available in $\frac{1}{4}$". Tranquil Green—$\frac{11}{32}$", $\frac{7}{16}$", $\frac{7}{8}$", 1$\frac{1}{4}$". Forest Green, Beige, Orange, Wine, and Rembrandt Blue—$\frac{11}{32}$" only.



WHEN you use Carrara Glass on bathroom walls, you give buyers "plus value" that can be seen. Carrara is the finest of wall coverings. And it's an everlasting material. Decorative panel above the tub is one of the many possibilities offered by Carrara Glass. The smart Plate Glass shower enclosure also is a feature which homeowners appreciate.



KITCHENS with walls and ceilings of Carrara Glass, as shown above, are the home maker's dream. When you build or remodel, include Carrara Glass here, as well as in bathrooms. It brings smartness, beauty and practical utility to any home—in any price range.

The new "DECORATOR BATH" featuring *Carrara Glass*

The new "decorator type bath"—combining Carrara Structural Glass with wallpaper or paint—has been especially designed to put the beauty, durability, easy cleaning and moisture resistance of Carrara in bathrooms having a "luxury look" at an economy price.

There are many advantages to this new "decorator bath". Because less Carrara Glass is used, it is much less expensive than an entire Carrara wall installation. It allows the speculative builder to take advantage of the sales-appeal of Carrara by using some of it in lower-priced homes. It gives the homeowner a free rein in decorating the remaining bathroom walls with paint or paper. And it is relatively fast, easy and inexpensive to install. Complete instructions for measuring and installing are available from Pittsburgh Plate Glass dealers. Shown here are three typical instruction steps and pictures.





1 Just 3 simple steps are necessary prior to ordering glass—measure the back wall along the tub length; measure the various lengths of base; make cardboard patterns of the locations of the plumbing outlets.



2 Apply a thick coat of mastic along tub rim. Place bottom back Carrara glass panel against back wall and apply pressure against glass to give proper adhesion between glass and wall. Use a level to make certain the panel is plumb.



3 Set tub end panel in same manner as back panels. Holes in panel were shop drilled according to cardboard pattern.

Paint Right with Color Dynamics!* Paint Best with Pittsburgh Paints!

*Trade-Mark Registered.



You can't go wrong when you follow these directions. Home buyers know that with COLOR DYNAMICS you paint *right*, and with Pittsburgh Paints you paint *best*. Take advantage of this by utilizing the principles of Color Dynamics—by using Pittsburgh Paints—not only to beautify and protect the homes you build, but also to promote the comfort, safety and well-being of your customers — the homeowners. Complete details may be obtained from your nearest *Pittsburgh* branch or dealer.

PITTSBURGH PRODUCTS are Leaders in Store Modernization Work

Pittsburgh Plate Glass Company can supply you with a complete line of products for store modernization work. These include Plate Glass, Carrara® Structural Glass, Twindow® Insulating Units, Pittsburgh Mirrors, PC Glass Blocks, Pittsburgh Doorways, Herculite® Doors, Pittsburgh Paints and Pittco® Store Front Metal.

Through sustained, consistent advertising and outstanding performance in the field, these Pittsburgh Products have achieved unquestioned leadership in both store front and store interior modernization work. Expert crews of workmen are available at Pittsburgh branches and dealers throughout the country to help you with the installation of these Pittsburgh Products. Free, illustrated literature, showing how you can use glass effectively in store modernization jobs, will be sent to you gladly upon request. Get in touch with the nearest branch or dealer of Pittsburgh Plate Glass Company, or write direct to Pittsburgh Plate Glass Company, 632 Fort Duquesne Blvd., Pittsburgh 22, Pa.





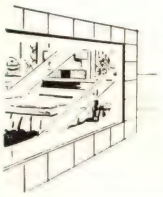
CARRARA STRUCTURAL GLASS

The finest in wall coverings. Combines beauty, versatility, sanitation, permanence and reasonable cost.



PITTSBURGH MIRRORS

Made from Plate Glass of superior quality. For storefronts, Pittsburgh Copper-Back Mirrors give additional protection against deterioration from climatic or atmospheric conditions.



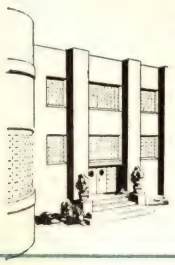
POLISHED PLATE GLASS

The finest material for installing in show windows and display cases, and for scores of interior decorative purposes. Offers clarity of vision, beauty and dignity.



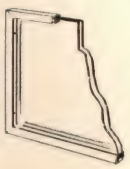
HERCULITE DOORS

Special tempering process gives Herculite Doors four to five times the strength of regular Plate Glass of equal thickness. Many times more resistant to impact and shock.



PC GLASS BLOCKS

Clear, colorless, all-glass units. Have more than twice the insulating value of ordinary single-glazing. Used for light-transmission, light direction and decoration.



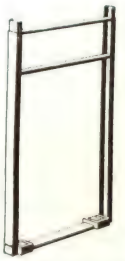
TWINDOW

The window with built-in insulation. Permits use of larger windows, decreases load on air-conditioning and heating equipment, helps maintain desired temperature and humidity levels.



HEAVY PLATE GLASS

Ideal for decorative panels and partitions, shelves, skylights, theatre marquees, bank fixtures, telephone booths. Gives perfect vision.



PITTSBURGH DOORWAYS

Complete in one "package." Eliminate many time-consuming details of setting and fitting. Replace complicated custom-made frames. Available in 12 standard, and four free-standing, designs.



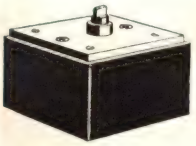
PITTSBURGH PAINTS

Give your homes longer-lasting beauty. Real oil-base paints that cover almost any surface with one coat. Spread uniformly, dry quickly, wash easily.



PITTCO STORE FRONT METAL

Available in two lines, both outstanding in the field. Carefully planned and styled. Beautiful, practical, easy to install.



FLOOR HINGE

Pittco Checking Floor Hinge is a marvel of modern engineering. Compact, 6¼" x 6¼", includes positive door-speed control, separate checking control, built-in hold-open feature.

Pittcomatic Hinge is a new Pittsburgh development. A slight touch on the handle and the door swings open—silently and smoothly as if by magic. Double-acting hinge requires no posts, channels or air compressors.

Pittsburgh Glass Products Are Readily Available Through Branches and Dealers Everywhere

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PITTSBURGH PLATE GLASS COMPANY

IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED

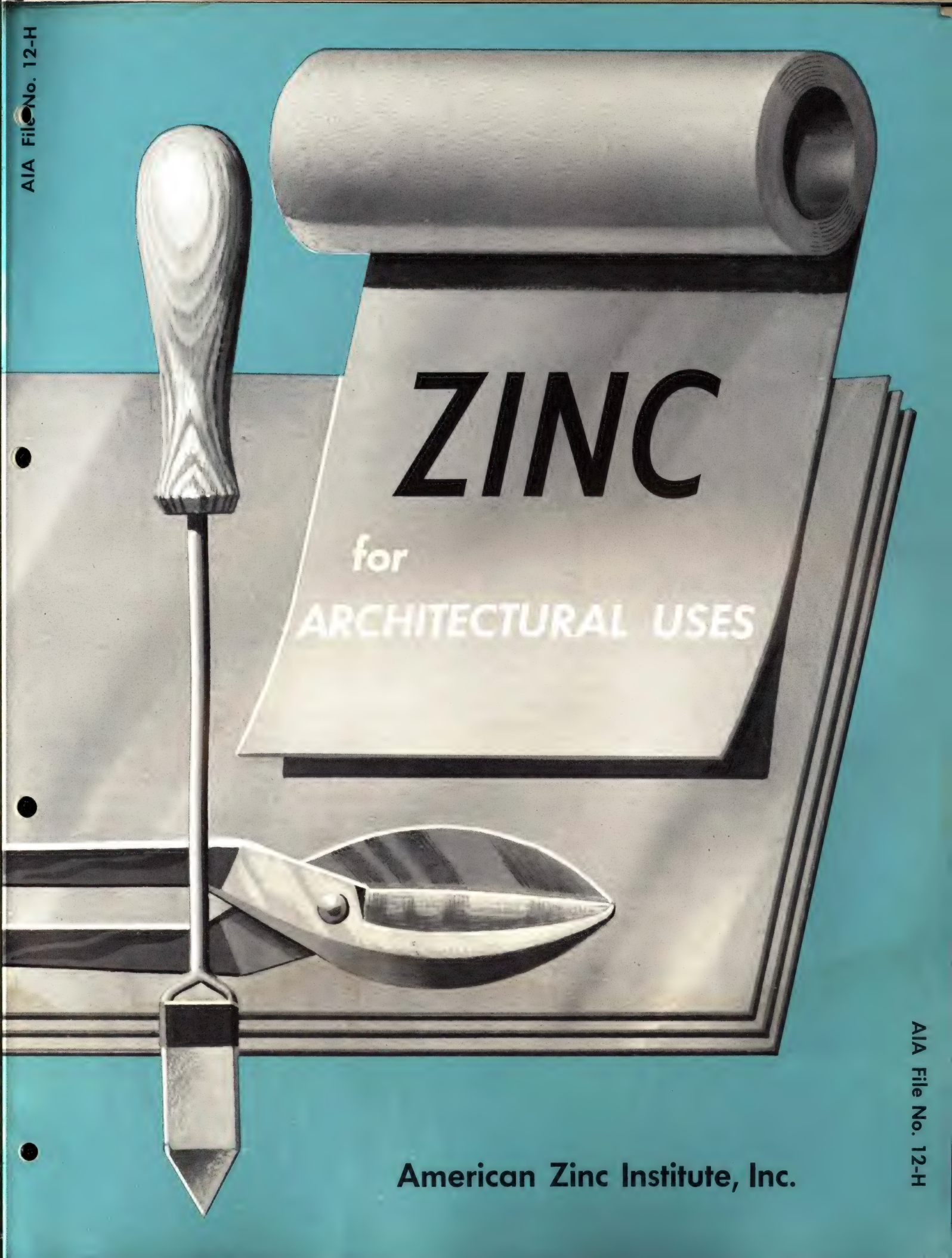
roofing and siding

section 2

sheet roofing, siding and flashing a

asbestos, asphalt, wood shingles b

building paper c



American Zinc Institute, Inc.

AIA File No. 12-H

advantages and uses of zinc for architectural applications

Zinc is a non-ferrous metal which is particularly well suited for use in building construction. For that purpose it is produced in sheet, strip, ribbon and rod from primary zinc as it comes from the smelter. It has many unique chemical and mechanical characteristics. Easily worked, zinc provides long service at reasonable cost in architectural applications.

When exposed to the atmosphere, as on a roof, zinc forms its own protective coating, which is highly tenacious and practically indestructible under ordinary conditions of usage. Resistant to rust and corrosion, this coating has approximately the same coefficient of expansion as zinc itself, so that it does not peel off with temperature changes. It is fire and spark resistant.

Application guide

forming For best results, all forming surfaces should be clean, smooth and edges free from burrs. All bends should be rounded without sharp angles. Acute bends cause the metal to pinch or even cut slightly. Thus the bend becomes a point of weakness rather than strength in the finished job.

When zinc is bent back on itself the angle should have a radius similar to the rib in weatherstrip. This is done by inserting a forming strip not less than 1/16 of an inch thick in the fold before bending.

While zinc can be worked at lower temperatures, for severe forming it is recommended that the metal be above 60°F.

sheet length Because of expansion and contraction due to temperature changes, individual sheet lengths in excess of eight feet are not generally recommended.

joints Conventional methods of joining, such as single or double lock seams are used. If individual sheets are joined by soldering, expansion joints must be placed at intervals of approximately 15 feet for best results.

solder Zinc is easily soldered if simple and proper preparation is made. The surfaces to be soldered should be carefully cleaned of all traces of grease, dirt and oxide.

Cut or "killed" hydrochloric acid (muriatic) makes the best and most generally used flux, but some resin fluxes can also be employed. Half and half (50% tin — 50% lead) antimony-free solder should be used with moderately hot, heavy soldering iron while the surfaces to be treated are still moist with the flux. For best results, the iron should not be allowed to become red hot or applied longer than necessary. After the solder has hardened, all traces of acid or flux should be removed.

clips All sheet and strip zinc should be held in place by clips of a size and type determined by construction requirements, rather than by direct nailing. For securing clips, nails should be zinc-coated (galvanized) or of solid zinc with large flat heads and sharp points. These should be of sufficient length to penetrate wood sheathing or framing not less than 7/8ths of an inch.

sheathing paper Sheet and strip zinc should always be laid over a good grade of asphalt saturated and coated sheathing paper which has a glossy surface.



Zinc is soft enough to be readily formed and worked without the use of special tools, yet it is strong enough for many sheet metal applications. It retains its ductility when subjected to forming operations and does not work harden appreciably or become brittle.



The corrosion resistant properties of zinc make it well suited for application near the ocean. Tested in long-time service installations, it has given good service in salt atmosphere.

Zinc may be embedded in cement, mortar, or plaster, where it will adhere firmly and permanently. This is important in such applications as chimney flashings, thru-wall flashings, and terrazzo strips.



The natural color of zinc, a pleasing gray, blends well with other construction materials and will not stain the surrounding walls or paint trim.



electrolytic action Zinc can be used safely in direct contact with lead, tin and aluminum. With other metals, insulation is required at point of contact to avoid any possibility of electrolytic action.

with lumber Zinc is not affected when installed in contact with lumber in general. However, when used in conjunction with redwood or red cedar, the zinc should be coated with asphaltum paint.

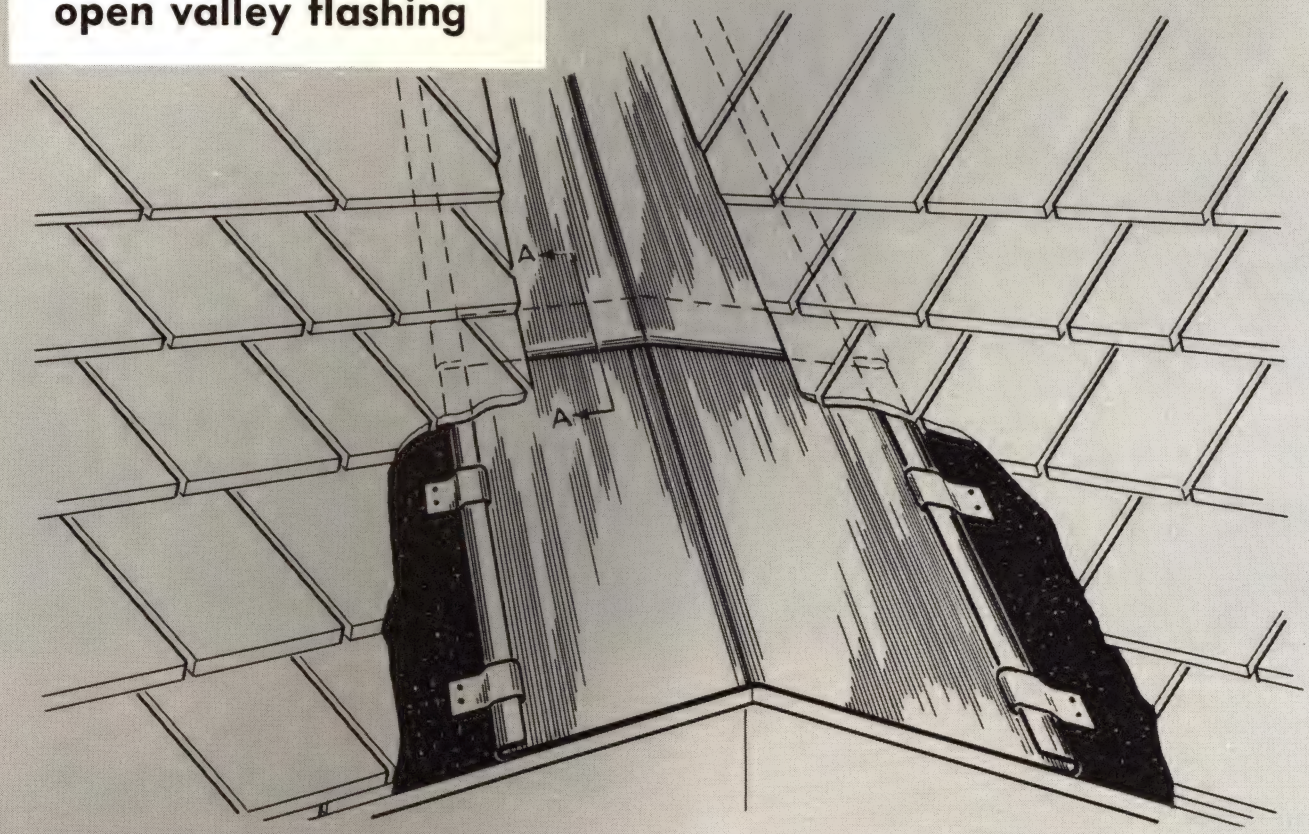
paint Zinc weathers naturally to an attractive dull gray coating which affords long range durability so that no additional protection such as paint is required. If a decorative finish is desired the best paint for zinc is Metallic Zinc Paint (Zinc Dust-Zinc Oxide) which is available in natural gray, red and green. If some other color is desired a second coat of house paint should be used over a primer coat of Metallic Zinc Paint. Ordinary precautions should always be taken to secure a clean surface by brushing off loose dirt and removing oil or grease with a solvent such as turpentine or mineral spirits.

proper thickness of metal Architects and builders should be careful to specify the thickness of the zinc to be used, as metal of too light a gauge will not give satisfactory service. Zinc under .018" thick should never be used for general sheet metal work. For best results, thicknesses of .020" (equivalent to thickness of 16 oz. copper) or greater are recommended.

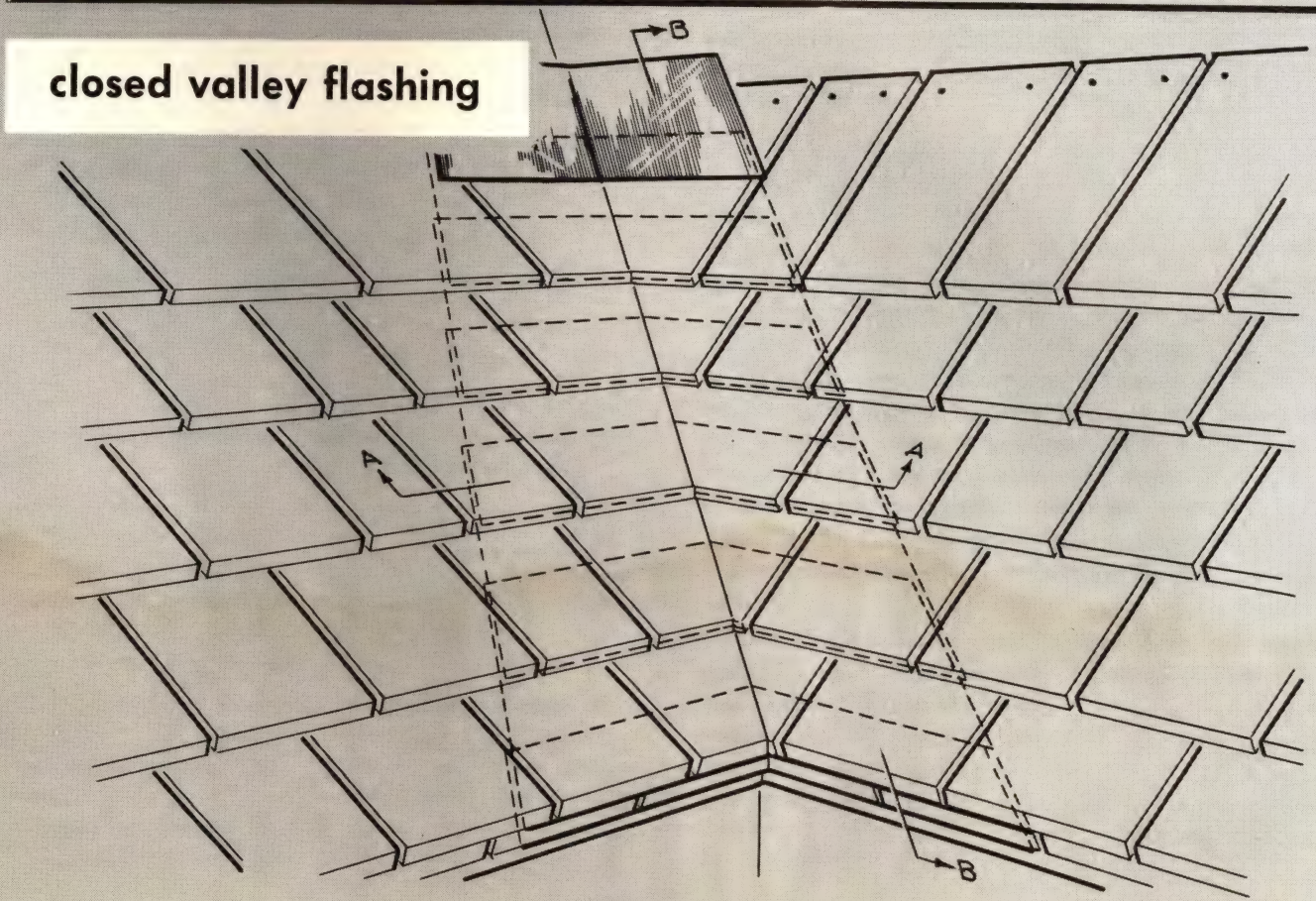
index

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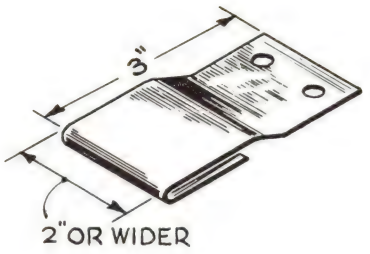
open valley flashing



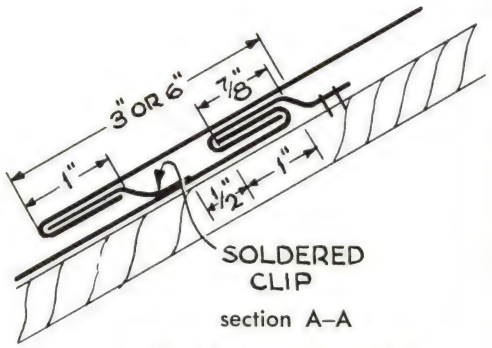
closed valley flashing



ZINC flashing



Clip



Double Loose-Lock Joint

open valley flashing

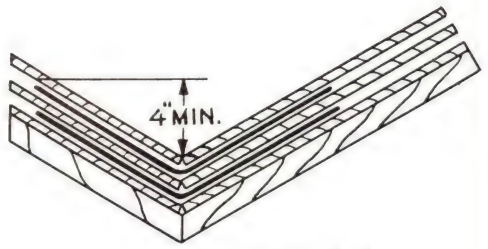
Zinc valley sheets should be no more than 8 feet in length and must be installed with the use of clips. Sheets are laid over asphalt saturated and coated sheathing paper with a glossy finish and should extend under the roofing as far as possible without coming in contact with the nails which hold the shingles to the roof. Unless care is taken, the nails may puncture the zinc and cause seepage of water. Proper installation (see drawing), which provides for expansion and contraction will assure maximum service.

roofs with moderate pitch

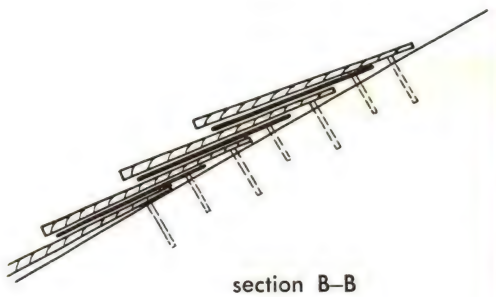
For slopes of 2 to 4 inches per foot, double loose-lock joints with a covering of 6 inches are used.
For slopes of 4 to 6 inches per foot, double loose-lock joints with a covering of 3 inches are used.

roofs with steep pitch

For slopes greater than 6 inches per foot the valley may be formed by overlapping zinc sheets. These are fastened at the top only with zinc-coated (galvanized) or solid zinc nails with large heads and sharp points. At the bottom the valley sheets overlap the next lower sheet a minimum of six inches. The side edges are folded back on themselves and held in place by clips as illustrated.



section A–A

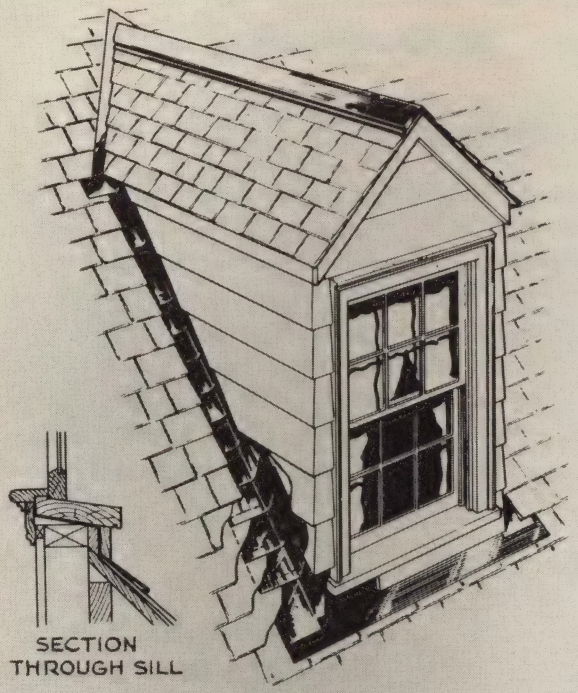


section B–B

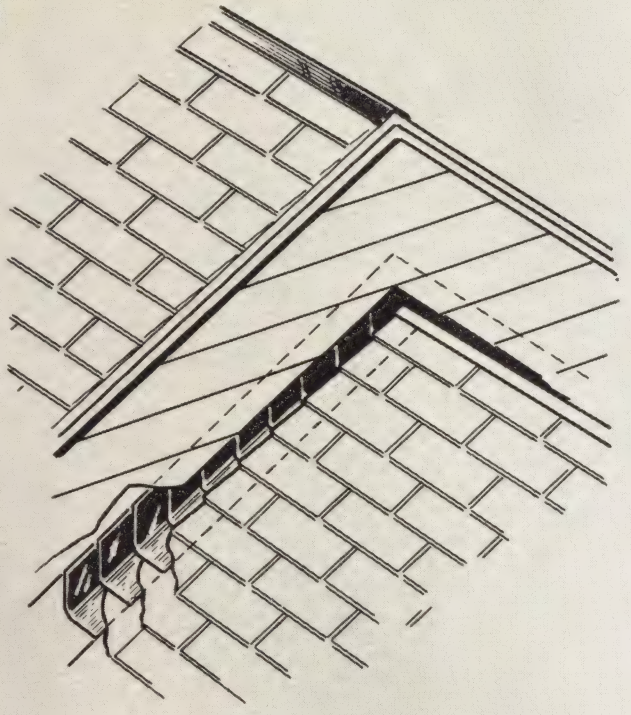
closed valley flashing

When necessary to make a closed valley, separate pieces of zinc are installed with each roofing course and fastened with large headed galvanized or zinc roofing nails. These pieces must extend about 2 inches beyond the top of the shingles, where they are nailed, and should extend down as far as possible but be hidden by the next higher row of shingles.

dormers • sidewalls • hips • ridges

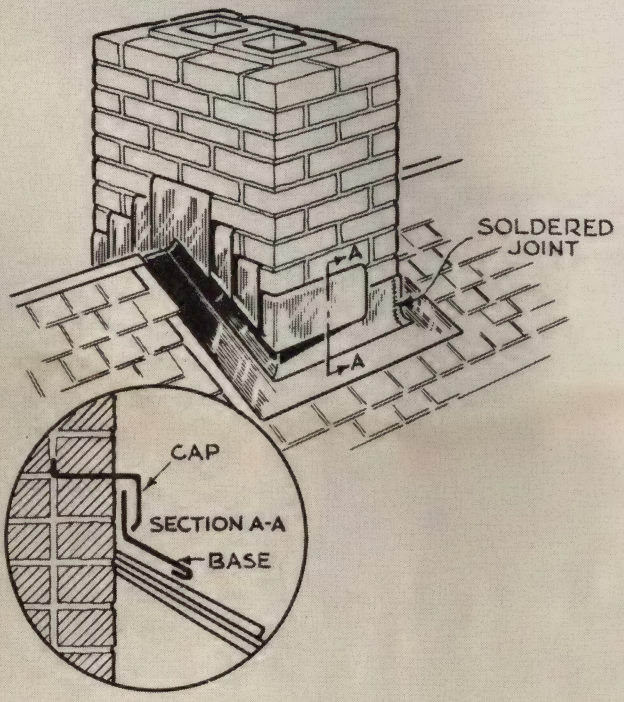


dormer

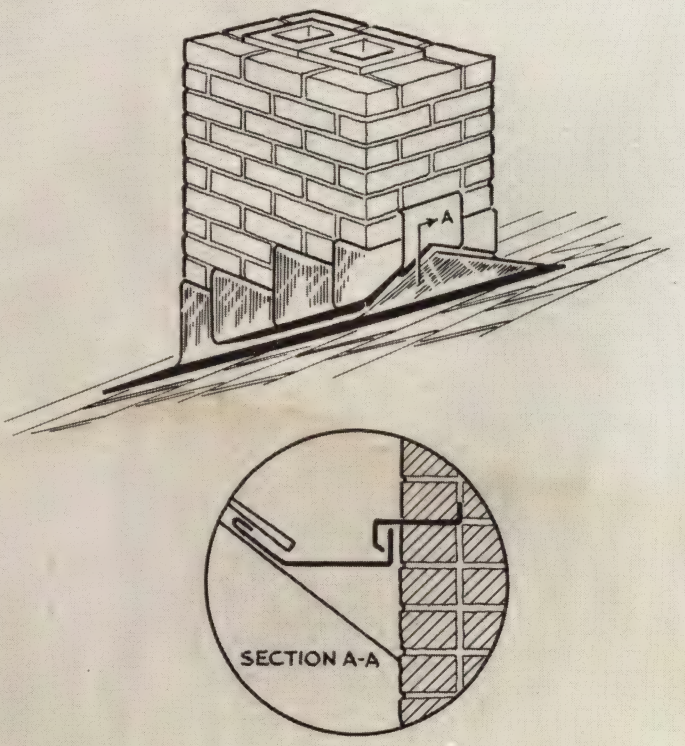


sidewalls

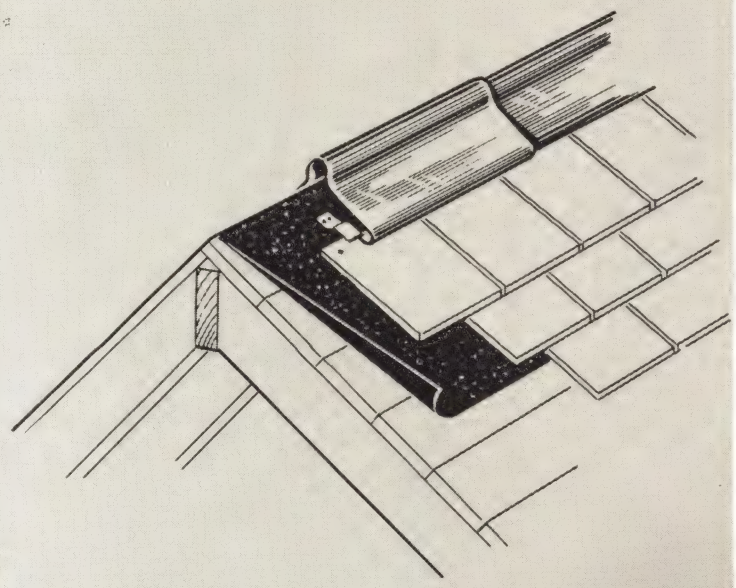
chimneys



on ridge of roof



cricket



ridge or hip

dormers

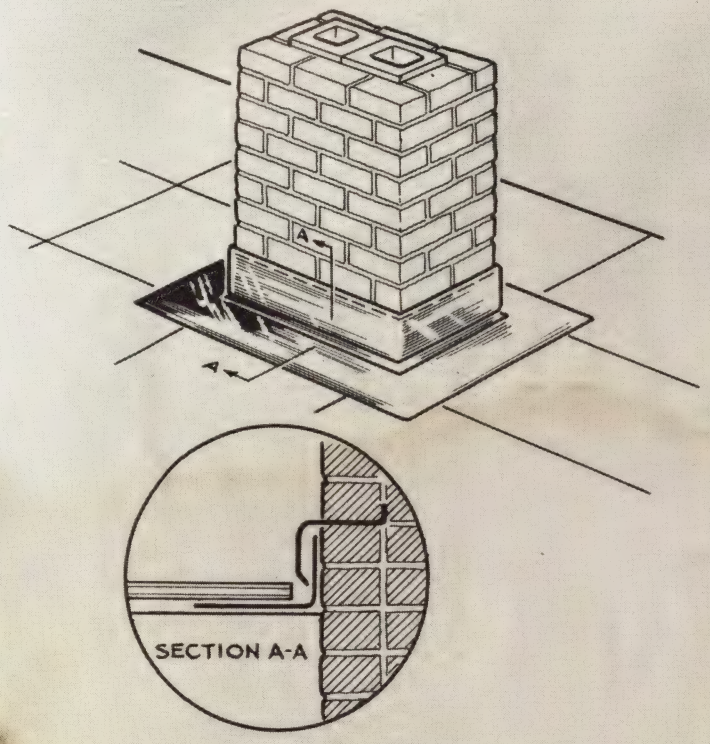
Construction of dormer window flashings may vary depending on the appearance desired. In the basic installation, however, the intersection of the dormer and main roof forms a valley and is flashed as such. The dormer sides are treated as sidewall flashings, being either in short sections or steps, depending upon the pitch of the roof.

sidewalls

Where a roof abuts a vertical wall of a frame building, the flashing should be of the same construction as for a closed valley. With a brick or masonry wall a separate cap flashing should be installed as shown for chimney flashing.

ridge and hip

Construction is identical for both ridge and hip. Lower edges of sections are held to the roof by clips. Sections should overlap at least 3 inches away from the direction of prevailing winds to avoid the possibility of water being driven under laps.



on flat deck

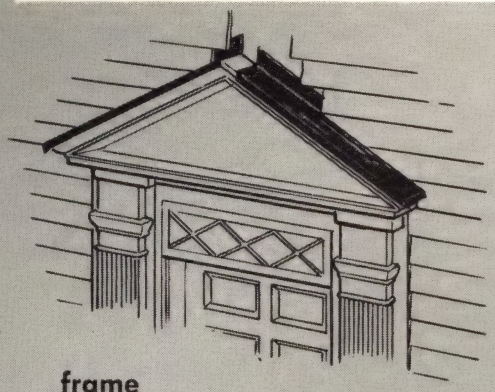
chimneys

Construction of the base flashing differs with the location of the chimney on the roof. At the low end the flashing should extend four to six inches over the shingles. The lowest base flashing on each side folds around the corner of the chimney and is soldered to the base flashing at the foot of the chimney. Separate flashings, serving as base flashings up the sides, are inserted with each course.

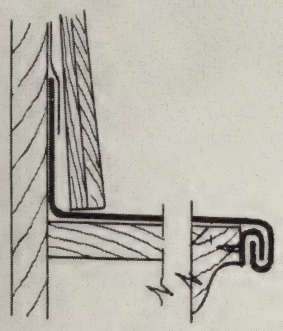
Cap flashing is the same, except for dimensions, regardless of the location of the chimney. Along the low side or sides, where flashing is horizontal, it is of one piece construction but on the sides of the chimney the flashing is in short pieces arranged in steps according to the pitch of the roof. Separate sheets should have side laps of at least 3 inches in the direction of the roof slope and should lap the base flashings at least 4 inches.

A cricket is recommended for the back of the chimney. It should be noted that at the foot of the chimney the flashing is on top of the roofing, whereas at the back of the chimney, the roofing is on top of the flashing.

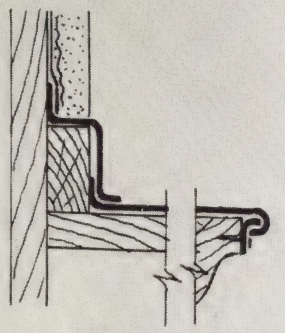
flashing-doors • windows



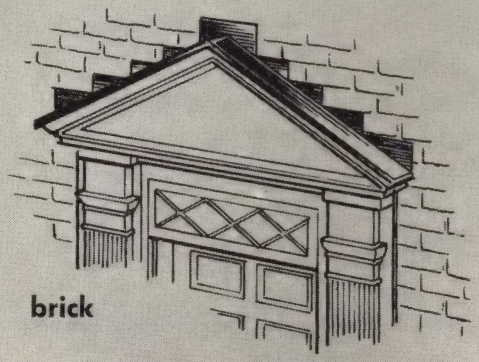
frame



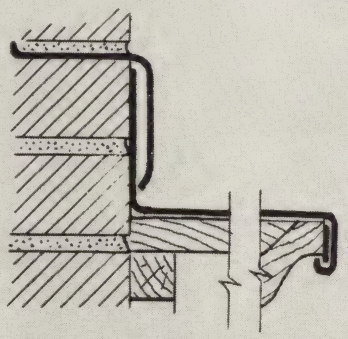
frame



stucco

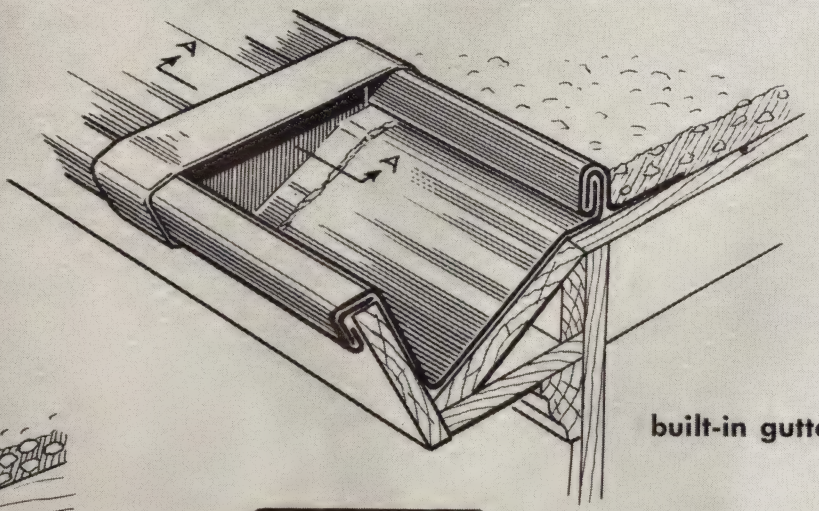


brick

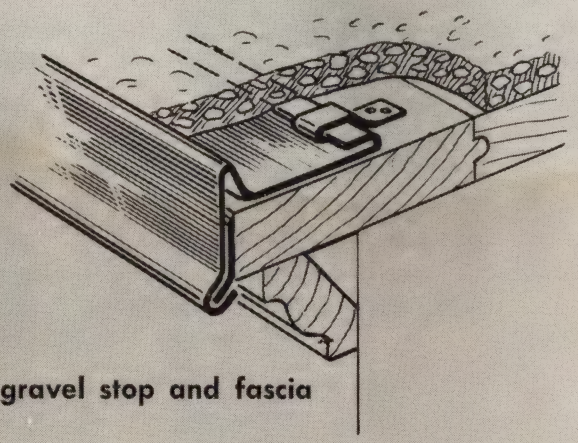


brick

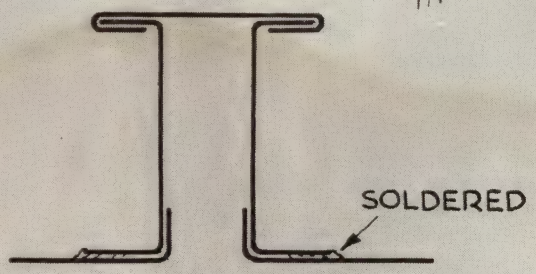
leaders and gutters



built-in gutter



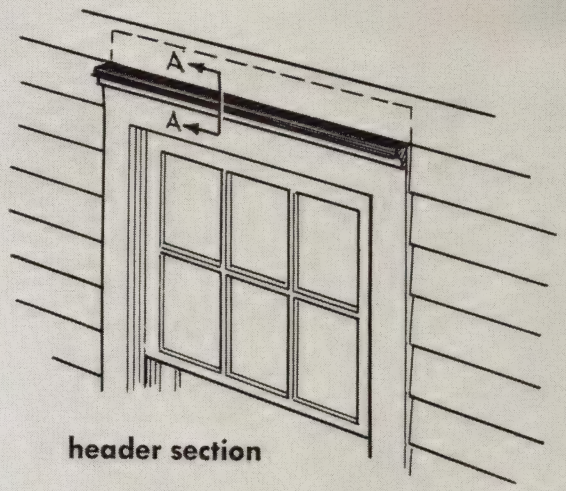
gravel stop and fascia



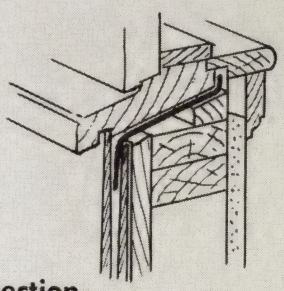
section A–A

expansion joint

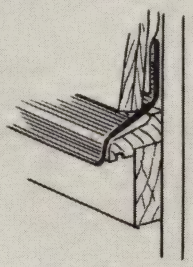
ZINC flashing leaders and gutters



header section



sill section



section A–A

flashing • doors • windows

The use of zinc flashings around doors and windows is recommended practice. Typical installations are illustrated.



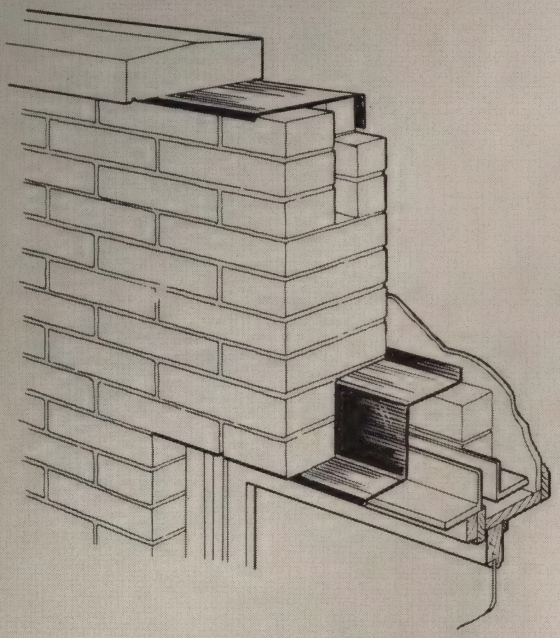
leader and gutter

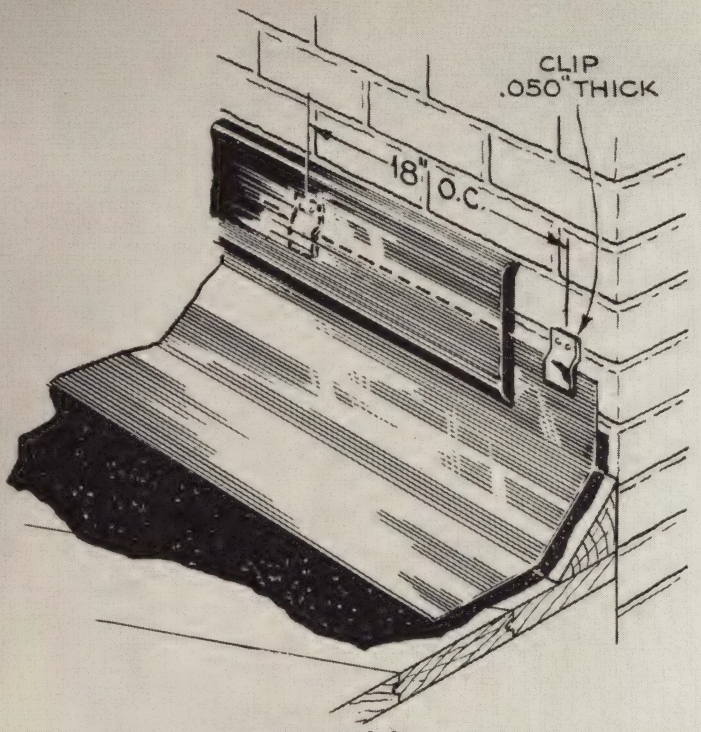
leaders and gutters

Zinc, due to its excellent working properties, appearance and durability is especially well suited for rain carrying equipment. Gutters may be either the hanging type (free from the roof), or the box type (actually part of the roof). They should be made of .032 inch zinc or heavier. Hanging gutters are fabricated in sections not over 10 feet long and are supported by hangers not over 18 inches on center. Box gutters should be constructed with expansion joints placed at intervals of not more than 20 feet apart. These are located at the high point of pitch, thus forming complete dams. Each section must have its own outlet.

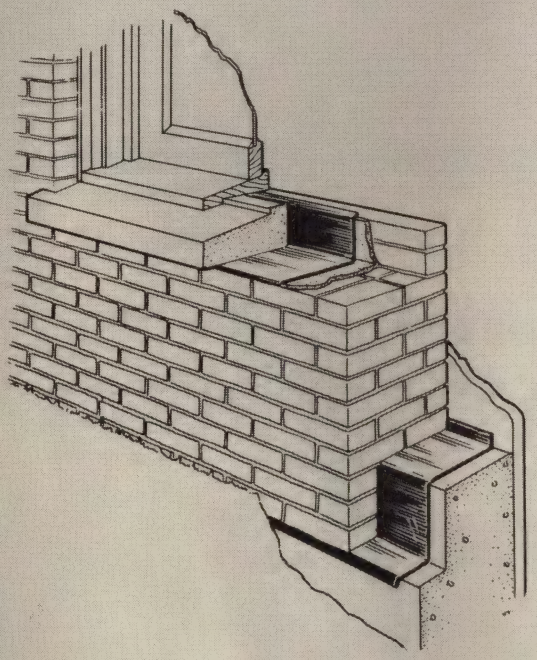
Leader pipes and fittings are made in round or square types either plain or corrugated.

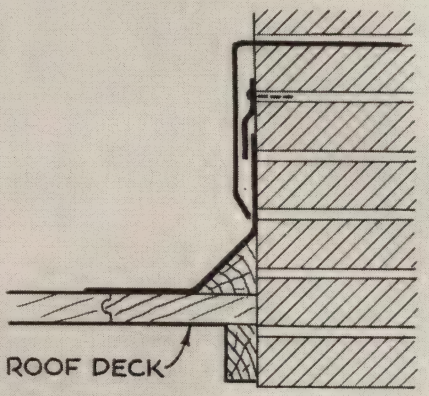
thru-wall flashing



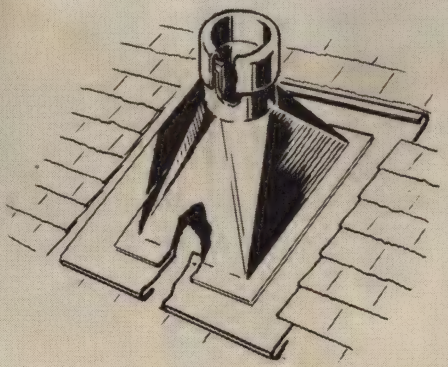


cap and base

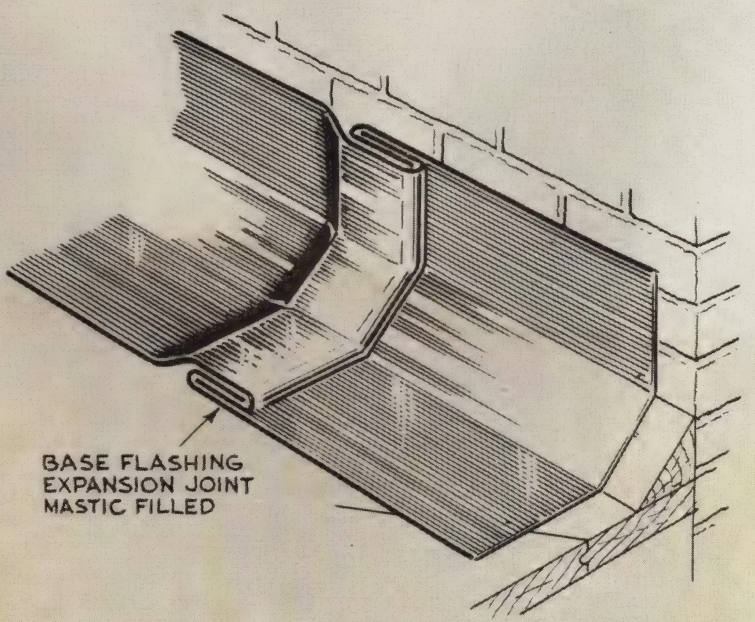




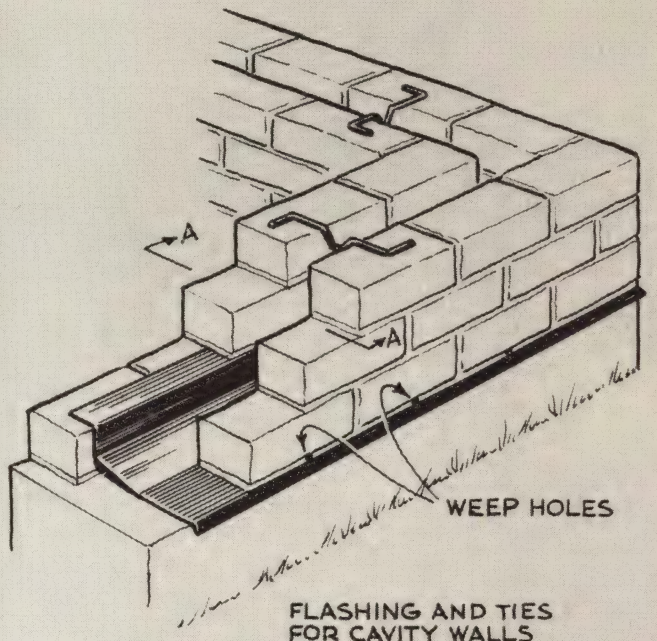
sectional view, cap and base



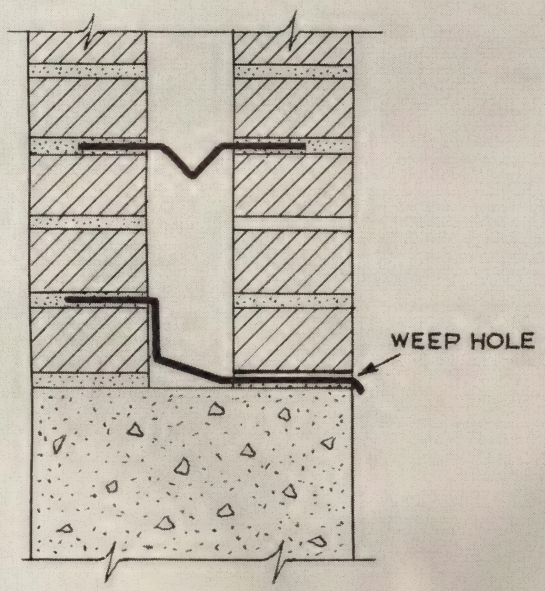
vent pipe



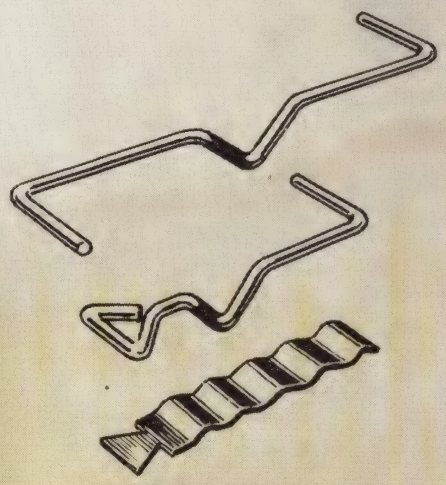
cavity wall flashing



FLASHING AND TIES FOR CAVITY WALLS



SECTION A-A



wall ties

flashings

thru-wall

Zinc, which can be used in contact with cement, is pliable enough to conform to any installation surface, yet stiff enough to make a rigid turn up on the inside of the wall. It is recommended that these flashings extend to within ½ inch of the exterior wall face and turn up 2 inches on the interior wall face. Since zinc will not discolor masonry, no additional coating is required.

cavity wall

Zinc is particularly adaptable for cavity wall flashings as a means of collecting condensed moisture from within the wall and directing it to the outside. Zinc blends well with the wall and will not discolor the seepage. For most satisfactory service the flashing should be installed in the wall with a bed of mortar above and below the metal. Cavity wall flashings assure the proper drainage necessary to prevent water from penetrating into joints and crevices.

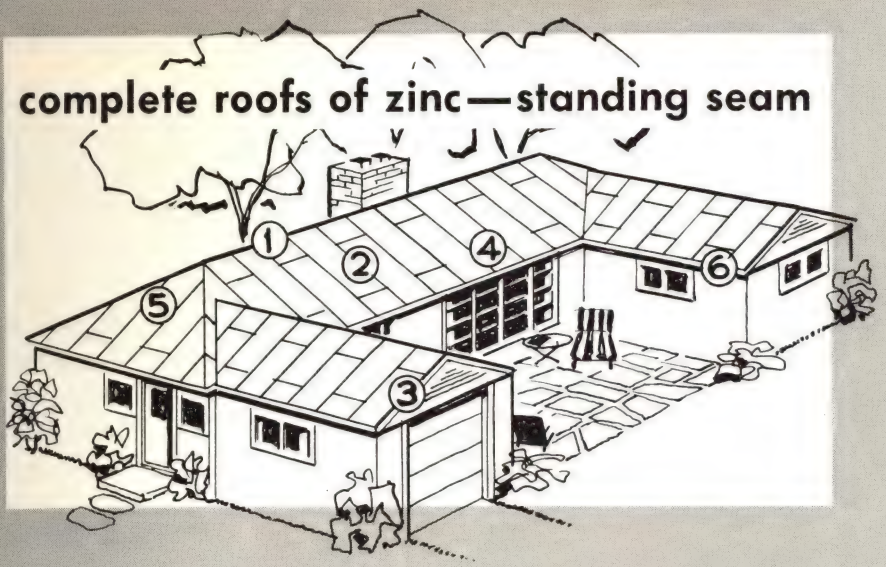
wall ties

Wall ties are a necessary part of the installation when cavity walls are used in a building. Zinc ties in the form of rods and similar shapes are set in the mortar joints and give a high strength bond in the wall construction.

vent pipe

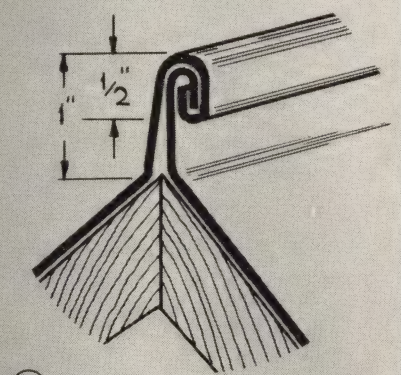
Base flashing is a prefabricated cone or in the form illustrated. It is topped with a cap flashing soldered or fastened to the vent pipe to form a watertight joint.

complete roofs of zinc—standing seam

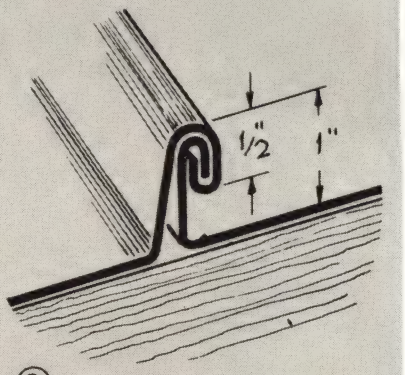


standing seam roofing

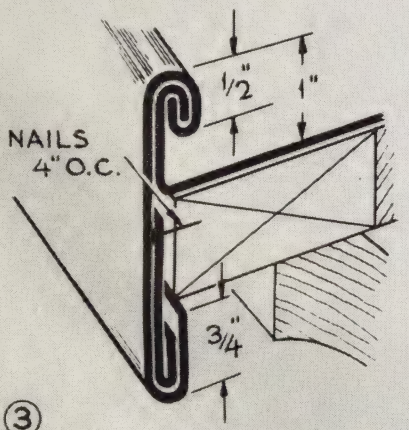
The standing seam system is one of the most familiar roofing methods and is especially adaptable for smaller type constructions such as bay windows, dormers, etc. Attractive and durable, it can be installed on any roof which has a slope of 4 inches per foot or more.



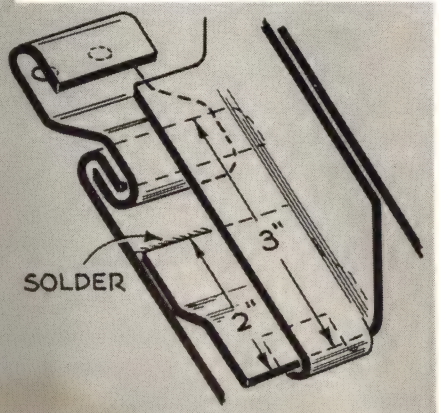
① ridge or hip



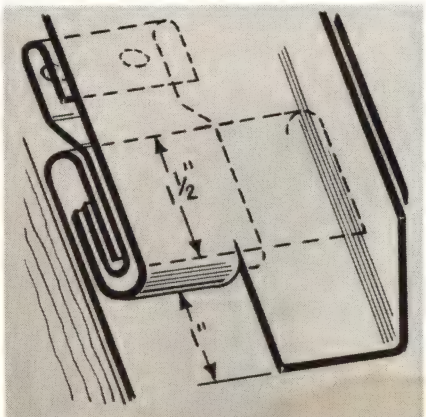
② standing seam



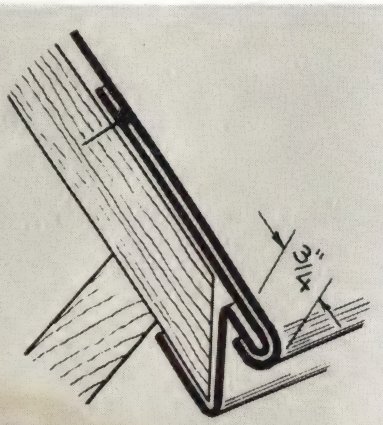
③ gable end



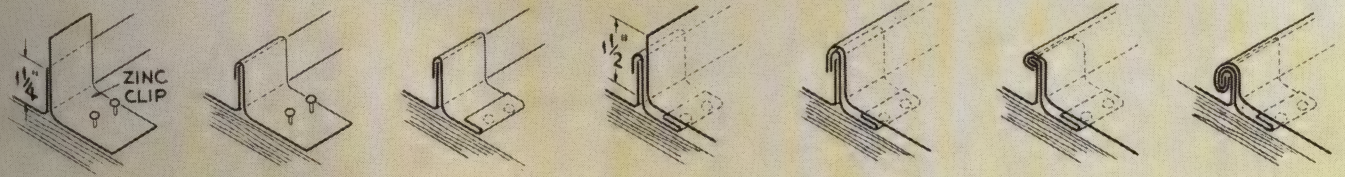
④ low pitch cross seam



⑤ steep pitch cross seam



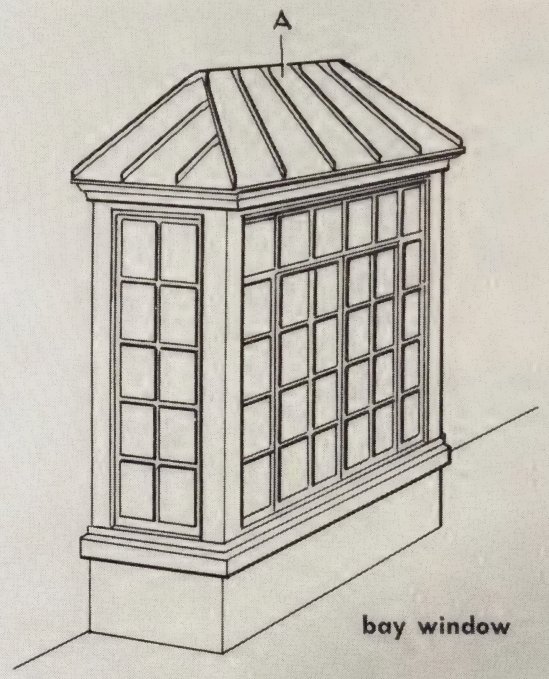
⑥ drip at eave



progressive steps in forming a standing seam

ZINC standing seam roofing

roofs of bay windows and porches



bay window



door entrance

section A.

roofs of zinc

All roofing must be laid on a smooth, unobstructed surface, covered with asphalt saturated and coated sheathing paper with a glossy surface. It is recommended that .024 inch or heavier zinc be used in narrow widths. The zinc may be obtained in either sheets or coils, the latter to be cut into lengths of not more than 8 feet.

The steps used in forming a standing seam are illustrated. One side of each roofing sheet is bent up 1¼ inches, the other side bent up 1½ inches. Zinc clips, of the same gauge, 1 inch wide by 3 inches long are nailed to the roof at 8 or 10 inch intervals, using two nails per clip. The free end of the clip is folded over the nail heads to avoid puncturing the roof sheets. The next sheet is laid against this and the final seam is made by bending.

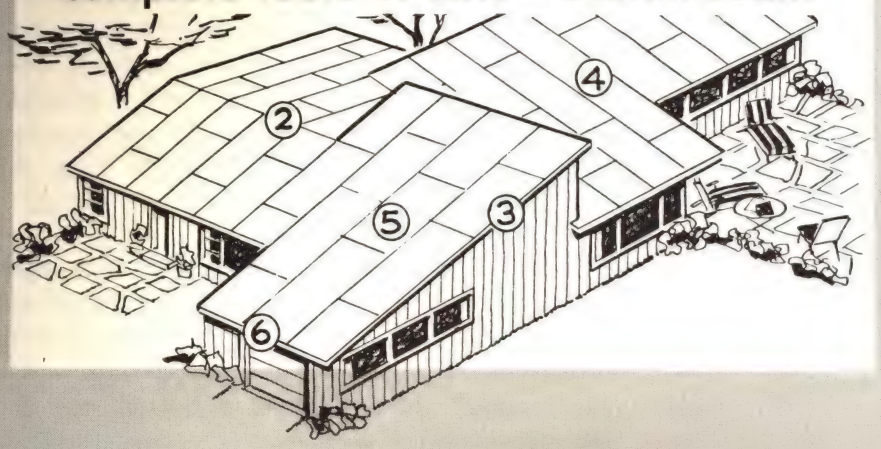
The construction of the cross seams depends on the slope of the roof. For slopes greater than 6 inches per foot, single lock joints may be used. For slopes of 4 to 6 inches per foot, double loose-lock joints with a covering of 3 inches are recommended. In either case the top end of each sheet is held in place by at least two clips as illustrated.

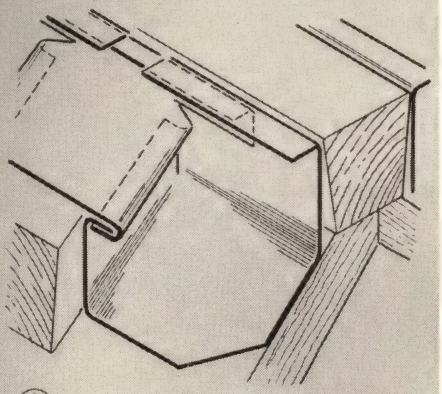
At the ridge, any one of four methods may be used: a ridge batten, a standing seam ridge at right angles to roof seams, a lock seam formed by sheets of two roofing slopes, or a ridge cap without a batten. The same type of construction is used at the hip.

Either of two types of construction may be used for the gable end of a roof. In one, the roof strip is turned up vertically and locked into zinc edging clips, not over 2 feet long and wide enough to extend to a height at least equal to that of a finished standing seam. Long clips, .050 inch thick, are nailed together so closely as to be practically continuous. In the other method, the edge is turned down over the edge of the roof boards and hooked into the clips.

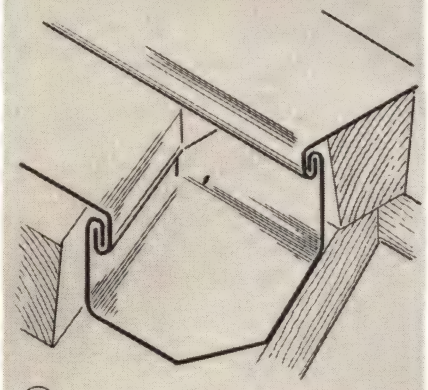
At the eaves, a zinc edge strip is secured to the roof and locked to the zinc roofing edge with a loose lock. When there is a box gutter, the roofing strips are connected to it by a double loose-lock joint, which is illustrated for valley flashing on page 5.

complete roofs of zinc—batten seam

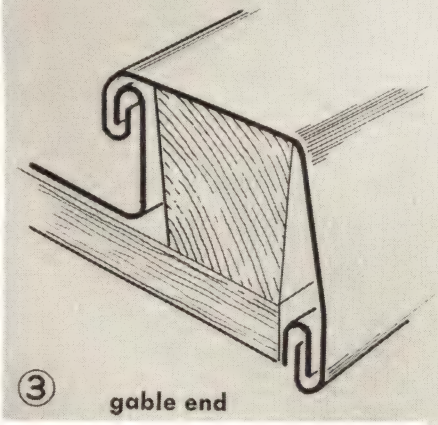




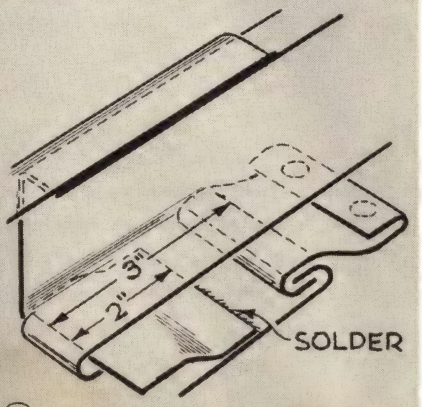
1 ridge start



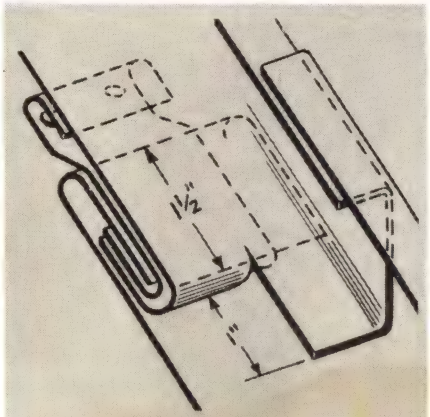
2 ridge completed



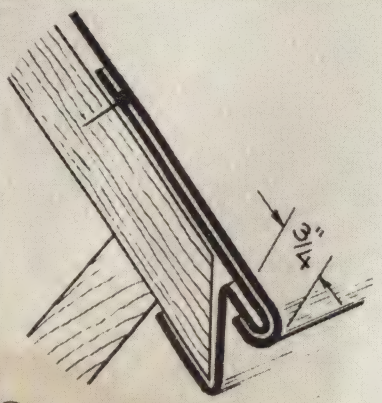
3 gable end



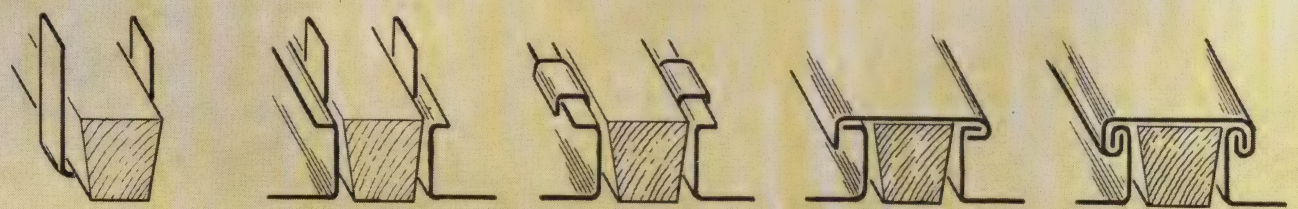
4 cross seam — low pitch



5 cross seam — steep pitch



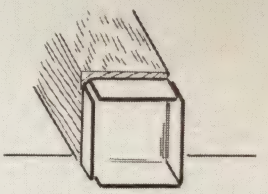
6 drip at eave



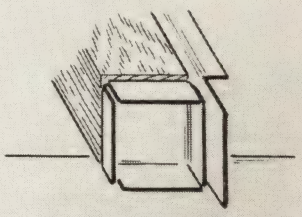
progressive steps in forming a batten seam

ZINC batten seam roofing

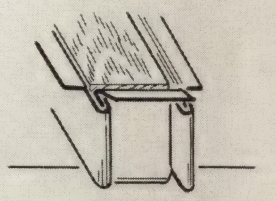
flashing ends of wood battens



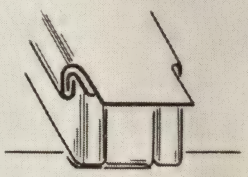
end piece same shape as batten



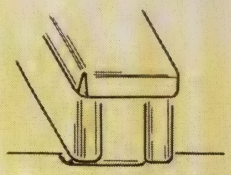
end piece in position



bottom tab folded under eave side tabs attached



batten cap attached



completed end

batten seam roofing

Attractive in appearance and long lasting, the batten seam system of roofing is used for ranch type houses and similar structures. The zinc batten roof will weather to a natural gray tone, or, if desired, a choice of color effects may be obtained by painting. The roof may be painted immediately after installation if Metallic Zinc Paint (Zinc Dust-Zinc Oxide) the recommended paint for zinc surfaces, is used.

In this system, the metal is laid between parallel wooden strips which run from ridge to eaves. The zinc sheets must be laid over asphalt saturated and coated sheathing paper with a glossy surface.

Standard battens are not less than 1⅝ inches high for slopes of 4 inches per foot or more. For slopes less than this the batten should be 2⅝ inches high to avoid water leakage.

When battens are spaced up to 18 inches on center, use a minimum of .024 inch zinc. For wider spacing, heavier zinc should be specified.

Before battens are nailed in place, long clips of .050 inch zinc are nailed at 18 inch intervals under the batten and bent over the roofing sheets. Capping pieces, in 36 inch lengths, are slipped over the tops of the battens and locked into the clips. The ends of the caps should overlap at least 4 inches. It is important that battens be securely fastened to the roofing boards, and be accurately spaced and parallel throughout their entire length.

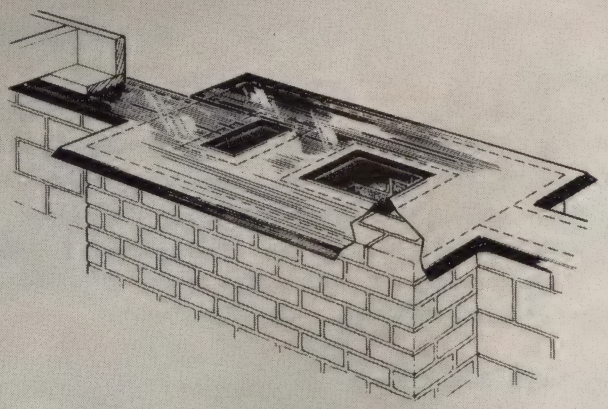
At the ends of wood battens, the end pieces of roofing sheets are cut to form tabs which fold over a formed end piece as shown in the illustrations.

For steep pitch roofs, cross seams are made by folding the lower end of the upper sheet 1 inch and hooking it into a 1½ inch fold on the upper end of the underlying sheet. The top end of each sheet is held in place by at least two clips.

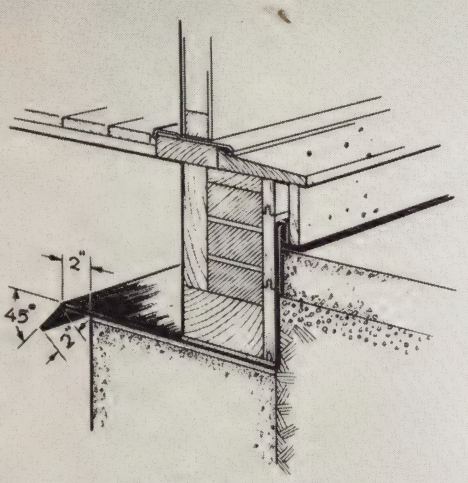
For low pitch roofs the fold on the lower sheet engages clips that hold it in place as illustrated. The fold on upper sheet hooks into a 2 inch wide lock strip (same thickness as roofing sheet) that is soldered to lower sheet as shown.

A ridge batten must be 1¼ inches above the roof batten. At the intersection of roof and ridge the roof sheets and ridge batten are joined as illustrated.

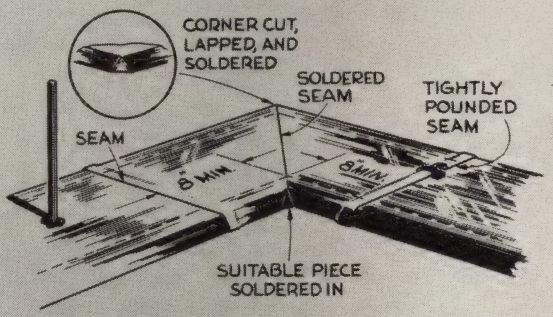
termite protection



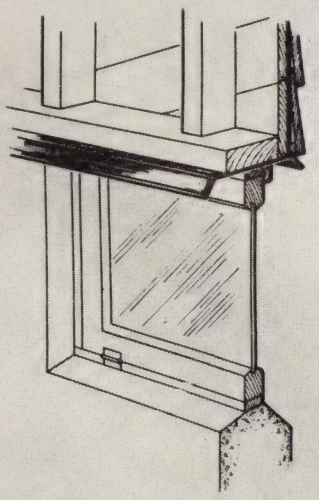
chimney at sill



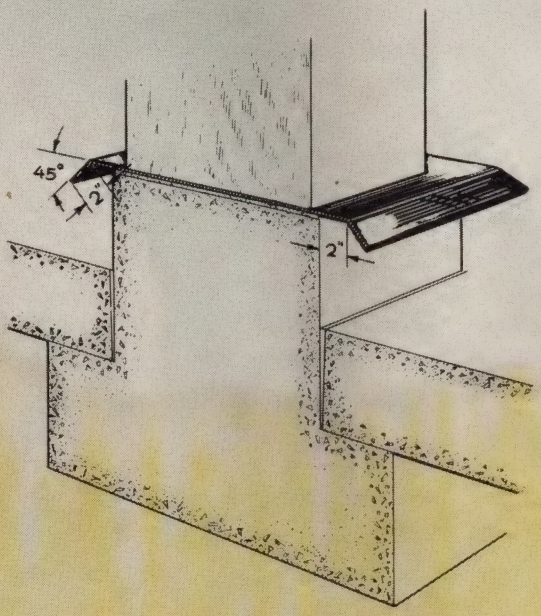
porch entrance



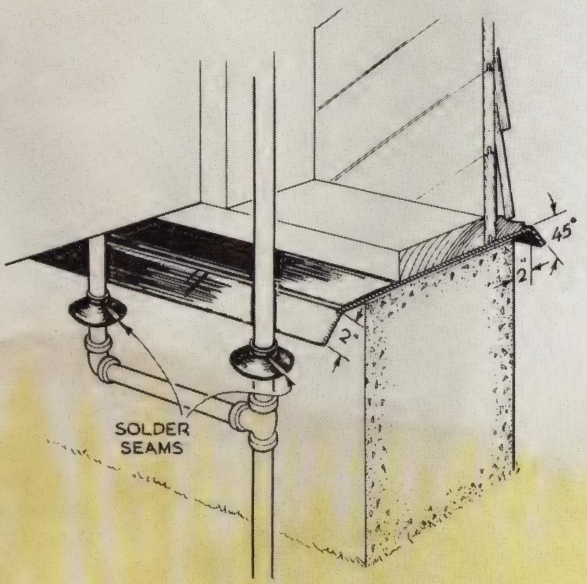
construction details



cellar window



sectional view of foundation post

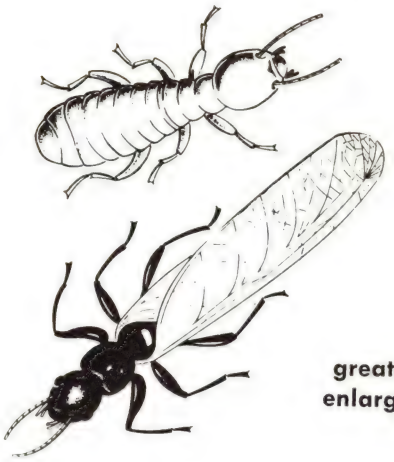


shields on foundation and around pipes

ZINC termite shields

2a
Am

termite protection



greatly enlarged

Zinc is ideal for termite shields because it is rust proof, impervious to the effects of moisture or other adverse climatic conditions, readily formed without becoming brittle, safely installed in mortar, and lasts as long as the building itself.

Simple and inexpensive, zinc shields provide an effective safeguard against termites by preventing their entry from the ground and also cutting off their return to the soil to obtain the water necessary for their survival. Since these insects cannot bend their bodies to crawl around the metal edge, the shields act as definite barriers.

Zinc termite shields for longtime service should be at least .018 and preferably .024 inch thick to provide the stiffness and strength necessary to hold its shape. Lengths of each section should not exceed 8 feet, and should be connected with a single lock joint malleted down tightly. It is recommended that the metal extend 2 inches horizontally beyond the face of the foundation walls at both sides, each projection turned down an additional 2 inches at a 45 degree angle. These shields are especially adaptable to locations not easily accessible for inspection. Other forms can be constructed for installations more readily inspected.

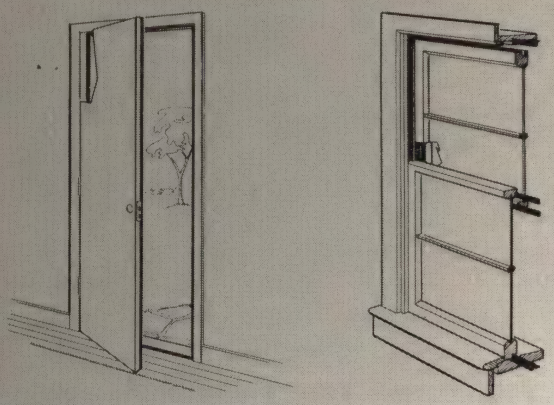
It is necessary that a complete zinc termite shield be installed around the entire foundation, at all possible points where insects might gain entry to the woodwork of the building. Particular attention should be paid to masonry foundations, fireplace walls, piers, cellar windows, wood plate and sills, cellar hatchways, posts, walls, cellar beam pockets, piping, cellar partitions, and between steps and porch of house.

Protective shields should be installed when the house is being constructed. Additional expense will necessarily be incurred when shielding is installed in existing structures, but the extra costs are minor in comparison to damage resulting from termite attack.

Destruction by termites is responsible for more than $50 million damage to American property each year. This damage can be reduced considerably by the use of zinc shields which present a durable barrier to termite attack at all points where insects invade buildings.

Termites are tiny insects which nest in the moist ground and cannot tolerate exposure to light. Their existence depends upon wood or other cellulose products and when this food supply is not in contact with the soil they will travel to it. Through crevices or tunnels which they construct from earth and other wastes, they crawl over brick, concrete, pipes and other materials which they cannot attack. Boring from within, they eat through the wood members of a building, and through rugs, clothing, paper, etc., without discovery, until irreparable damage has been done. Because of their small size, termites gain easy entry to a building through small cracks in the foundation, especially where wood comes into direct contact with the earth. Although wood is their food source, they cannot live without a supply of moisture. Breaking contact with this moisture leads to their destruction and elimination.

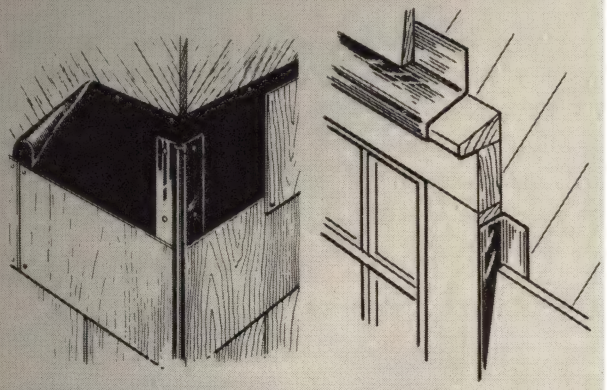
Other uses



weatherstripping

The moderate cost and rust free characteristics of zinc have made it the standard for weatherstripping. In countless installations, no sign of wear after 40 years of use is shown. Zinc requires no special surface preparation even in salt atmospheres. Zinc will not stain adjoining materials.

The inherent self-lubricating properties of zinc enable the engaging members to slide easily and without scraping or scoring. It will not oxidize to a hard abrasive surface which wears away. Because of its pliability, zinc weatherstripping will adjust to warping of window sash, avoiding binding and maintaining a satisfactory seal.



corner trim for siding

Zinc prefabricated mouldings are used extensively on corners of buildings, around windows, etc. Their non-staining qualities and appearance make them suitable for new constructions or remodeling, especially when used in conjunction with asbestos or asphalt shingles.



corrugated sheets

Corrugated zinc sheets are used successfully in farm and industrial construction. Rolled zinc producers supply specially alloyed zinc sheets for this purpose. The alloying provides greater rigidity than obtained in commercial grades of zinc. Roofing and siding sheets may be applied over open or fully sheathed surfaces. It is suggested that manufacturers be contacted for their recommendations and specifications.



terrazzo strip

Zinc is the most economical dividing strip material for terrazzo floors. It has outstanding color appeal as this "white metal" blends well with all types of terrazzo and modern architectural fittings and retains its bright finish. Zinc is unaffected by the strong soaps or detergents used for cleaning floors. With the passing of time, zinc strips will wear uniformly with the marble chip aggregate in terrazzo, thus there are no projections above the floor surface to present walking hazards. Zinc terrazzo strips are available in all widths to meet architectural requirements.

AZI-27—60.5M—7-53

Technical Data

thermal properties

melting point
787°F.

boiling point
1663°F.

coefficient of linear expansion (expansion per unit length)
.0000221 per °F.

thermal conductivity
.27 calories/sq.cm/cm/°C/ per second (at 64°F.)

electrical conductivity

specific—169,000 mhos/cm^3 at 68°F.

per cent—28 (copper 100)

specific gravity

7.1

density

.258 lbs. per cubic inch

dimensional tolerances

Sheet and strip zinc is furnished to tolerances indicated in the American Society for Testing Materials Specification B-69 which conforms to the United States Government Specifications MIL-Z-883 (ships).

table of weights, thicknesses and gauges

Zinc gauge			Manufacturers' Standard Gauge for sheet steel		American or Brown & Sharpe	
no.	ounces per sq. ft.	thickness in inches	no.	approx. thickness in inches	no.	approx. thickness in inches
9	10.72	.018	26	.0179	24	.0201
10	12.00	.020	25	.0209	23	.0225
11	14.40	.024	24	.0239	22	.0253
12	16.80	.028	23	.0269	21	.0284
13	19.20	.032	22	.0299	20	.0319
14	21.60	.036	21	.0329	19	.0358
15	24.00	.040	20	.0359	18	.0403
16	26.88	.045	19	.0418	17	.0452
17	29.92	.050	18	.0478	16	.0508
18	32.96	.055	17	.0538	15	.0570
19	36.00	.060	16	.0598	14	.0640
20	41.92	.070	15	.0673	13	.0719
21	48.00	.080	14	.0747	12	.0808
22	53.92	.090	13	.0897	11	.0907
23	60.00	.100	12	.1046	10	.1018
24	75.20	.125	11	.1196	9	.1144

When ordering specify decimal thickness to avoid error

How to Order Sheet and Strip Zinc

Inquiries or orders for Sheet and Strip Zinc should always specify pounds or number of pieces, thickness in decimals of an inch, width and length in inches, intended use, and packing desired.

Misunderstanding can be avoided when ordering by specifying thickness in decimals of an inch rather than by gauge number.

Zinc is available in the following thicknesses, widths, and lengths for general building purposes.

Zinc Sheet (.018 inch or thicker)
up to 60 inches wide
up to 96 inches long

Zinc Strip (.018 inch or thicker)
up to 20 inches wide
In flat lengths up to 144 inches long
In coils—length as desired.

Note: Zinc is available in two general temper classifications:—*soft and medium hard.* For most building purposes soft temper zinc is generally used. For a wider range of temper and special characteristics, zinc alloys are commonly supplied.

Printed in U.S.A.

The American Zinc Institute, a non-profit organization, is the national trade association of the Zinc industry, including the miners, smelters, and rollers of Zinc. The Institute does not produce or sell Zinc, but collects and distributes information relative to the uses of Zinc and Zinc products.

producers of sheet and strip zinc

The American Zinc Products
A Division of Ball Bros. Co., Inc.
Greencastle, Indiana

Illinois Zinc Company
2959 West 47th Street
Chicago 32, Illinois

Matthiessen & Hegeler Zinc Company
La Salle, Illinois

The New Jersey Zinc Company
160 Front Street
New York 38, New York

The Platt Brothers & Company
Waterbury 20, Connecticut



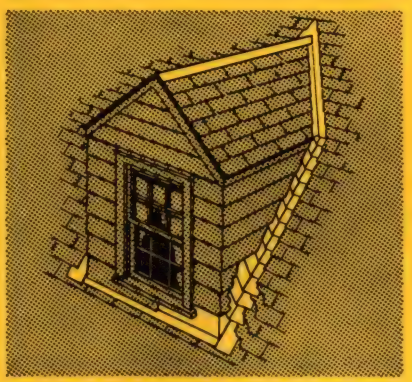
American Zinc Institute, Inc.

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Field Office • 324 Ferry Street, Lafayette, Indiana

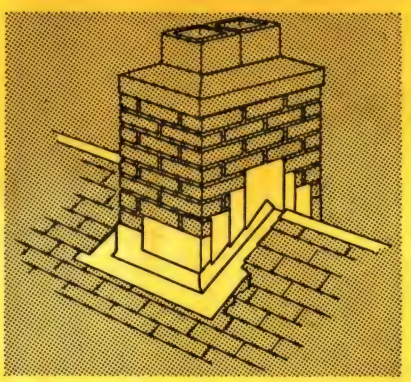
ZINC ERAYDO ALLOY

for general building flashings



- a low cost non-ferrous corrosion-proof alloy
- permanent weather sealed protection

2a/Ch



manufactured only by
Illinois Zinc Company
Producers of Quality Metal
since 1870

2959 W. 47 St.
Chicago 32, Ill.
LA 3-1600

630 Fifth Ave.
New York 20, N. Y.
CI 7-0874

AIA File No. 12-H

ZINC
ERAYDO
ALLOY

a permanent flashing sheet metal . . .
. . . about half the cost of copper

An exclusive product of the Illinois Zinc Company, ERAYDO is a combination of highest grade zinc, purer than commercial zinc, blended with a small quantity of copper and lead. The result is a wholly non-ferrous sheet metal that costs about 50% less than copper, gauge for gauge.

ERAYDO is well suited for flashings, roof valleys and termite shields. Available in either sheets or rolls, it embodies all of zinc's corrosion resistant characteristics plus greater tensile strength and working qualities and the ability to resist salt air completely.

---

advantages of ERAYDO ZINC ALLOY

★ economy

Because of its lower pound price and lighter weight, ERAYDO costs about 50% less than copper. See the cost comparison chart on the back cover. Also, ERAYDO requires no finishing. Its first low cost of installation is the last.

★ won't red rust, resists atmospheric corrosion

ERAYDO is wholly non-ferrous; therefore, it can't rust. Instead, a pleasing, dull gray coating forms on ERAYDO when it is exposed to atmosphere. This zinc oxide coating expands and contracts with the metal and will not peel or flake off. Under ordinary conditions of use, it is practically indestructible. Further, it resists corrosion even when embedded in earth, cement, mortar or plaster; and it is generally unaffected by smoke fumes. Finally, ERAYDO won't stain white trim or light colored masonry.

★ corrosion resistant

The National Bureau of Standards tested ERAYDO ALLOY'S resistance to corrosion in salt atmosphere. The report issued March 28, 1952 states: "Zinc Alloys investigated showed good resistance to corrosion in the atmospheres of Norfolk and Washington, D. C., for 24 months, and this behavior suggests that they should give satisfactory service in such atmosphere."

★ solders easily

Strong joints readily made with commercial solder.

★ needs no protective coating or paint

The attractive, dull gray zinc oxide coating that forms naturally on ERAYDO is not only a permanent protection for the metal but also a permanent finish. No further protection or paint is necessary.

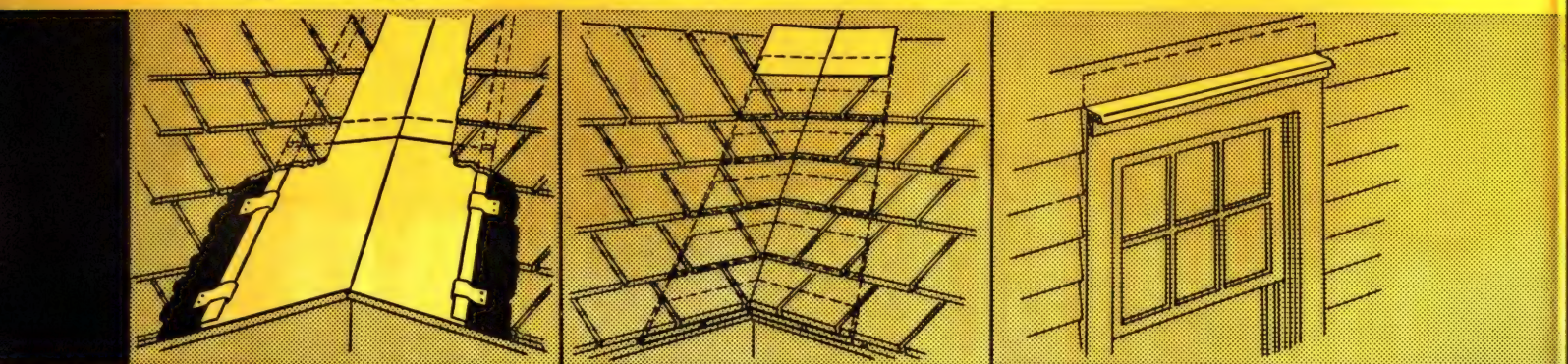
★ great ductility

ERAYDO'S ductility and flexibility are excellent. It can be bent back, flat upon itself at 70° F and above without fracturing. However, care should be taken to avoid sharp, tight bends.

★ protection from lightning

The combination of zinc and copper in ERAYDO provides good electrical conductivity. Therefore, when ERAYDO is used as a roofing or drainage material, it can be grounded to provide protection from lightning.

some typical applications of ERAYDO ZINC ALLOY*



open valley flashing

.020 ERAYDO (equivalent to 16 oz. copper) performs well. For especially steep, long valleys, use .027 ERAYDO (equivalent to 20 oz. copper).

closed valley flashing

.020 ERAYDO is recommended, installed in separate pieces. They are held in place with ERAYDO clips nailed to sheathing by hot-galvanized or zinc nails.

window flashing

Here is a typical installation of .020 ERAYDO being used to cover the head section of a window.

** For the necessary details of installation on these and other applications of ERAYDO ZINC ALLOY, consult the American Zinc Institute, Inc. catalog in the Sweet's Architectural and Light Construction files.*

technical features of ERAYDO ZINC ALLOY

composition

The zinc used to form ERAYDO is of high grade quality, 99.9% pure. Copper, lead and other alloying, non-ferrous metals are added in carefully controlled quantities to make the alloy more formable and tougher than basic zinc.

properties

physical		mechanical*	
specific gravity	7.14	tensile strength, per sq in	25000/30000 lb
wgt, lbs per cu in	.257		

** test made at 70°F.*

electrolytic action

ERAYDO can be used safely in direct contact with lead, tin and aluminum. With other metals, insulation such as asphaltum paint is required at point of contact to avoid possibility of electrolytic action.

thermal coefficient of expansion

The unit length of expansion per °F is .0000178.

form

ERAYDO is available in either flat, stretcher-leveled sheets or in rolls, soft tempered in all commercial gauges.

thicknesses • same as 16 oz. and 20 oz. copper

Two standard thicknesses are: .020-inch and .027-inch. The .020 thickness is equivalent in thickness to 16 oz. copper and is recommended for all types of flashing and roofing. The .027 thickness is a heavy-duty type that is equivalent to 20 oz. copper and is recommended for all types of chimney and thru-wall flashing and for long, steep valleys such as on church roofs.

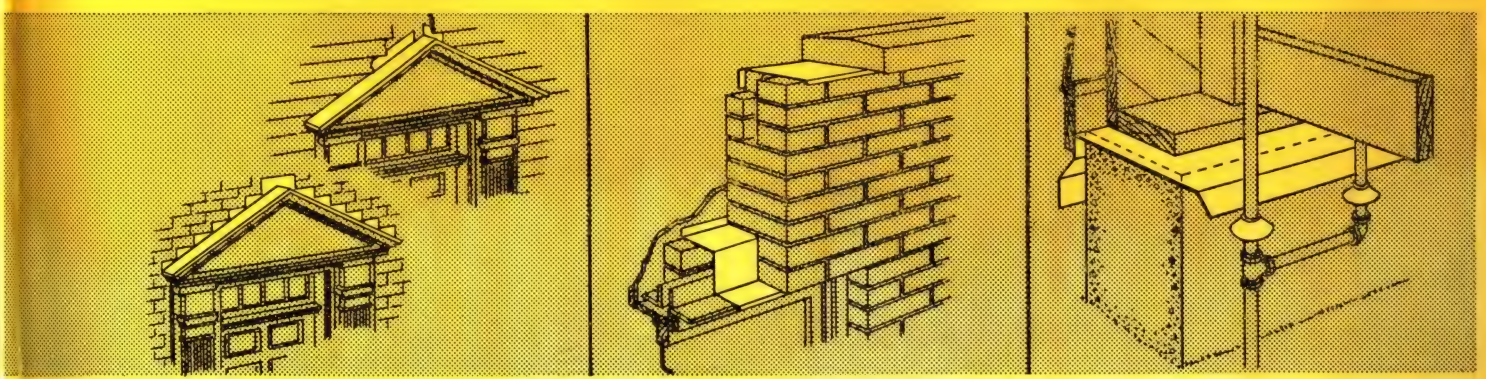
sizes and weights

sheets— come in .020 thickness, 36" x 96", and weighing 18 lb. per sheet. Other gauges available for special purposes.

rolls— come in .020 and .027 thicknesses. The .020 gauge weighs ¾-lb. per sq. ft. and comes in 100-lb. rolls of 133 sq. ft. each. The .027 gauge weighs 1 lb. per sq. ft. and comes in 50-lb. rolls of 50 sq. ft. each.

width, in.	.020 thickness (equivalent to 16 oz. copper) linear ft. per 100 lb. roll	.027 thickness (heavy duty) (equivalent to 20 oz. copper) linear ft. per 50 lb. roll
3	532	—
4	400	—
6	265	100
8	200	75
10	160	60
12	133	50
14	115	—
16	100	—
18	90	—

note: For chimney flashing, as shown on front cover, .027 Heavy Duty ERAYDO ZINC ALLOY should be used.



doorway flashing
.020 ERAYDO serves well to cover the head sections of doorways in either frame, stucco or brick construction.

thru-wall flashing
.020 ERAYDO is recommended. Available in rolls up to 18" wide or in sheets 36" wide.

termite shields
Here, .020 ERAYDO serves to shield foundation and pipes as well.

installation data

The installation of ERAYDO ZINC ALLOY in flashing, roof valley and termite shield operations follows the same general rules which govern the installation of copper. However, the following points should be observed carefully.

forming

Have surface clean and smooth with no burrs on edges. Avoid acute angle bends; they will pinch or cut the metal. Instead, round all bends. In folding ERAYDO back on itself, maintain angle radius similar to the rib in weatherstrip. To do this, insert a forming strip not less than 1/16-inch thick in the fold before bending. ERAYDO is best formed and worked at a temperature above 60°F.

sheet length

Due to the thermal expansion and contraction of ERAYDO with temperature changes, individual sheet lengths are not recommended to be longer than eight feet.

joints

Use conventional methods of joining, such as single or double lock seams. If individual sheets are joined by soldering, expansion joints must be spaced at approximately 15-foot intervals for best results. Be sure to allow for ERAYDO'S greater expansion.

soldering

ERAYDO solders easily. Clean the surfaces to be soldered of all dirt, grease and oxide. Cut or "killed" hydrochloric acid (muriatic) is the best flux, but some resin fluxes can be used also. Use a 50% tin-50% lead, antimony-free solder with a moderately-hot, heavy soldering iron while the surfaces to be treated are still moist with the flux. For best results, do not let iron become red hot and do not apply it longer than necessary. Remove all acid or flux after solder has hardened.

clips

All sheet and strip ERAYDO should be held in place by clips of a size and type determined by construction requirements, rather than by direct nailing. For securing clips, nails should be zinc-coated (hot galvanized) or of solid zinc with large flat heads and sharp points. These should be long enough to penetrate wood sheathing or framing not less than 7/8ths of an inch.

painting

Although no paint is necessary on ERAYDO, if a decorative finish is desired, paint may be applied after metal has weathered. (On new installations, preparations are available that give the surface a "tooth".) The best paint to use is Metallic Zinc Paint (Zinc Dust-Zinc Oxide) which comes in natural gray, red and green. If another color is required, a second coat of house paint should be used over a primer coat of Metallic Zinc Paint. Always clean surfaces before painting by brushing off loose dirt and removing oil or grease with a solvent such as turpentine or mineral spirits.

comparative cost chart

Savings by use of ERAYDO are shown, based on its lower pound price and/or lighter weight per square foot. ERAYDO is approximately 50% less in cost than copper and approximately 65% less in cost than sheet lead.

thickness, inches	Comparative Weights Per Square Foot		
	ERAYDO ZINC ALLOY	Copper	Sheet Lead
.020	¾ lb.	1 lb.	
.027	1 lb.	1¼ lb.	2½ lbs.*

** Weight is based on 1/24" thickness of sheet lead, which is comparable in function to .027 copper or zinc.*

engineering service

A staff of experienced and competent sales engineers is available to advise on the best utilization of ERAYDO ZINC ALLOY for your special application problems. The producers modern research laboratory to cooperate in the handling of of ERAYDO ZINC ALLOY also maintain a well-equipped, special projects.

recent installations of ERAYDO ZINC ALLOY Products

NEW YORK, New York
CENTRAL ISLIP, Long Island
New York State Hospital
CHICAGO, Illinois
Foster Park School
New Prudential Life Insurance Building
FORT MONMOUTH, New Jersey
U. S. Signal Corps
HARTFORD, Connecticut
New England Telephone Co.
IDLEWILD, New York
Boy Scout Headquarters
New York Port Authority
New York Port Authority Building
ITHACA, New York
Cornell University
McKEES, New Jersey
Atlantic City Race Track
NEW BRUNSWICK, New Jersey
Bedloes Island
Grace Church
NEWARK, New Jersey
Sacred Heart Cathedral
PARK RIDGE, Illinois
Resurrection Hospital
PHILADELPHIA, Pennsylvania
Evening Bulletin
PORTSMOUTH, Virgina
Housing Project
SPRINGFIELD, Illinois
Illinois State Capitol Building
STORRS, Connecticut
University of Connecticut
TROY, New York
Troy Housing Project
WHITE PLAINS, New York
Saks 5th Avenue
All States Insurance Co.
WILMINGTON, Delaware
Pepsi-Cola Company

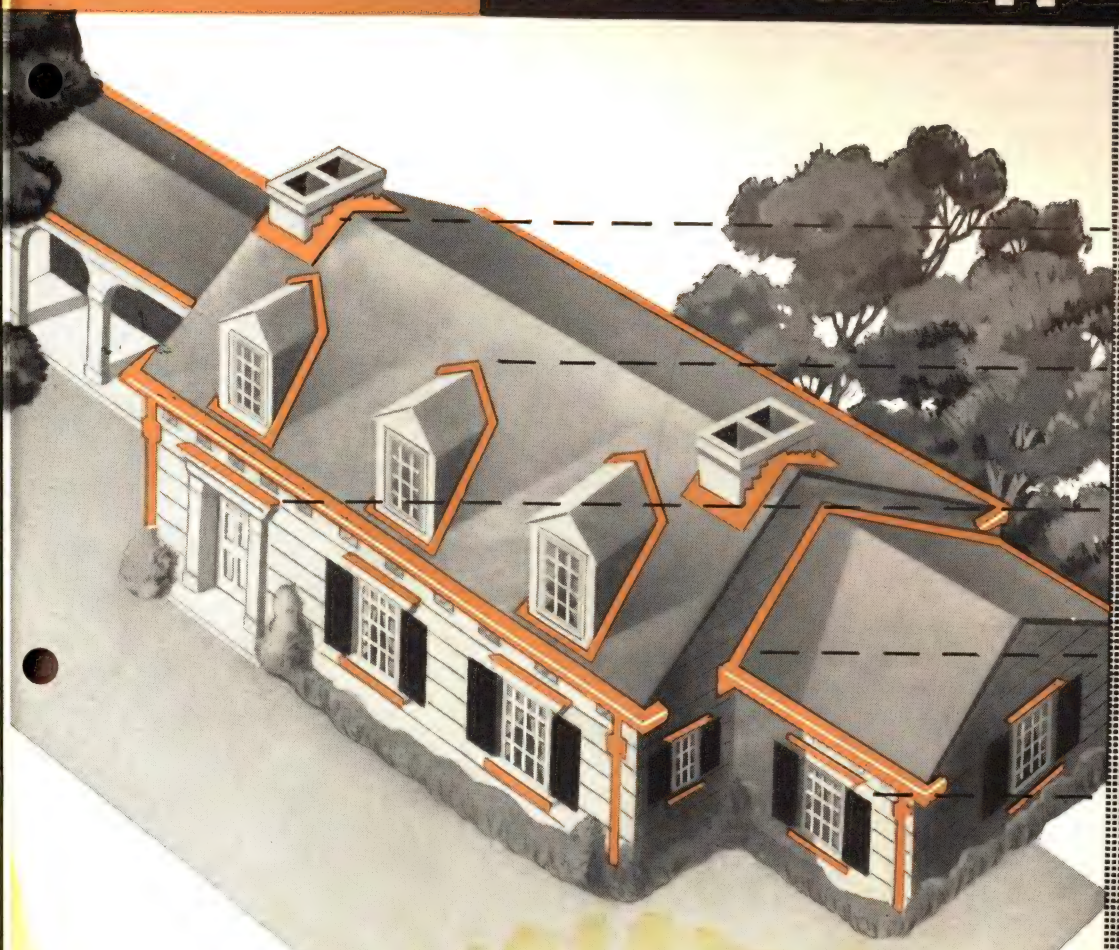
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Revere

5-point flashing protection with Revere copper



1 chimney joints

2 roof joints (valleys)

3 door frame joints

4 roof-and-wall joints

5 window frame joints

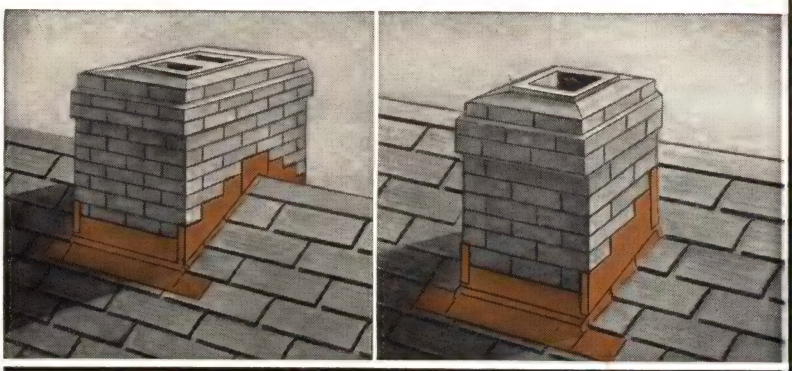
Copper today takes its place as a standard flashing material—even for low and moderately priced homes. Because of the high labor cost of replacement, builders today see clearly the advantages of using copper—long-lived and rust-free—at all vital points exposed to the elements. They further appreciate that the use of copper flashing is a potent selling impetus.

Revere Copper and Brass Incorporated

1955

5 major joints that must be permanently weather-sealed

1 ***chimney joints***—where chimney passes through either ridge or slope of roof. These joints are subject to rain, snow and wind from every direction. They require flashing to produce tight seals between masonry and roofing material. It is therefore imperative that the metal used for this flashing be durable; that it remain rust-free, unaffected by the elements. Revere copper for flashing chimneys overcomes rust troubles; it makes possible tight, trouble-free joints for the life of the house. (Also used for vent stack flashing.)



2 ***roof joints (valleys)***—where main roofs intersect or where dormer roof meets main roof. These valleys carry rain water of great volume and force. They require water-tight sealing to prevent penetration of water or moisture. Because the valley flashing is installed *under* the roofing material—and repair would be costly—the flashing must be permanent, immune to rust. Rustable metal would eventually cause leaks and resulting damage to walls and ceilings. Copper flashing, properly installed, assures tight, lasting seals.



3 ***door frame joints***—where door frame meets exterior wall. A mighty vulnerable point—especially if door is unprotected by overhanging roof or portico. Because the door frame joint stands exposed to the elements, it requires flashing that remains tight against heavy rain or driving wind. Because this flashing is set in place *before* the door frame is installed, it is logical that it be made of durable, permanently rust-free copper —and thereby prevent water or moisture penetration year after year.



4 ***roof-and-wall joints***—at intersection of sloping roof and vertical frame wall. Protection at this point is known as "adjacent wall flashing." This joint needs tight sealing against heavy rain, melting snow, high wind. Leakage would mean damage to walls and ceilings. Because this flashing is installed *under* both roofing material and siding, replacement would be difficult, expensive. It is therefore logical that this flashing be made of permanently rust-free copper.



5 ***window frame joints***—where window frame meets exterior wall. Rain is driven against this highly vulnerable point. Likewise rain and melted snow run down the exterior wall to seek access through imperfectly sealed joints. Because sill flashing is installed *before* frame is set in place, it is imperative not only that the flashing form a water-tight contact—but that it remain *permanently* free from rusting and resulting troubles. Head flashing, installed *after* frame is set, likewise requires a permanently rust-free metal. Copper flashing therefore is the logical metal for flashing window frame joints.



Sill flashing is carried down behind clapboards and is not visible; shown above for placement only.

other uses of copper

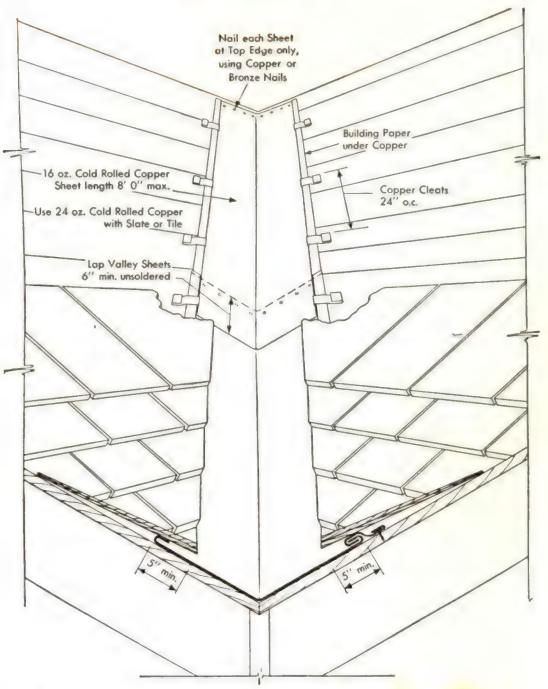
There are 5 vital joints in the average small house where effective and lasting flashing protection is necessary. These are shown and discussed at the left. There are, however, many other places where copper, due to its long life and resistance to corrosion, is highly recommended:

hip and ridge flashings
gutters and conductor pipe
eave snow flashings
roofs: flat seam, standing or batten seam
termite shields
roofs of bay windows

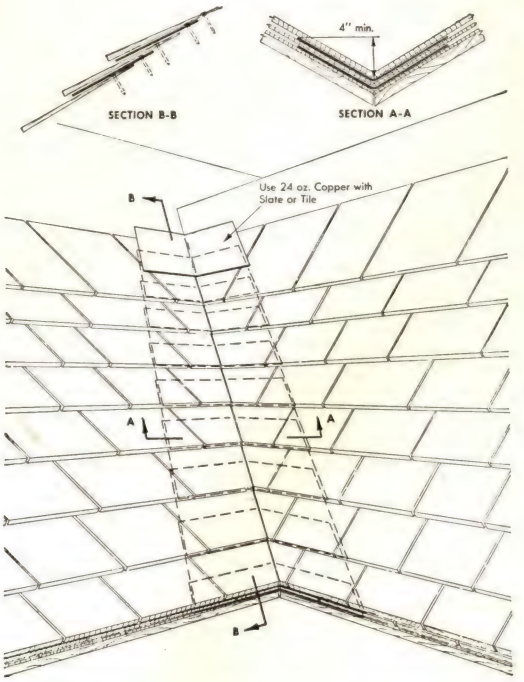
sheet copper construction problems solved by Revere research

Even a product with the virtues of copper (long life, easy workability, resistance to corrosion) will give entirely satisfactory service only if properly used. For several years, Revere Copper and Brass Incorporated, America's oldest and largest roller of sheet copper, has been conducting applied research in the proper use of copper sheet in building construction. Today, as a result of this practical work, Revere has compiled data on the use of copper for all types of buildings—from the smallest cottage to the largest skyscraper or monumental building. For full information on Revere sheet copper get in touch with your distributor or with the nearest Revere Office (list on back cover).

typical flashing details



This detail shows a method of flashing an open valley for usual conditions where the intersecting roofs have equal slopes of not less than 6" rise per foot of run and a resulting valley slope of not less than 4¼" per foot of run. The open portion of the valley should be not less than 5" wide at the top, increasing in width ⅛" per foot toward the eaves. The copper should extend 5" under the shingles on each side. The side edges should be folded for cleating, as well as to raise the shingles from contact with the surface of the copper to prevent line corrosion. The flashing sheets should not exceed 8'-0" in length. The ends of sheets should lap at least 6" in the direction of flow for valley slopes of 4½" or more per foot. Each sheet is held in place by cleats hooked over the folded side edges, the cleats being nailed to the roofers. The top only of each sheet is fastened by copper or bronze nails 3" o.c.



When a closed valley is laid on a slate, tile or shingle roof, the method illustrated is employed to flash the valley. Closed valleys should be used where the valley slope is less than 4½" per foot or where an unequal quantity of water is delivered into the valley by intersecting roofs of different areas or slopes. In such cases water from one side may force its way past the opposite edge of the open valley flashing. Separate pieces of copper are inserted with each course. The flashing pieces should extend at least 9" under the roofing on both sides and the effective gutter depth should be not less than 4" in a section at right angles to the center of the valley as shown in Section A-A. The copper flashing pieces should be as long as the diagonal of the slate, tile or shingle at the center of the valley. Each piece should be secured to the roof deck with copper or bronze nails placed at the upper edge without penetrating the roofing material. The bottom edge of each flashing piece should be ½" short of the butt of the slate, tile or shingle in the succeeding course as shown in Section B-B.

also permanent

gutters, downspouts

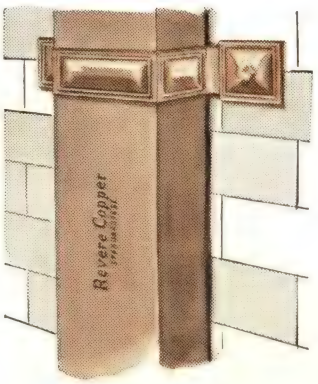
of Revere copper



Gutters and downspouts fed by the valleys and roof surfaces are also subjected to the corrosive effects of water, wind, wear—and air. If made of rustable metal, these gutters and downspouts will eventually leak—and thereby permit the rain water to run down and streak the walls, and to seep through framing and brick work. Replacement and repair are costly.

Copper gutters and downspouts do not rust, are long-lasting. They remain unaffected by the elements. They do not require protective painting but may be painted to harmonize with exterior decoration. Over a period of years, their cost is decidedly less than those made of rustable metal. They indicate *quality* construction.

In installing copper gutters, adequate provision should be made for expansion. Each gutter section should be connected to its downspout and be of adequate capacity.



Copper gutters, leaders, troughs, leader straps and other accessories are not manufactured by Revere Copper and Brass Incorporated. However, a list of reputable fabricators using Revere Copper will be furnished upon request.

Revere Copper and Brass Incorporated

Executive Offices: 230 Park Avenue, New York 17, N. Y.

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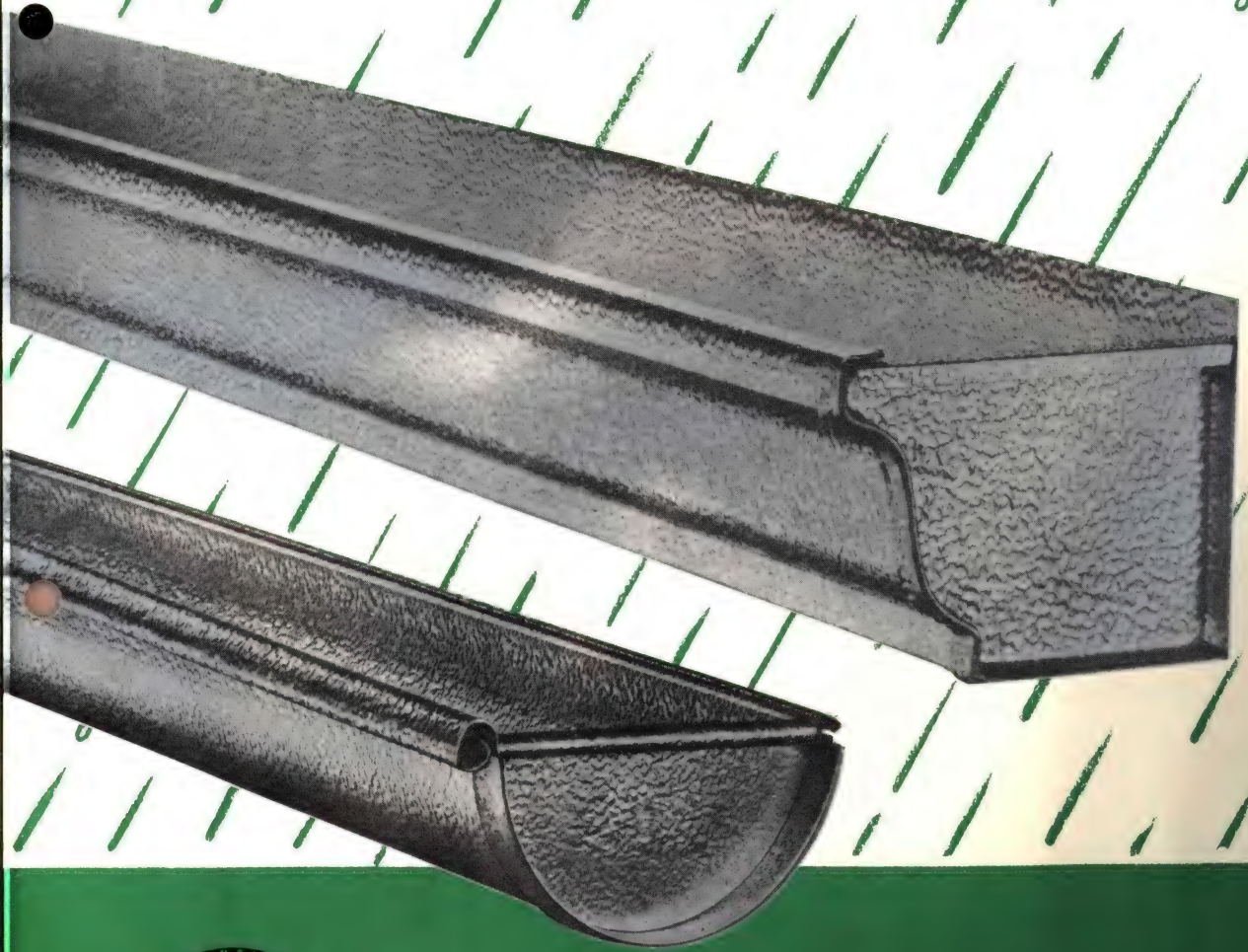
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■ division offices and mills

July 1, 1954

REYNOLDS *Lifetime* ALUMINUM
TRADE MARK

GUTTERS
and
DOWNSPOUTS



First Choice... for Performance and Economy

NEED NO PAINT FOR WEATHER PROTECTION • RUSTPROOF
BEAUTIFUL • NON-TOXIC • NO MAINTENANCE WORRIES
LOW INITIAL COST • EASY TO INSTALL • NO WALL STAINS

Copyright 1954, Reynolds Metals Co.

the first low-priced permanent gutter

Here are gutters and downspouts that are *permanent*. Reynolds *Lifetime* Aluminum Gutters and Downspouts *can't rust*. They will remain attractive year after year and do not require painting for weather protection. They are beautiful in their natural smooth or *embossed* aluminum finishes, but they can be painted if desired.

Lifetime Aluminum does away with the eye-sore of stains . . . the brown of rust or the green of corrosion on walls. In weathering aluminum forms a thin film of oxide which protects the surfaces. This oxide is *non-toxic*. Water drained from aluminum is pure, an important advantage in rural communities.

The gutters are light and strong . . . ⅓ to ½ lighter than former materials traditional for gutters and downspouts. They are easier to handle, lighter on the hangers and the nails that hold them, lighter on the eaves.

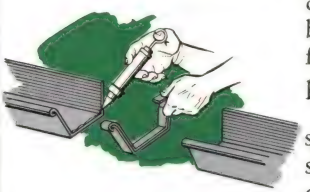
The immediate and sensational success of Reynolds *Lifetime* Aluminum Gutters is proof that home owners and builders everywhere are eager for the special advantages of aluminum.

REYNOLDS SLIP-JOINT INSTALLATION REQUIRES NO SOLDER, SAVES TIME

1. Remove old gutter and fittings. Repair or replace eaves and fascia boards if necessary. Apply aluminum flashing to roof deck along the eaves underneath the roofing. Allow flashing to extend down approximately 2″ past the edge of the deck, to form a drip edge.

2. Start at corner or end. Make up assembly of trough and fittings on ground to correspond with roof measurements.

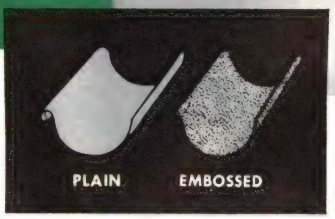
3. Apply Reynolds Aluminum Mastic to openings in all slip connectors and end caps. The mastic is quickly and easily applied from the collapsible tube container. The pointed nozzle on the tube allows rapid application of the mastic without smearing or waste. Mastic is also available in ½ pint and 1 quart cans, and may be applied to the connectors and end caps by means of a putty knife, wooden paddle or screwdriver. After joints have been assembled, seal by applying additional fillet of mastic at each assembly point.



In locations subjected to severe snow or ice conditions, end caps and slip connectors may be further secured to trough sections by two No. 8 sheet metal screws at each assembly point. Install the screws at front of trough approximately ½″ from the top, and at rear approximately 2″ from the top. Be sure each screw passes through the flanges of end cap or connector and through the trough far enough from the end to assure a firm connection. Holes for the screws may be pierced or drilled.

Available in two attractive styles.....





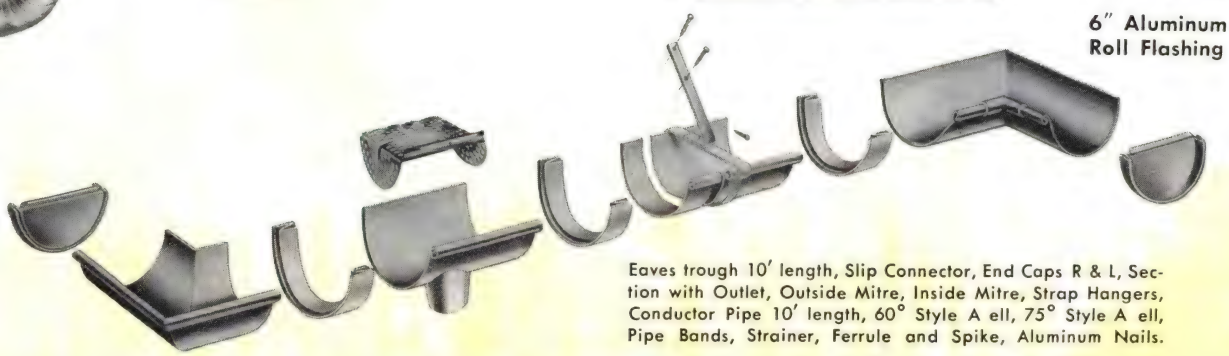
HALF-ROUND GUTTER

Plain or Corrugated Round Conductor Pipe, 3″ Diameter





6″ Aluminum Roll Flashing

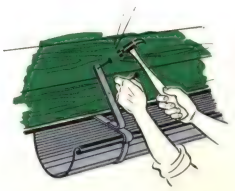


Eaves trough 10′ length, Slip Connector, End Caps R & L, Section with Outlet, Outside Mitre, Inside Mitre, Strap Hangers, Conductor Pipe 10′ length, 60° Style A ell, 75° Style A ell, Pipe Bands, Strainer, Ferrule and Spike, Aluminum Nails.

REYNOLDS *Lifetime* ALUMINUM

4. Hang first length of trough with end cap or corner mitre attached. Attach hangers firmly to trough, spacing them at 2½′ intervals. To attach the half-round hanger, pass the wrapper part of the hanger around the under side of the trough from front to rear. Pass the end of the wrap through the slot in the upper part of the wrapper and bend back on itself, maintaining sufficient tension to insure a secure attachment. Attach the Ogee hanger by driving a sheet metal screw through the back of the trough into the hanger, and fastening the hanger to the front of the trough by means of the machine screw and nut, installed with the head of the screw on the outside of the trough. Holes in the trough for the screws may be drilled or pierced. Continue assembly, joining successive sections with slip connectors, and finishing course with end cap or corner mitre. In localities not affected by snow and ice loads, spacing of hangers may be increased to 3′ intervals.

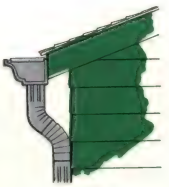
5. Use two aluminum nails for each strap hanger and nail firmly to roof sheathing. Locate straps over roof rafters where possible for secure attachment. Insert hanger straps under roofing where convenient. Nail back of gutter to fascia board between hangers.



6. Stainless steel gutter spikes and aluminum ferrules may be used as alternate means for attaching Ogee gutter. The spike is driven through the front face of the gutter at the top, through the ferrule which is placed horizontally inside the gutter, and through the back of the gutter into fascia board or rafter end. The spike should be driven to a snug fit, but not tightly enough to damage or deform the ferrule. Spacing for spikes should be the same as for strap hangers. Galvanized steel gutter spikes may be used as an alternate for stainless steel spikes. After installation, the heads of all galvanized steel spikes should be coated with aluminum-pigmented paint or mastic.

7. Locate sections with outlet at points where conductor pipes are to be placed. These are usually near ends or corners of gutter, or at center of a long run. Generally, one outlet section should be installed for every 700 square feet (maximum) of roof area if round conductor pipe is used, or one section for every 600 square feet (maximum) if rectangular pipe is used. Slope gutter toward outlet. A slope of 1″ in 16′ is sufficient.

8. If necessary, install elbows at outlet to bring conductor pipe against wall of building. A short length of conductor pipe may be used between elbows to give proper offset.



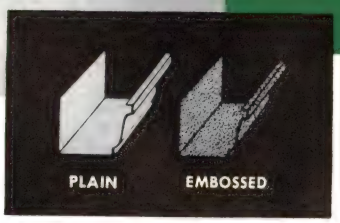
9. To hold conductor pipe in place, use two aluminum conductor pipe bands per 10′ length of pipe. Bend bands to shape of pipe and nail each band in place with 1¾″ aluminum nails. Bands must be sufficiently tight to hold pipe securely in place.

10. Use a perforated aluminum strainer at each outlet section to prevent clogging of pipe.

11. Where aluminum contacts dissimilar metals or masonry, coat contacting surfaces with aluminum-pigmented paint or mastic. *Do not make mixed installations of aluminum and copper products. Do not use steel, copper or any other than aluminum nails for strap hangers and conductor pipe bands.*

12. For information on cold solder method of installation write Reynolds Metals Company, Building Products Division, Louisville 1, Ky.





in two popular finishes

O. G. BOX GUTTER



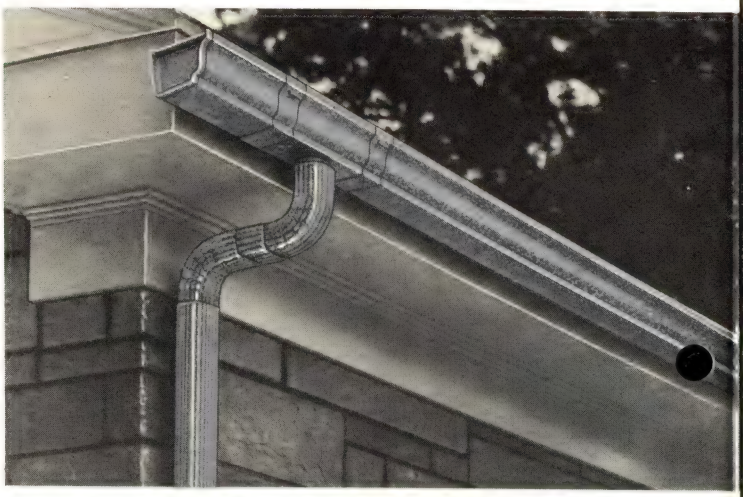


Eaves trough 10′ length, Slip Connector, End Cap Section with Outlet, Outside Mitre, Inside Mitre, Strap Hangers, Conductor Pipe 10′ length, 60° ell, 75° ell, Pipe Bands, Strainer, Aluminum Nails.

REYNOLDS *Lifetime* ALUMINUM

GUTTERS and DOWNSPOUTS







How to specify

Eaves trough, conductor pipe, and accessories shall be manufactured of aluminum material of uniform quality and free from harmful defects. The aluminum material and the fabricated parts shall meet the pertinent specifications of the Reynolds Metals Company as to alloy and temper, dimensions and workmanship.

EAVES TROUGH shall be the hanging type, half-round (or O.G.) in plain (or embossed) finish aluminum in a nominal thickness of .027". Joints shall be "slip connector" type. The following accessories in aluminum shall be provided as required: end caps, slip connectors, sections with outlet, mitres, hangers, perforated strainers, nails, and sheet metal screws. Alternate material for sheet metal screws shall be stainless steel. Sheet metal screws shall be type "A", No. 8 x ⅜".

CONDUCTOR PIPE shall be plain round (or corrugated round or rectangular) in plain (or embossed) finish aluminum having a nominal thickness of .020". Conductor pipe and elbows shall have one end crimped to fit into adjoining piece. Drop portion of section with outlet shall extend into conductor pipe or elbow the distance necessary to insure a tight fit.

HANGERS—Strap hangers for eaves trough shall be aluminum of the specified thickness. An alternate material for half-round strap hangers shall be stainless steel. Spikes for attaching O.G. gutter shall be stainless steel of .177" minimum diameter and minimum length of 7". Alternate material for spikes shall be galvanized steel. Bands for attaching conductor pipe shall be of aluminum of .032" minimum thickness.

THE MOST COMPLETE LINE OF ALUMINUM BUILDING PRODUCTS

CORRUGATED ROOFING AND SIDING • NAILS
RIBBED EMBOSSED SIDING • WEATHERBOARD SIDING
WINDOWS • 5-V AND 8-V CRIMP ROOFING AND SIDING
GUTTERS AND DOWNSPOUTS • FLASHING
INDUSTRIAL CORRUGATED • REFLECTIVE INSULATION
GARAGE DOORS • COMPLETE ROOFING
AND SIDING ACCESSORIES

REYNOLDS METALS COMPANY

(Contact your nearest Building Products Sales Office listed below or write direct to Building Products Division, 2000 So. Ninth Street, Louisville 1, Kentucky.)

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BP-310-J—10/54

Litho in U. S. A.

PLYALOY®

paint-grade OVERLAID fir plywood SIDING



ST. PAUL & TACOMA LUMBER CO. TREE LIFE FOREST PRODUCTS ESTABLISHED 1888

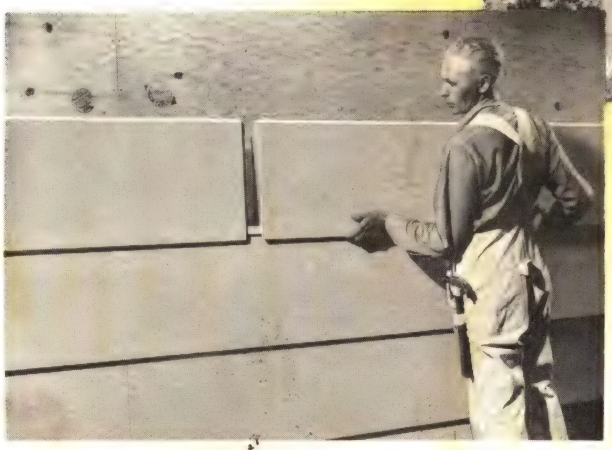
Exterior plywood with highly paintable fused resin-fiber surfaces. Pre-cut to siding widths, lower edge beveled for drip. Packaged by the square, complete with wedges and furring strips.

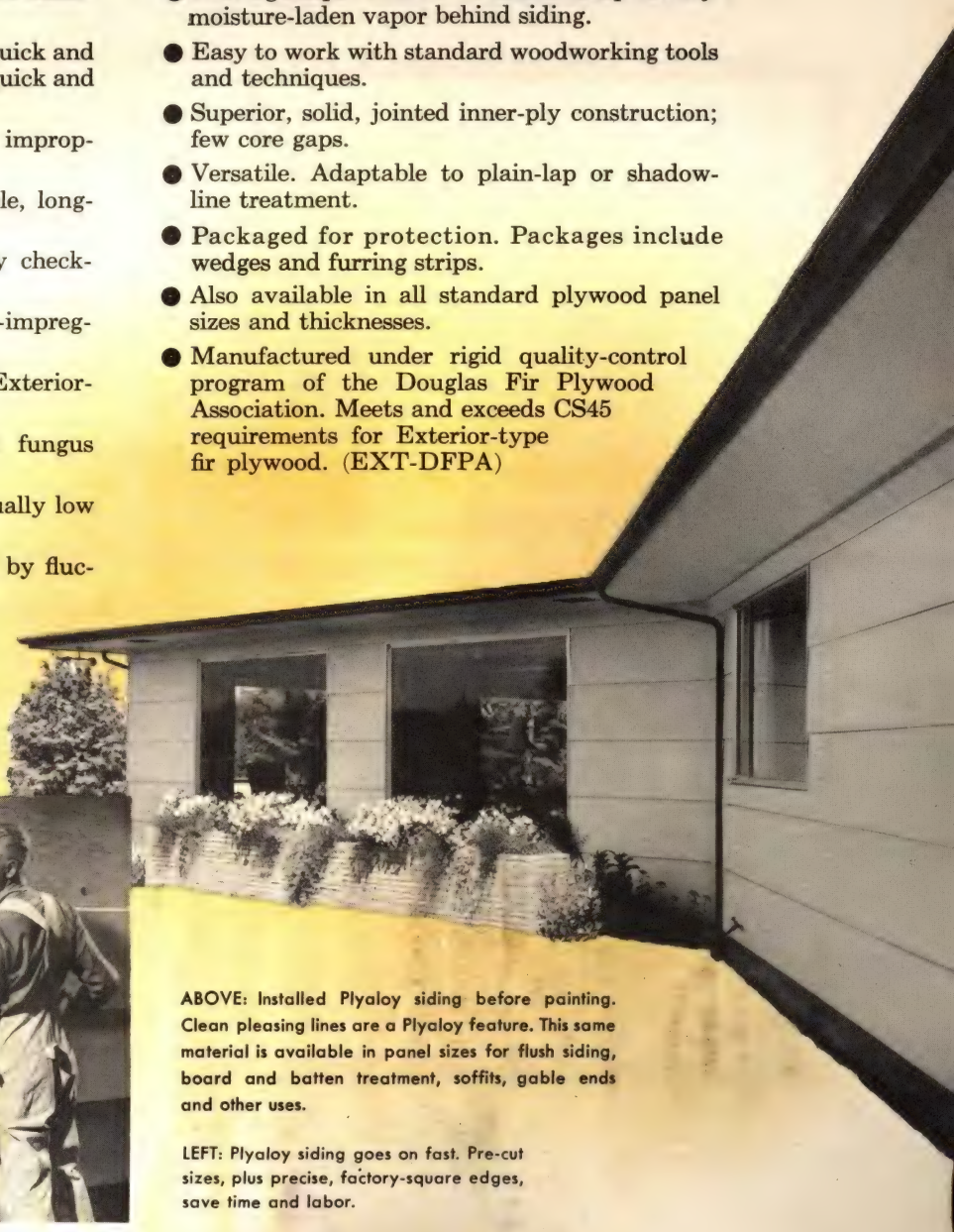
SMOOTH ★ GRAINLESS ★ CHECK-RESISTANT ★ HOLDS PAINT LONGER

Adds *Visible Value* to Any Structure!

- Wide widths permit scale on siding not otherwise obtainable.
- Economical because of these reasons: quick and easy to apply; saving time and labor; quick and easy to paint and to maintain.
- No danger of paint blisters caused by improperly conditioned wood.
- Excellent, uniform "tooth" for durable, long-lasting paint bond.
- Smooth, grainless surface—thoroughly check-resistant.
- Weatherproof surface is phenolic-resin-impregnated fiber.
- Surface permanently bonded to the Exterior-type base panel.
- Highly resistant to all vermin and fungus growths.
- Fused resin-fiber surface means unusually low moisture absorption.
- Unaffected by heat, cold; undamaged by fluctuations in weather.
- Furring strips "vented" to assure escape of any moisture-laden vapor behind siding.
- Easy to work with standard woodworking tools and techniques.
- Superior, solid, jointed inner-ply construction; few core gaps.
- Versatile. Adaptable to plain-lap or shadow-line treatment.
- Packaged for protection. Packages include wedges and furring strips.
- Also available in all standard plywood panel sizes and thicknesses.
- Manufactured under rigid quality-control program of the Douglas Fir Plywood Association. Meets and exceeds CS45 requirements for Exterior-type fir plywood. (EXT-DFPA)

The Surface Makes The Difference!





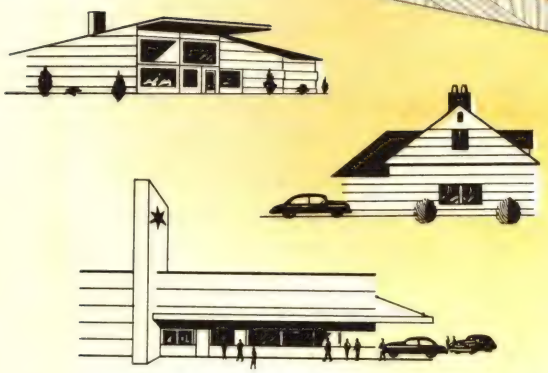
ABOVE: Installed Plyaloy siding before painting. Clean pleasing lines are a Plyaloy feature. This same material is available in panel sizes for flush siding, board and batten treatment, soffits, gable ends and other uses.

LEFT: Plyaloy siding goes on fast. Pre-cut sizes, plus precise, factory-square edges, save time and labor.

PLYALOY® SIDING

Another Member
of the Famous
TREE LIFE
Forest Products Family

ST. PAUL & TACOMA LUMBER CO. · TREE LIFE FOREST PRODUCTS · ESTABLISHED 1888



Pre-cut 12", 16" and 24" Plyaloy siding widths make it adaptable to any style of architecture—any type of building.

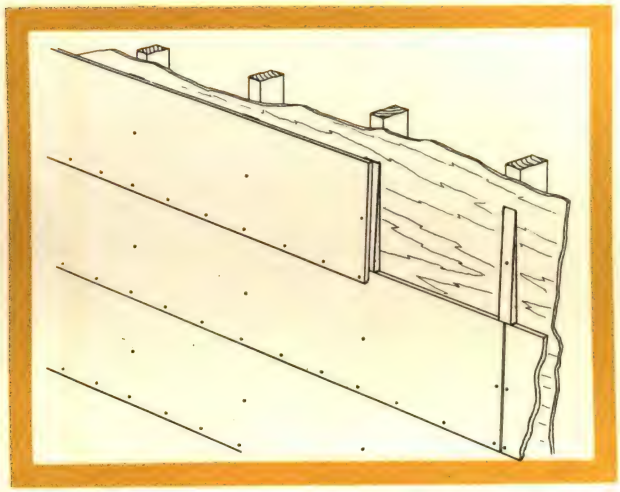
DESCRIPTION—Plyaloy is medium-density phenolic resin overlaid Exterior fir plywood (EXT-DFPA). The smooth, durable overlay has the "tooth" and texture of expensive drawing paper to provide the very finest base for good looking, long-lasting paint finishes. It virtually eliminates paint failure due to grain raise or surface checking.

SURFACING, INNER PLYS—Plyaloy pre-cut siding is normally surfaced on one side. It may be ordered surfaced on both sides. (Standard 4′ x 8′ panels are also available surfaced on one or both sides.) Inner plys are almost entirely solid veneer; core gaps and voids are held to an absolute minimum.

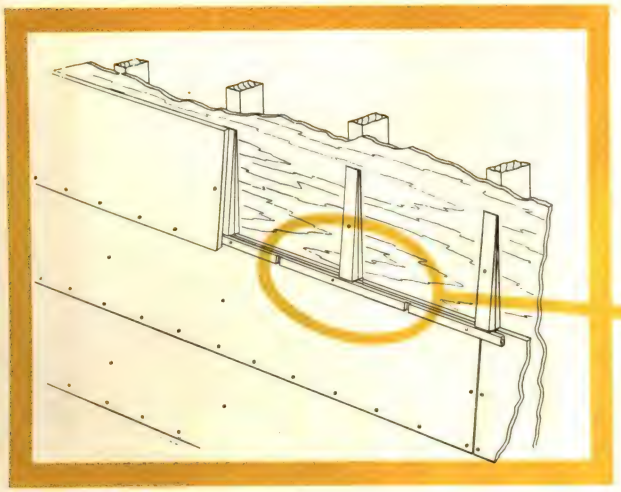
PACKAGING, SIZES—Pre-cut Plyaloy siding is packaged in sturdy corrugated cartons for protection and ease of handling. Each package contains enough material to cover 100 sq. ft. of wall area, plus all necessary wedges and furring strips. Edges are beveled 15°-20° for drip. Comes in the following standard sizes.*

Width	*Thickness*	*Length*	*Pcs. Per Carton*
12″	5/16″	8′	15
16″	3/8″	8′	11
24″	3/8″	8′	7

*Other sizes and thicknesses on special order.



PLAIN LAP



SHADOW LINE

SAMPLE SPECIFICATIONS

1. MATERIAL: Exterior siding shall be Plyaloy, 3/8″ x 16″, faced one side (F1S), as manufactured by St. Paul & Tacoma Lumber Company, Tacoma, Washington.

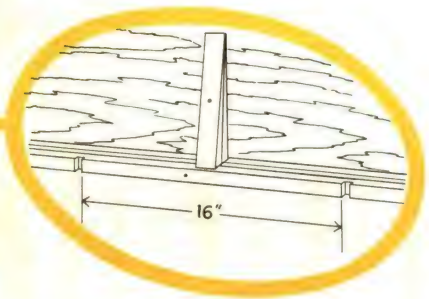
2. APPLICATION: (May be based on minimum recommendation, bottom opposite page.)

3. PAINTING: (May be based on miminum recommendation, bottom opposite page.)

Application Suggestions

1. THICKNESS

Panels 5/16″-thick may be used over sheathed walls in meeting FHA Minimum Property Requirements for studs 16″ or 24″ o.c. For unsheathed walls, 3/8″ Plyaloy should be used for studs 16″ o.c., 1/2″ Plyaloy for studs over 20″ o.c.



Slots cut in furring strips 16″ o.c. to provide ventilation of any possible moisture vapor behind siding. Place so vents occur between studs.

Specifications and Application Suggestions

2. RECOMMENDED LAP

Lap should be adjusted to assure even exposure of siding courses. Minimum lap of 1-1/2″ is recommended for 12″ siding, 2″ lap for 16″ and 24″ siding.

3. SUPPORTING WEDGES

For plain lap, wood wedges should be used under all vertical joints and on all intermediate studs for both sheathed and unsheathed walls. Use double wedges and furring strips for deep shadow line effect. (See detail.)

4. NAILS AND NAILING

All nails should be hot-dipped galvanized or aluminum. For nailing on stud lines and at vertical joints use 6d casing or common for panels up to 3/8″-thick, 8d for 1/2″ Plyaloy. Along horizontal lap between studs, 4d may be used. The following nailing schedule is recommended:

12″ siding . . . . . 6″ o.c. vertically
16″ and 24″ siding . . . . . 8″ o.c. vertically
All siding . . . . . 5″ o.c. along bottom edge through lap. Clinch on unsheathed walls.

Flat head nails should be driven flush. Casing nails may be flush or set and puttied. Avoid hammer marks on overlay.

5. VERTICAL JOINTS

Vertical joints should be placed over studs and staggered. Back solidly with wedge. Do not butt tight; leave about 1/32″ space between panels. This expansion space may be filled with non-hardening mastic or caulking compound, if desired.

6. CORNERS

All corners should be butted against corner boards or covered with metal corners. Back solidly with wood wedge and caulk joint.

7. PAINTING

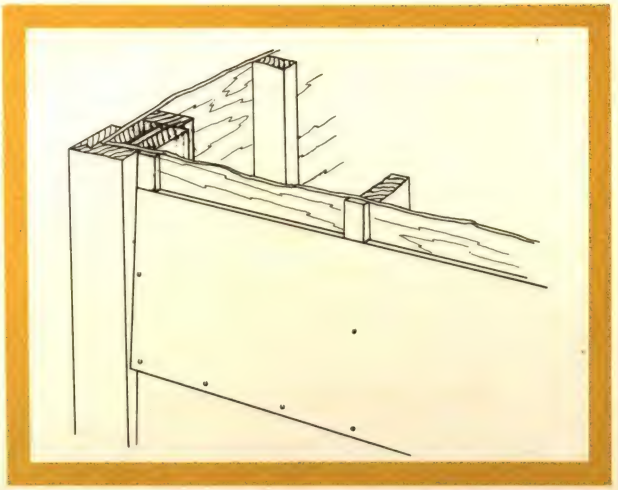
Although it is not intended for permanent exposure without paint, Plyaloy easily withstands even the most severe weathering that may be encountered during construction.

Use only high quality exterior house paints applied according to manufacturer's directions. Use prime coat and at least one finish coat. For best results, paint only during favorable weather.

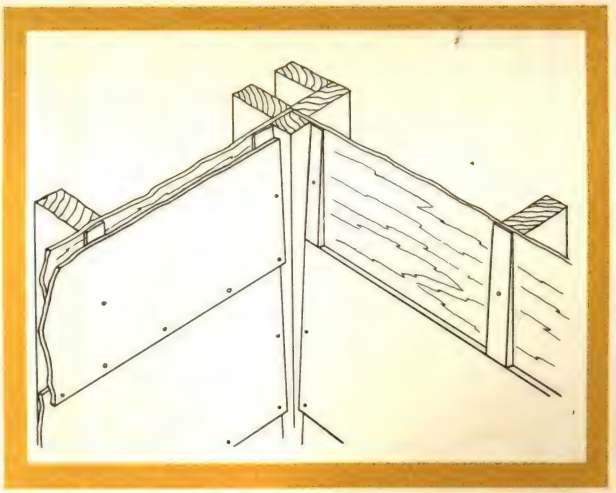
Plyaloy painted with one or more coats forms an effective vapor barrier. For best construction include a vapor barrier on the *warm* side of wall and apply standard ventilating precautions to prevent condensation. If building paper is used between siding and sheathing, it should be non-vapor barrier type.

Important: All edges should be sealed *before* application. House paint primer; aluminum house paint; or paint made of 100 lbs. white lead paste, 1-3/4 gals. raw linseed oil and 1 pt. drier may be used. Brush on without thinning.

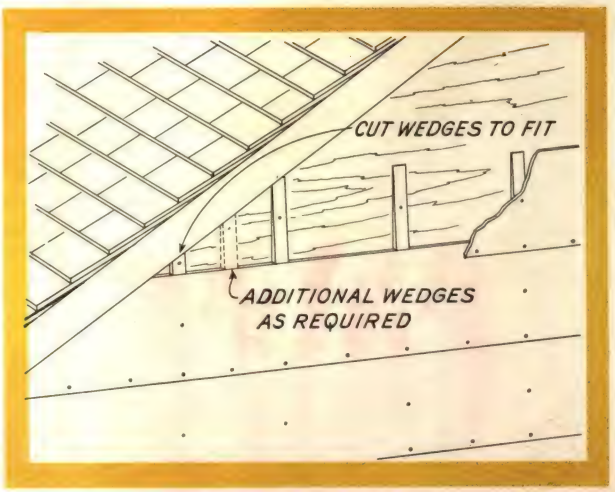
To insure best performance of paint, panels should be back primed with conventional primer or one coat of aluminum house paint. A thorough treatment of siding with a paintcble water repellent is also effective, but is not a substitute for a prime coat of paint.



OUTSIDE CORNER



INSIDE CORNER



SLOPING ROOF

HERE'S PROOF OF PLYALOY'S SUPERIOR PAINT SURFACE



Plyaloy's smooth, even "tooth" permits fast, even paint coverage. Paint lasts longer, looks better. For siding, use prime coat and at least one finish coat. Make sure to seal all edges.



Lower half of panel above is Plyaloy, upper half is unsurfaced. Entire left side has been given 1 coat white primer. Note uniform coverage and lack of grain pattern on Plyaloy.



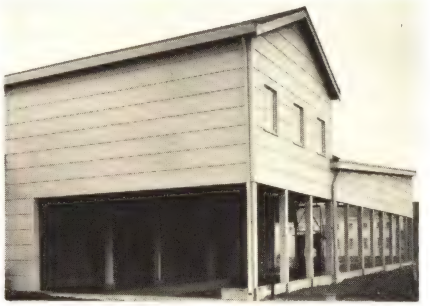
Prolonged exposure on DFPA outdoor exposure fences proves durability. After four years severe weathering, no sign of checking or grain show-through is evident on Plyaloy sections.



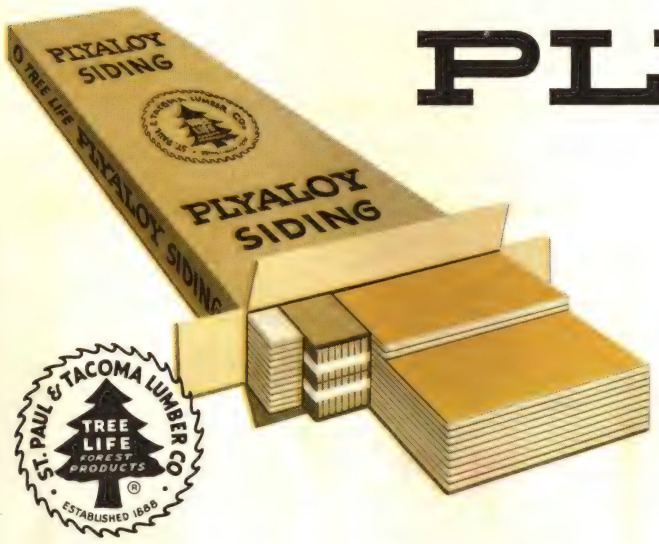
"Plyaloy siding is a definite sales feature," says midwest builder. "It paints well, has unusual and interesting scale." Over 100,000 sq. ft. of Plyaloy siding was used on this 82-home project.



Pre-cut Plyaloy siding on this three year old West Coast home looks as good as the day it was painted, despite hot summers and cold damp winters. Note clean, crisp lines.



On warehouses, industrial and commercial buildings, Plyaloy pre-cut siding helps cut application and finishing time and costs, insures a long life and low maintenance costs.



Plyaloy siding is packaged in sturdy corrugated cartons for protection, ease of handling. Each package contains enough material to cover 100 sq. ft., plus all wedges and furring strips.

PLYALOY®

paint-grade OVERLAID plywood SIDING

From vast timber resources and tree-farm reserves—managed to insure perpetual timber crops—come basic forest products which carry the famous TREE LIFE trademark. St. Paul & Tacoma Lumber Co., founded in 1888, is today an integrated operation embracing logging, lumber and plywood manufacturing, with a continuing research program directed toward constantly improved products. Lumber manufacturing plant and general offices are in Tacoma. The modern plywood factory is at Olympia, Washington. St. Paul & Tacoma Lumber Co. is a member of West Coast Lumberman's Association and Douglas Fir Plywood Association.

ANOTHER MEMBER OF THE FAMOUS ***TREE LIFE*** FOREST PRODUCTS FAMILY

MANUFACTURED BY ST. PAUL & TACOMA LUMBER COMPANY

For further information on Tree Life® forest products, write to St. Paul & Tacoma Lumber Company, Tacoma, Washington



- ASPHALT SHINGLES
- ROLL ROOFINGS
- ROLL SIDINGS
- INSULATED ASPHALT SIDING
- ASBESTOS-CEMENT SHINGLES
- SHEATHINGS AND BUILDING PAPERS
- DAMP-RESISTANT COATINGS
- BUILT-UP ROOFING MATERIALS
- PROTECTIVE PAINTS AND COATINGS
- WOOD PRESERVATIVES
- ROCK WOOL INSULATION
- INSULATING BOARD PRODUCTS

Barrett

Building Products

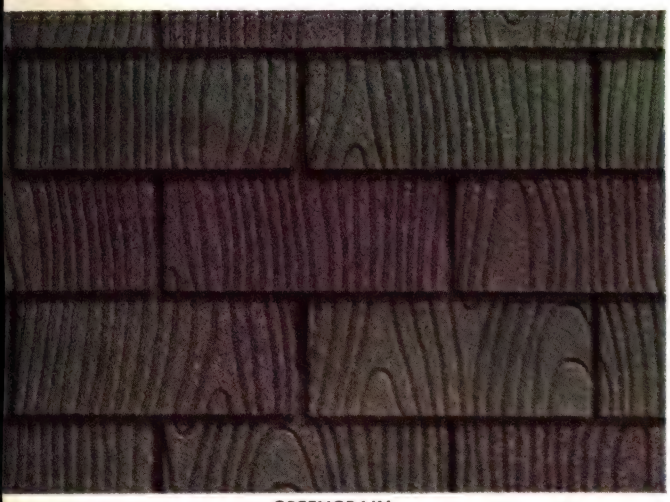
Barrett Asphalt Shingles



REDGRAIN

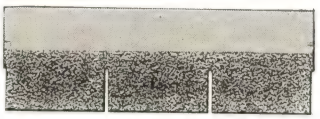


SLATEGRAIN



GREENGRAIN

• *The need for an attractive, efficient and fire-resistant but low cost roofing for residential construction is responsible for the popularity of Barrett Asphalt Shingles among architects and builders. Made with the technical expertness which has been traditional with Barrett's famous built-up roofing, they represent over 100 years of scientific roofing development which has made Barrett "the greatest name in roofing."*



DUBLECOTE MULTI-SHINGLES

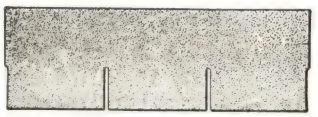
This is a three-butt, heavy duty strip shingle. Strengthened and reinforced by a second asphalt coating and an extra layer of mineral granules at the butt, DUBLECOTE MULTI-SHINGLES are fire-resistant and provide exceptionally long life and efficient weather-proofing. This double-thick construction extends almost 2″ up beyond the exposed portion of the shingle. Thus Barrett DUBLECOTE MULTI-SHINGLES are thickest and strongest where the greatest wear is to be expected. This double coating and mineral surfacing combine to seal in the waterproofing oils in the felt base, adding years of useful life. DUBLECOTE MULTI-SHINGLES are available in a number of solid colors and blends. Both plain and weathergrain finish are offered.



SPECIFICATIONS

Size 12″ x 36″; 2″ Headlap; 5″ Exposure; Approx. Wt. per Square— 210 lbs.; Shingles per Square – 80; Bundles per Square – 3; Approved by Underwriters' Laboratories.

COLORS: Reds, greens, blues, grays and blue-black in solid colors, pastels and blends. Also snow white. (Complete color information may be obtained by writing Barrett.)



Giant Weight MULTI-SHINGLES

A three-butt, heavy duty strip shingle, the Giant Weight MULTI-SHINGLE is strengthened and reinforced by a second asphalt coating and an extra layer of mineral granules. This additional protection and weight extends over the *full surface* of the shingle and adds years of useful life to the roof, improving its weather-resistant and insulating qualities.

SPECIFICATIONS

Size 12″ x 36″; 2″ Headlap; 5″ Exposure; Approx. Wt. per Square – 250 lbs.; Shingles per Square – 80; Bundles per Square – 3; Approved by Underwriters' Laboratories.

COLORS: Reds, greens, gray, blues and blue-black in solid colors and blends. (Complete color information may be obtained by writing Barrett.)

ANCHOR-LOK, DUBLECOTE, DURA-LOK, S.I.S, EVERLASTIC, PANAMOID, WALKOVER, SPECIFICATION, BARRETT, ELASTI-GUM, BLACK SHIELD, VB, JACK FROST, "NOX-'EM-ALL", MULTI-SHINGLES, ARE REGISTERED TRADE MARKS OF ALLIED CHEMICAL & DYE CORPORATION



PASTEL BLUE



PASTEL RED



PASTEL GREEN



SNOW WHITE

LIGHTER, BRIGHTER *Pastel Colors, too*

Barrett's DUBLECOTE MULTI-SHINGLES also come in five pastel shades – Pastel Blue, Pastel Green, Pastel Red, Pastel Gray and Snow White, four of which are shown in the full-color illustrations above.

Homes roofed with Barrett Asphalt Shingles in one of these Pastel Colors, benefit in several important ways:

- *The Pastel Color will reflect – not absorb – the sun's rays, making the home cooler in summer.*
- *The light-colored roof, as architects know, will make a house look larger.*
- *The sheer beauty of Barrett Pastel Shingles will attract and win the admiration of neighbors and passers-by.*

Barrett Pastel Roofs are especially appropriate for "ranch-types", "split-levels" and other modern houses with a low silhouette. Their popularity is growing every day.

If you wish to add a dramatic touch to the appearance of a house, specify Barrett DUBLECOTE MULTI-SHINGLES in one of these sparkling Pastel Colors.

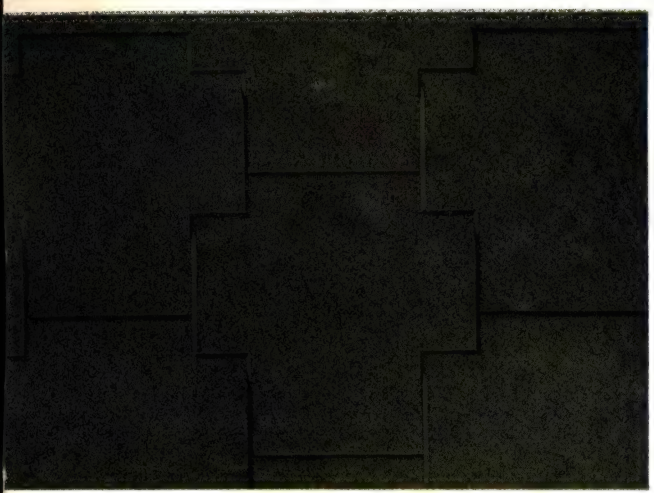
Barrett Asphalt Shingles



HEXAGONAL SHINGLES — SLATEGRAIN



GIANT SELF-SPACING SHINGLES — DEEP GREEN



EVER-FAST SHINGLES — DEEP GREEN



HEXAGONAL SHINGLES

Barrett Hexagonal Shingles are streamlined against the wind, thanks to a scientific bias cut which offers the least surface for winds to snatch at. They are made of high-grade roofing felt impregnated with selected asphalt and topped with a surfacing of colorful mineral granules. Delightful plain colors and blends in both plain and weathergrain finishes. Dove-tailing notches and end projections make these shingles self-spacing, insure tight joints.

SPECIFICATIONS

Size 11-1/3″ x 36″; 2″ Headlap; 4-2/3″ Exposure; Approx. Wt. per Square – 167 lbs.; Shingles per Square — 86; Bundles per Square – 2; Approved by Underwriters' Laboratories.

COLORS: Reds, greens, blues, blue-black in solid colors and blends. (Complete color information may be obtained by writing Barrett.)



RECTANGULAR SHINGLES

For Dutch Lap Application

Barrett's Rectangular Shingles are well suited for Dutch Lap application. As practical as they are attractive, these shingles, suitably stapled, cling to the roof with bulldog tenacity in the worst weather. There need be no fear of loose, flapping, broken shingles.

SPECIFICATIONS

Size 12″ x 16″; 2″ Headlap; 3″ Sidelap; Approx. Wt. per square – 162 lbs.; Shingles per Square – 112; Bundles per Square – 2; Approved by Underwriters' Laboratories.

COLORS: Greens and blue-black in solid colors and blends. (Complete color information may be obtained by writing Barrett.)

Barrett Rectangular Shingles are also adaptable for wide space siding application.



EVER-FAST† SHINGLES

This shingle is designed *both* for reroofing and for new construction, for it is a true double-coverage shingle. In fact it provides 50% *triple* coverage, thus giving a degree of protection all but unknown in locking type shingles. The EVER-FAST Shingle is locked in four places, a feature of special value where high winds prevail. No clips are used, an ingenious slot system permitting each shingle to be fastened securely to its neighbors. This locking mechanism is a flexible method, allowance being provided for expansion and contraction, or deck movement. The shingles lie flat at all times. Note particularly the pleasing, balanced pattern of the EVER-FAST Shingle roof.

SPECIFICATIONS

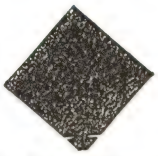
Size 20″ x 20″; 3½″ Headlap; 6″ Sidelap; Approximate weight per square – 235 lbs.; Shingles per square – 111; bundles per square – 3; Approved by Underwriters' Laboratories.

COLORS: Blue-black, Deep Green, in plain finish; Greengrain, Redgrain, Bluegrain, Slategrain, Browngrain in weathergrain finish.

†Trade Mark Allied Chemical & Dye Corp.

Asphalt Shingles

Barrett



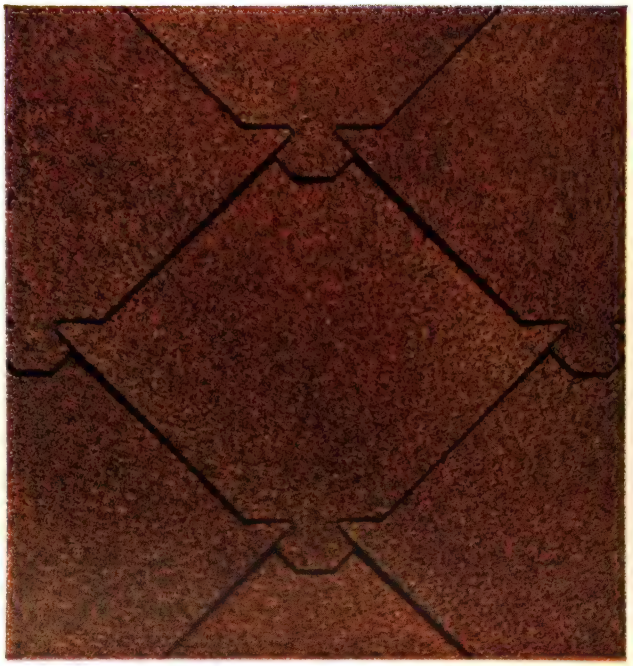
ANCHOR-LOK Shingles

The remarkable feature of these shingles is the unique locking device — a part of the shingle itself. Each ANCHOR-LOK Shingle is clamped tightly to its neighbors on all sides in a continuous locking mechanism that permits no interruption or break throughout the entire roof — resistant to the heaviest winds.

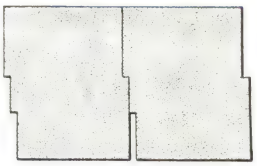
SPECIFICATIONS

Size 16″ x 16″; 2½″ Headlap; Approx. Wt. per Square — 138 lbs.; Shingles per Square — 82; Bundles per Square — 2; Approved by Underwriters' Laboratories.

COLORS: Reds, greens, blues, blue-black in solid colors and blends. (Complete color information may be obtained by writing Barrett.)



ANCHOR-LOK Shingles — RED BLEND



GIANT SELF-SPACING SHINGLES

Master of any weather is this rugged, scientifically designed shingle. The exclusive, patented, "staggered edge" design closes every channel, makes it impossible for moisture to be driven up between the shingles . . . automatically assures accurate alignment. Multiple layers of shingles are another assurance of weather protection. No part of the roof has less than two layers . . . most of it is covered with three thicknesses. Extra heavy felt plus quality asphalt saturant make these shingles long wearing and dependable. Fireproof mineral granules are deeply imbedded in the surface bringing sparkling colors as well as fire resistance to this weather-worthy shingle.

SPECIFICATIONS

Size 12″ x 16″; 6″ Headlap; 5″ Exposure; Approx. Wt. per Square — 330 lbs.; Shingles per Square — 228; Bundles per Square — 4; Approved by Underwriters' Laboratories.

COLORS: Greens, grays and blue-black, in solid colors and blends. (Complete color information may be obtained by writing Barrett.)



DURA-LOK Shingles



DURA-LOK Shingles were planned for economical re-roofing. They are quickly applied and their single coverage provides adequate protection at relatively low cost. They are especially suitable for windy areas because with the nails and built-in locking design, each shingle is secured in *six places*. Only first quality material is used: high rag content felt saturated and coated with top grade asphalt, and surfaced with a protecting armor of colorful, fire-proof mineral granules. The result: a super-tough shingle fit for any weather.

SPECIFICATIONS

Size 18½″ x 20; 3½″ Headlap; Approx. Wt. per square — 170 lbs.; Shingles per Square — 96; Bundles per Square — 3; Approved by Underwriters' Laboratories.

COLORS: Blue-black, Deep Green, Deep Red in plain finish; Greengrain, Redgrain, Bluegrain, Slategrain in weathergrain finish.



DEEP RED



GRAY-GREEN

PLAIN COLORS

Available for most types of shingles



DEEP GREEN



BLUE-BLACK

Barrett Prepared Roofing

"S. I. S" Roofing



Here are the best features of fine built-up roofing, combined with the simplicity of roll roofing application.

The nineteen-inch selvage of "S. I. S" Roofing gives complete double coverage and thus makes a roof composed of three layers of asphalt, two layers of waterproofed felt, a layer of special "S. I. S" Cement and a surface of mineral granules. A patented three-inch strip of bituminous coating on the inner selvage edge eliminates buckling and gives positive leak insurance.

"S. I. S" Roofing is just right for factories, farm buildings, garages, house porches — or for *any* roof of moderate or steep incline. It comes in a variety of attractive colors.

ROLL: 36" x approx. 36' — 108 sq. ft. to cover ½ sq. (50 sq. ft.) 19" selvage. WEIGHT: Approx. 60 lbs.

COLORS: Red, deep green, gray-green, snow white and blue-black.

Approved by Underwriters' Laboratories. Direction sheets packed in each roll.

EVERLASTIC Roofing



Looked upon as the "Standard of Comparison" in roll roofing, EVERLASTIC Roofing is manufactured under the most rigid specifications — scientifically tested for weight, strength, pliability, moisture and ash content and saturation capacity. The result is a roll roofing of assured dependability — long-wearing and thoroughly weatherproof. And EVERLASTIC Roofing can be applied by almost anyone handy with a hammer. This high-grade roofing is available in attractive mineral surfaced colors and in smooth asphalt coated finishes.

EVERLASTIC Mineral Surfaced Roofing — 2" selvage — 36" x 36' — 108 sq. ft. — Approx. 90 lbs.
4" selvage — 36" x 36' — 114 sq. ft. — Approx. 94 lbs.
No selvage — 36" x 36' — 108 sq. ft. — Approx. 88 lbs.
(Fabric Only)

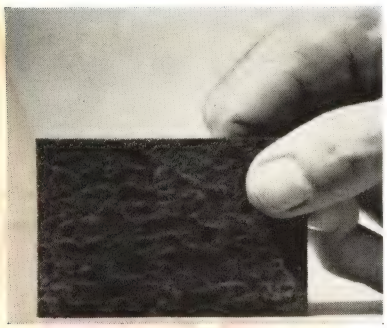
COLORS: Reds, greens, snow white and blue-black in solid colors and blends.

Approved by Underwriters' Laboratories. Directions, nails and special lap cement with each roll of 2" and 4" selvage.

EVERLASTIC Smooth Surfaced Roofing — 36" x 36' — 108 sq. ft. — Approx. 65 lbs. (extra heavy) and Approx. 55 lbs. (heavy).

Approved by Underwriters' Laboratories. Direction sheets, nails and cement in each roll.

Other SMOOTH SURFACED Roll Roofings



PANAMOID Roll Roofing is a medium weight roofing saturated and coated on both sides with high grade asphalt. Surfaced with a protective coating of mica flakes, it is excellent as a moderately priced, dependable roofing for barns, garages, etc.

ROLL: 36" x 36' — 108 sq. ft. Approx. 45 lbs.

Approved by Underwriters' Laboratories. Direction sheets, nails and cement in rolls.

WALKOVER Roofing Cap Sheet is corrugated on the exposed side for better resistance to weather and the underside has a special finish which provides a strong bond with the underlying cement.

ROLL: 36" x 36' — 108 sq. ft. Approx. 43 lbs.

Approved by Underwriters' Laboratories. Directions for application in each roll.

ROLL SIDING



BARRETT Roll Siding is a quality product made of heavy, thoroughly waterproofed felt and coated with a thick layer of tough, viscous asphalt and fireproof mineral granules. Its recessed mortar lines and close resemblance to actual brick give an authentic and new appearance to old wooden sidewalls. Extra strength, insulation value and permanent color are additional important advantages.

SPECIFICATIONS:

Brick design, Stone design.*

Length 36.4'; Width 36" (2 - 18" strips per roll); Coverage 100 sq. ft. per roll. Weight: Approx. 105 lbs. per roll.

COLORS: Tapestry, red, buff, graystone blend.*

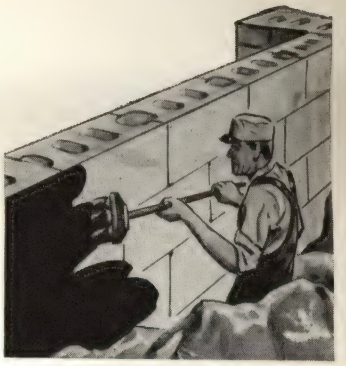
*Not available in all areas. Write Barrett for more information.

Protective Products

Barrett

DAMP RESISTANT COATINGS

BARRETT HYDRONON† Foundation Coating — A black, pitch-base, damp-resistant and water-resistant coating for the outside of foundation walls. Not just a surface coating. HYDRONON Foundation Coating *penetrates* the surface, assuring lasting protection. Its high alkali resistivity aids in preventing chemical decomposition in the concrete or cement mortar. PACKAGES: 55 gal., 5 gal., and Carton of 6 1-gal. containers.



BARRETT Damp-resistant Coating and Plaster Bond products protect the interior finish and provide a bond between brick walls and the succeeding coats of rough and smooth gypsum wall plaster finish. Come ready for use, are easily applied and are provided in three consistencies:

NO. 10 LIQUID — This is a damp-resistant plaster bond which is applied by brush or spray gun to the interior surface of above-grade outside walls built of brick and hollow tile, on which hard plaster is to be used.

NO. 20 SEMI-MASTIC PLASTER BOND — Same as No. 10 Liquid, but of a stiffer consistency for application by heavy brush, mop or squeegee.

NO. 30 PLASTIC PLASTER BOND — Same as above but of a heavier consistency, permitting latitude in thickness of coating, and for application by trowel.

NO. 40 STAIN-PROOF COATING — Prevents staining and discoloration caused by chemical action of lime in Portland cement mortar. PACKAGES: 55 gal. and 5 gal. containers.



ROOF CEMENT AND COATING

Plastic ELASTIGUM Cement — An excellent agent for protecting walls, copings, parapets, airshafts and basements, and for repairing gutters, vents, skylights and chimneys. It readily bonds to all surfaces and is easily applied by trowel. PACKAGES: 525 lb., 100 lb., 50 lb. containers and Cartons of 6 8-lb. containers and 12 4-lb. containers.

Liquid ELASTIGUM Coating — The most durable and economical of liquid roof coatings. Application is by brush or squeegee. PACKAGES: 55 gal., 5 gal., Cartons of 6 1-gal. containers.



SHEATHING AND BUILDING PAPERS

BLACK SHIELD Insulating Paper is an asphalt-saturated and coated sheathing paper which effectively keeps moisture in warm air from getting into walls and condensing.

ROLL: 500 sq. ft. – 36″ wide – 50 lbs.
250 sq. ft. – 36″ wide – 25 lbs.

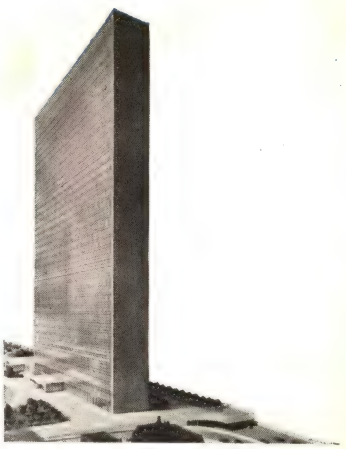
JACK FROST Sheathing & Slater's Felt is a tar-saturated weather barrier, ideal for use under the tile or slate on a wood roof deck. **ROLL:** 500 sq. ft. – 36″ wide – 30″ lbs.

"NOX-EM-ALL" is a dry sheathing used for sheathing houses, protecting new floors and other woodwork, lining freight cars, etc. **ROLL:** 500 sq. ft. – 36″ wide – 20, 25 and 30 lbs.

BUILT-UP ROOFING

The modern trend to flat-roofed homes is making built-up roofing more and more important in residential construction. And for this type of house, the Barrett Pitch and Felt Built-up Roof is recognized by architects and builders everywhere as being the finest that can be had. Used on such world-famous structures as the Empire State Building and Rockefeller Center in New York, the Lincoln and Jefferson Memorials in Washington, and others, as well as on thousands of homes, the Barrett Pitch and Felt Roof naturally assumes leadership for flat-roofed dwellings.

The BARRETT "SPECIFICATION" ROOF — A built-up roof of exceptional weatherproofing ability, constructed according to strict Barrett specifications as published in Sweet's Architectural Catalog, Sweet's Engineering Catalog and Barrett's "Reference Manual for Architects and Engineers," a copy of which may be obtained by writing Barrett. The "SPECIFICATION" Roof is constructed of alternate layers of fine, high-grade pitch and thoroughly saturated roofing felt, with a thick gravel or slag surfacing. This surfacing – a feature of the Barrett "SPECIFICATION" Roof – makes possible a top *dipper-pouring* of pitch (not just a mopped layer), thereby affording extra protection against the onslaught of storm. This "armored surfacing" provides protection as well against fire and the destructive actinic rays of the sun.



United Nations Secretariat Building, New York City — Barrett-roofed

†Trade mark of Allied Chemical & Dye Corporation.

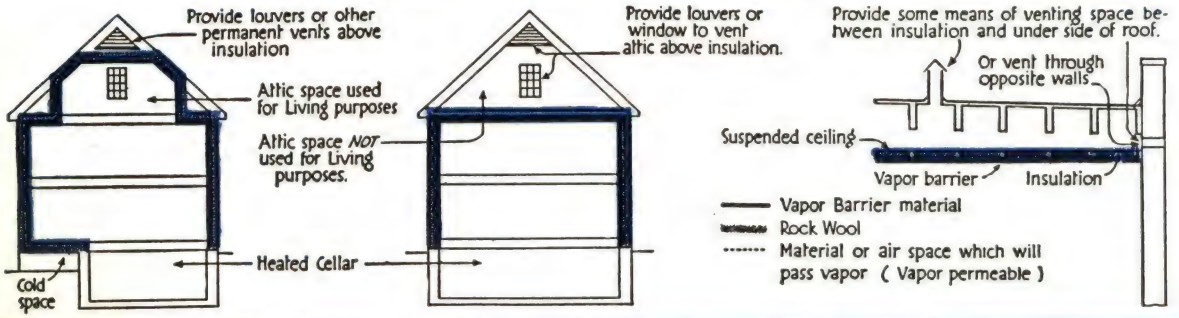
Barrett Insulation Products

Insulation has added so much to home comfort – made possible such extraordinary fuel savings – that it has come to be considered an integral part of any new home. Rock Wool Insulation is made by melting natural rock and then spinning it into fluffy fibres which imprison thousands of dead air cells and effectively obstruct the passage of heat and cold – make it easy to keep the home cozy and livable. Rock Wool Insulation is offered by Barrett in three forms: Blanket type "VB" Batt, Loose Wool and Pouring Wool.

Barrett Rock Wool, applied in the proper thickness, meets FHA Insulation Specifications. A non-conductor of electricity, it has the approval of the Underwriters' Laboratories, Inc., for use around electrical wiring in buildings. Fireproof, rot-proof, vermin-resistant, Rock Wool is, in addition, so economical that it pays for itself in fuel savings. No modern home builder will omit it from his specifications.

WHERE TO USE BARRETT ROCK WOOL INSULATION IN BUILDINGS

With Proper Relationship of Vapor Barriers and Vapor Vents



BARRETT "VB" BATT WOOL — A new and superior type batt featuring wool that is protected by a crepe paper "blanket" covering that holds the wool in place and protects it from damage. Triple-thick nailing flanges extending ¾" on each side of the batt make application easier and more secure. Our regular open-faced or "paper-backed" batt is still available for those wishing to continue using this well known product.

FULL THICK

Type	Product	Size	Package No. Pieces	Package Cover (Sq. Ft.)
D23	"VB" Batt (Blanket-type)	15"x24"	20	50
D43	"VB" Batt (Blanket-type)	15"x48"	10	50
D83	"VB" Batt (Blanket-type)	15"x96"	5	50
E23	"VB" Batt (Blanket-type)	23"x24"	16	61.3
E43	"VB" Batt (Blanket-type)	23"x48"	8	61.3
E83	"VB" Batt (Blanket-type)	23"x96"	4	61.3
F43	"VB" Batt (Blanket-type)	19"x48"	8	50.7
F83	"VB" Batt (Blanket-type)	19"x96"	4	50.7
	THRIFT BLANKETS			
D81	"VB" Batt (Blanket-type)	15"x96"	10	100
E81	"VB" Batt (Blanket-type)	23"x96"	8	122.6

SEMI-THICK

Type	Product	Size	Package No. Pieces	Package Cover (Sq. Ft.)
D22	"VB" Batt (Blanket-type)	15"x24"	32	80
D42	"VB" Batt (Blanket-type)	15"x48"	16	80
D82	"VB" Batt (Blanket-type)	15"x96"	8	80
E22	"VB" Batt (Blanket-type)	23"x24"	24	92
E42	"VB" Batt (Blanket-type)	23"x48"	12	92
E82	"VB" Batt (Blanket-type)	23"x96"	6	92
F42	"VB" Batt (Blanket-type)	19"x48"	12	76
F82	"VB" Batt (Blanket-type)	19"x96"	6	76

LOOSE (Long Fibre) WOOL Type L — Loose wool is the long fibre from which all other types are made. A soft fibre for packing by hand in irregular spaces – around pipes, door and window openings. Packaged in 25 lb. bags for easy handling.

POURING (Granulated) WOOL Type G — Pouring (Granulated) Wool is the same efficient insulating fibre used in batt wool, but is formed into pellets for pouring application. Packaged in 25 lb. bags for easy handling.

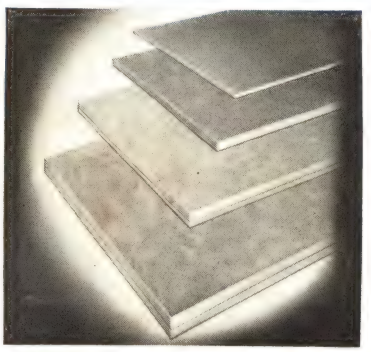
BARRETT INSULATION BOARD

Barrett Insulation Board is a durable insulating and structural material of the highest quality.

Precision manufactured by the most modern methods and machinery, this fibre board possesses exceptional strength and insulating properties.

Light in weight, easy to handle, quick to apply, Barrett Insulation Board saves time and labor costs. Various types, sizes and thicknesses are available for various purposes, principally:

Roof Insulation (Plain, Asphalt Coated and Asphalt Impregnated) • Insulating Sheathing (Asphalt Coated) • Insulating Building Board • Insulating Plank and Tile • Insulating Utility Board.



For further details see Catalog 3b/Bar in Sweet's Catalog or write Barrett.

BARRETT DIVISION

ALLIED CHEMICAL & DYE CORPORATION

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The ARCHITECT®
15" SHINGLE

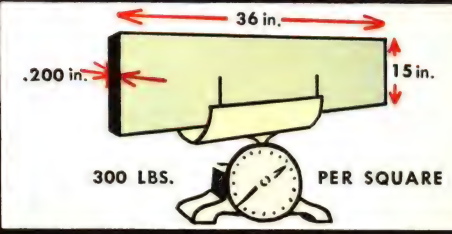
by BIRD

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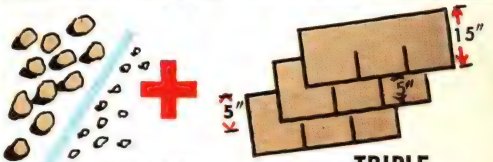
BIG DIFFERENCE

in asphalt shingles

greater size and weight



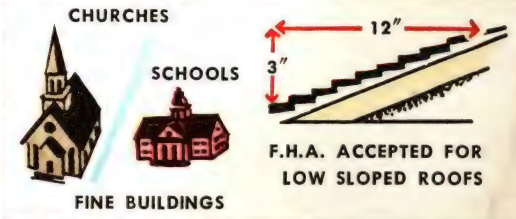
greater protection



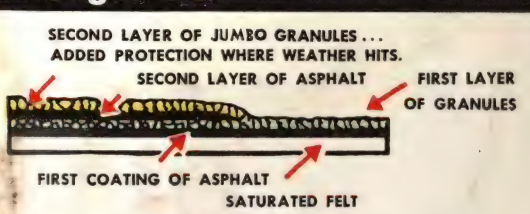
richer appearance



wider application



longer life



A WIDE CHOICE OF BIRD ARCHITECT

Rainbow Colors

Clearer and richer because of larger granules.
Write BIRD & SON, Inc., for samples of all colors.



AVON GREEN BLENDE



WINDSOR RED BLENDE



DOVER GREEN



SHANNON GREEN



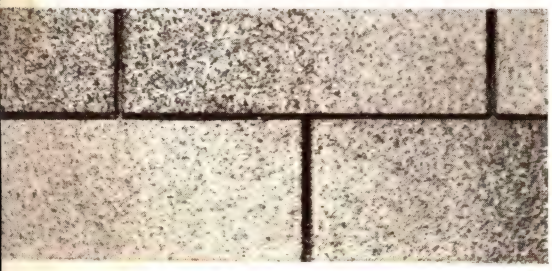
POLAR WHITE



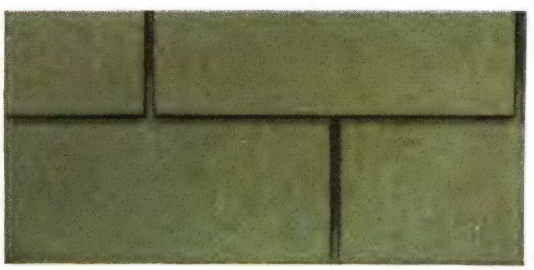
GOTHIC SLATE BLENDE



TOWER BLACK BLENDE



ROYAL ERMINE



HAMPSHIRE GREEN



STRATFORD BLACK



HIGHLAND BROWN BLENDE

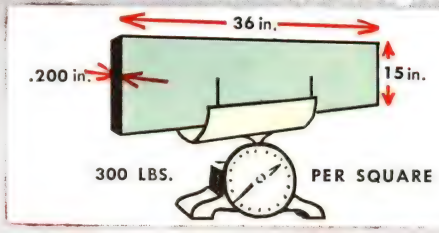
The ARCHITECT 15"

the finest of all

how BIRD ARCHITECT SHINGLES make a BIG DIFFERENCE to you

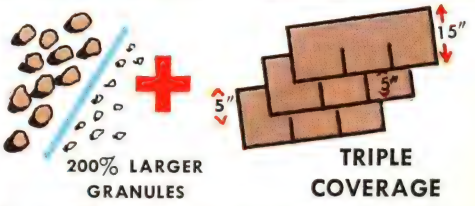
greater size and weight

The massive appearance and enduring weather resistance of slate at asphalt shingle prices! That's the advantage of specifying ARCHITECT Shingles instead of standard 215 pounders. 25% thicker . . . even thicker than standard slate. Triple instead of double coverage. 85 pounds heavier per square. 200% larger granules. Yet, the cost differential is negligible when measured in terms of added protection, beauty and life.



greater protection

150% greater headlap and Triple Coverage resist attacks of the elements as no standard shingle can. The full 5-inch headlap gives 150% greater protection from leakage due to driving rains and water back-up from frozen ice in gutters . . . as compared with the 2″ headlap of standard 12″ shingles.



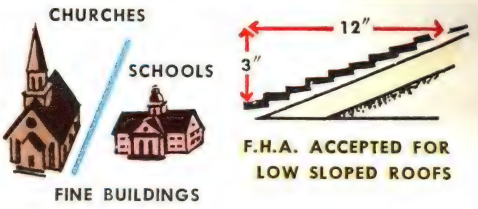
richer appearance

You achieve aristocratic beauty in your roofs when you specify ARCHITECT Shingles. Deeper shadowlines from greater thickness, rugged texture from larger granules create a massive effect. Wide selection of Rainbow Colors . . . Soft pastels or deep tones give you opportunities to blend roof color with architectural design or surroundings.



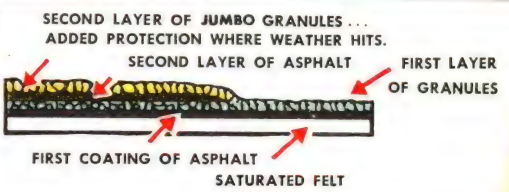
wider application

Now you can add the beauty and economy of asphalt shingles to superior public construction and low-sloped roofs. Thicker than standard slate, the ARCHITECT Shingle gives roofs the massive appearance and long life that belongs on schools, churches, etc. F. H. A. accepts the ARCHITECT Shingle for roof slopes as low as 3-inches to the foot.



longer life

Massive five-layer thick-butt construction promises 50% longer life expectancy than standard. This BIRD-originated design, with its top shield of jumbo granules, retards evaporation of life-giving oils in the asphalt. 25% heavier asphalt-saturated felt base, and four alternate layers of mineral-reinforced asphalt and granules prevent the sun's ultraviolet rays from robbing the ARCHITECT Shingle of its enduring inner vitality. Hence, 50% longer life.



CHECK THE COMPARATIVE CHART BELOW for graphic evidence that there's a **BIG DIFFERENCE** between the **BIRD ARCHITECT** shingle and the standard 215 lb. asphalt shingle.

COMPARATIVE TABLE

The Architect 15″	Standard 215 shingle
✓ 15″ x 36″	vs. 12″ x 36″
✓ Approx. caliper .200″ (better than 3/16″ average slate butt)	vs. Approx. caliper .160″
✓ 300 lbs. per square	vs. 215 lbs. per square
✓ 25% heavier felt base	vs. Regular
✓ 200% larger granules	vs. Regular (#11) granules
✓ Triple Coverage	vs. Double Coverage
✓ 5 inch headlap	vs. 2 inch headlap
✓ 5 inch exposure	vs. 5 inch exposure

★ F. H. A. ACCEPTS BIRD ARCHITECT SHINGLES FOR ROOF SLOPES AS LOW AS 3 INCHES IN 12 INCHES

★ 50% LONGER ROOF LIFE

★ NUMBER OF STRIPS AND NAILS TO APPLY ARE IDENTICAL

WANT TO SEE SOME SAMPLES?

Words and pictures are poor substitutes for the real thing. When you heft a BIRD ARCHITECT Shingle, see its blended colors, examine its deep-seated jumbo granules and compare it with samples of other asphalt shingles, you'll know that you can specify it with complete confidence. You'll recognize massive protection and lasting value on sight. And you'll agree that it adds extra "sell" to the buildings you design.

For free samples or additional information about the ARCHITECT Shingle, please contact your local BIRD dealer or BIRD & SON, INC. — East Walpole, Mass. . . . 295 5th Ave., New York 16, N. Y. . . . 1472 W. 76th St., Chicago 20, Ill. . . . Aero Drive, Shreveport, La. . . . Charleston Heights, S. C.

A SPECIFICATION SHINGLE BY **BIRD**

the BIRD *Master-Bilt* SHINGLE

IS THE BIG DIFFERENCE IN 215 lb. SHINGLES

Its Double Surface Doubles Protection

THE WEIGHT IS WHERE YOU NEED IT



The BIRD Master-Bilt has the famous BIRD Thick-Butt Construction in common with its big brother, the ARCHITECT Shingle. That means that the butt has two protective surfaces of mineral granules imbedded in the reinforced asphalt . . . instead of only one as found in standard 215 lb. shingles.

This heavy concentration of weight and protection in the exposed butt area provides excellent resistance to strong winds and driving rains. It also lengthens the life of Master-Bilt Shingles. That's because the sun's ultra-violet rays must penetrate *four layers* of granules and asphalt to attack the life-giving oils of the base asphalt. So, it's no wonder that Master-Bilt Shingles promise many extra years of protection and beauty.

The superior beauty of Master-Bilt Shingles — when compared with ordinary 215 lb. shingles — comes from their deep, rich-textured colors and their heavier shadows cast by the butt's extra thickness.

SPECIFICATIONS

Exposed area	double surface
Size of each strip	12" x 36"
Tabs per strip	3"
Head Lap	2"
Exposure	5"
Approx. Wt. per square	215 lbs.
Units per square	80
Underwriters label	Class C
Bundles per square	3

...for a BIG DIFFERENCE IN COLOR

Rainbow Colors

There's a BIRD Master-Bilt Shingle to fit the color scheme of any building you plan to construct. Weather-texed or plain, the color of your choice will win universal approval.

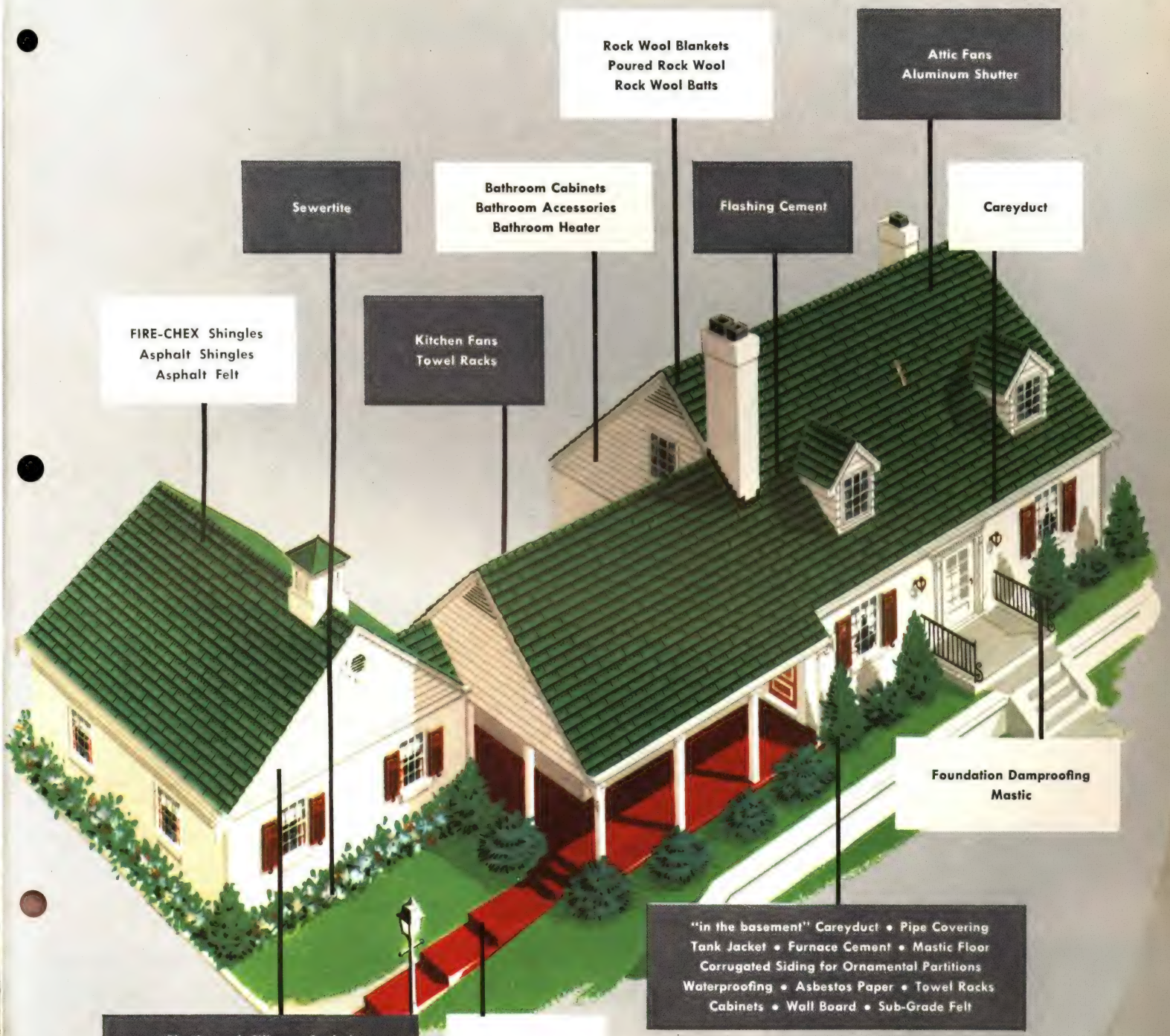
And the beauty of it is . . . Master-Bilt's rainbow colors last . . . thanks to color-fast, adhesion-primed granules. Your own tests will convince you.

The color list below gives the range of rainbow colors . . . from delicate, soft pastels to traditional darker shades. Better yet, take a look at actual samples. Your local BIRD dealer will be glad to show them to you. Or contact BIRD & SON, Inc.

RAINBOW COLOR SELECTION

Black	Ebony Blue Blende	Sea Green	Two Tone Green	Sage Blende
Bright Red	Forest Green	Shell White	Wedgwood Blue	Scotch Tweed
Brown Blende	Frost Blende	Slate Blende	Mt. Green Blende	Shadow Brown
Cedar Red	Gray Blende	Snow White	Brown	Shadow Gray
Colonial Green	Meadow Green	Sunset Blende	Dawn Red	Shadow Green
Desert Brown	Russet-Glo Blende	Two Tone Black	Meadow Mist	Shadow Red
Green Coral		Blue Blende		Moire Black

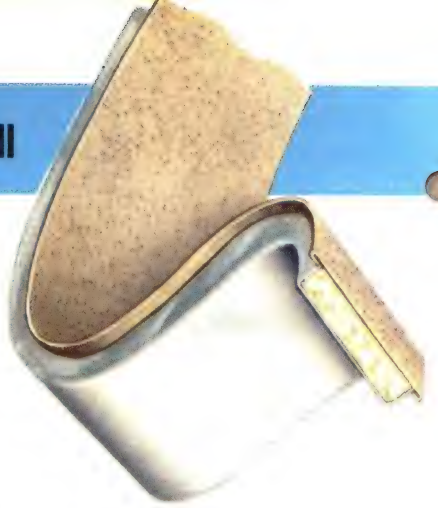
East Walpole Mass. | 295 5th Ave. N. Y. 16, N. Y. | Acro Drive [illegible]port, La. | Charleston Heights S. C. | 1472 W. 76th St. Chicago 20, Ill.



Carey

dependable products

NEW 3-IN-1 Insulation is safe, economical, easy to install

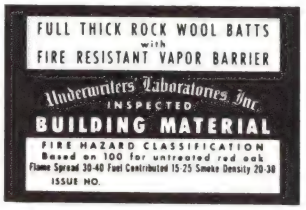


Carey REFLECTIVE FIRE-GUARD BLANKET

Top-quality rock wool insulation, combined with Silvercote reflective insulation and exclusive fire-resistant vapor barrier

- Prevents heat transfer three ways . . . (1) by radiation (2) by convection (3) by conduction
- Electrically non-conductive; no radio or tv interference
- Easy to install — permanent — fully fire-resistant
- Keeps heat outside in summer, inside in winter
- Meets F.H.A. Requirements
- Size 15″ x 48″, Semi-thick

Carey Reflective Fire-Guard Insulation provides all the advantages of standard rock wool insulation plus reflective insulation. The cross section illustrated shows how Silvercote* is used for the breather side (to-the-weather-side) of the blanket. Silvercote* consists of highly polished aluminum flakes bonded to flame-resistant kraft "breather" paper. Silvercote* turns back the infra-red heat rays of the hot summer sun. Assures cool comfort, even on torrid days. Silvercote* is non-conductive because each aluminum flake is surrounded by an aluminum oxide film that will not conduct electricity. It is water-resistant, yet allows passage of moisture vapor to the outside.



On the room side of the blanket is Carey's exclusive fire-resistant vapor barrier, fully-rated for fire-safety by Underwriters' Laboratories, Inc. It is flanged for easy stapling or nailing. A top quality blanket of rock wool of the proper thickness and density to work as an efficient heat barrier is "sandwiched" between the Silvercote* and the fire-resistant vapor barrier.

** T.M. U.S. PAT. OFF.*



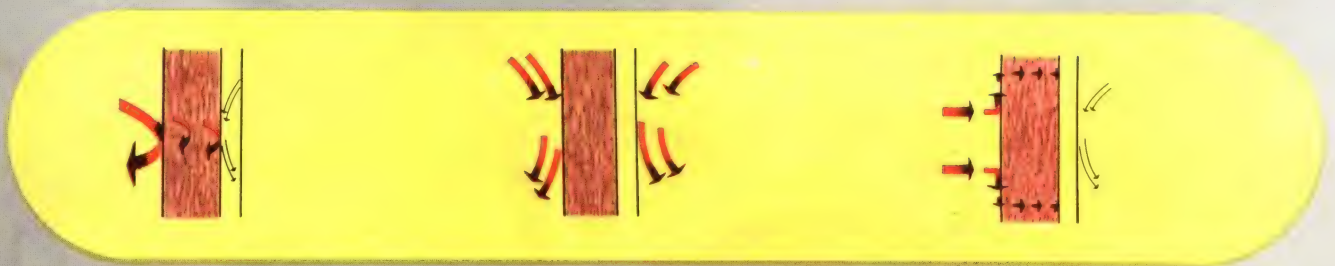
Flame Test Proves Rock Wool Blanket with Ordinary Vapor Barrier Is Fire Hazard!

Hold flame from cigarette lighter against ordinary vapor barrier. In a few seconds, you'll have a merry blaze! Now do the same to Carey Reflective Blanket with Fire-Resistant Vapor Barrier. Note the lack of flame spread! Put the safety of Fire-Guard in homes you design or build.

Greater Efficiency from Air Conditioning Equipment—With Carey Reflective Fire-Guard Blankets!

In the Fire-Guard insulated home, whether new or old, cooling loads imposed on air conditioning units are lighter. Thus a smaller, lower cost unit can be used – operating costs are less.

How Carey Reflective Fire-Guard Insulation sets up a 3-way barrier against heat



Heat radiates in all directions from its source unless it is blocked by effective insulation. Carey's new reflective Fire-Guard Blanket with Silvercote* reflective insulation prevents passage of radiant heat with up to 83% efficiency.

Because heat always moves toward cold surfaces, there is a constant loss of heat through floors, ceilings and roof in the uninsulated home. The quality rock wool in Carey Reflective Fire-Guard Blankets contains millions of microscopic air cells that block heat passage by *convection*. Help keep heat inside in winter, outside in summer.

When you fill a cold metal container with a hot liquid, the container gets hot, too. This is known as heat transfer by *conduction*. Heat moves through uninsulated wall and roof areas in the same manner. Result? Heat loss in winter. Heat penetration in summer. Both are stopped by Carey's triple-duty reflective blanket.

Other types of Carey Rock Wool for home insulation include loose wool, granulated wool, strip blankets, batts. Ask your Carey representative to show you the many types of Carey rock wool and explain their advantages.

FIRE-CHEX

ASBESTOS-PLASTIC SHINGLES

defy fire

•

save lives

•

save property



Give Protection and Beauty No Other Roofing Material of Any Kind Can Equal!

Carey Fire-Chex are the *first* and *only* shingles of any kind listed CLASS A* for fire-protection by Underwriters' Laboratories, Inc., highest fire-protective rating any roofing material can earn! With Fire-Chex you can safeguard both home and family with a roof that's up to 108 times more fire-safe than one with conventional type shingles! Tested by Underwriters' Laboratories, Inc., Fire-Chex were found up to 108 times more *fire-resistant* than ordinary shingles, rated Class C. Fire-Chex contain a new, patented asbestos-plastic coating material with amazing resistance to fire. This coating enables Fire-Chex to give unrivaled protection from flying sparks, embers, flaming brands weighing up to four pounds. For a roof that delivers maximum fire-protection, specify Carey Fire-Chex asbestos-plastic shingles, *made only* by the Philip Carey Manufacturing Company.

** without asbestos underlayment*

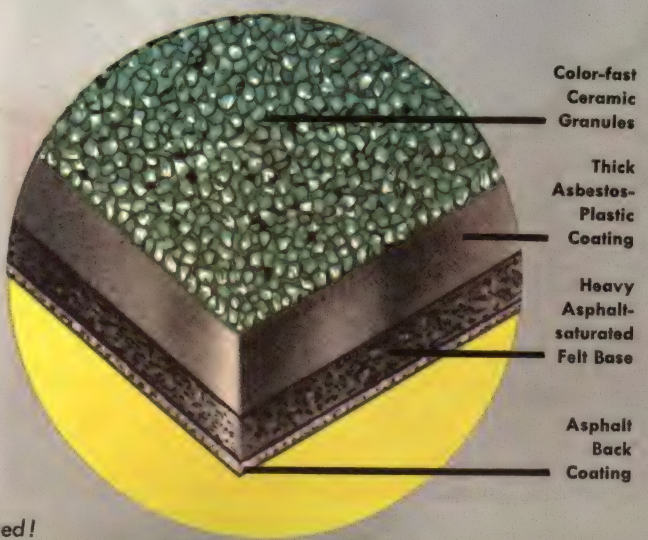
MADE EXTRA-RUGGED FOR EXTRA YEARS OF CAREFREE PROTECTION FROM THE ELEMENTS

Rigidly controlled tests in the Weather-O-Meter, and years of exposure on actual roofs and test panels in regions of greatest weather severity, provide documented proof of this fact: Fire-Chex last three to four times longer than most conventional-type shingles! Resist blistering, warpage, curling, hail and wind damage. Fire-Chex are made extra-thick, weigh 325 lbs. per square applied. Their proven superior performance means lower roof costs per year, freedom from maintenance and repair expenses.

SPECIFICATIONS

CAREY FIRE-CHEX SHINGLES PRODUCT DATA

Size of each strip	12 x 36 inches
Tabs per strip	3
Headlap	2 inches
Exposure	5 inches
Approximate weight per square	325 pounds
Bundles per square	4
Shingles per square	80
Underwriters' Label	Class A



Your request for samples, and additional literature will be welcomed!

Here's color and design to complement every architectural motif

Carey

FIRE-CHEX

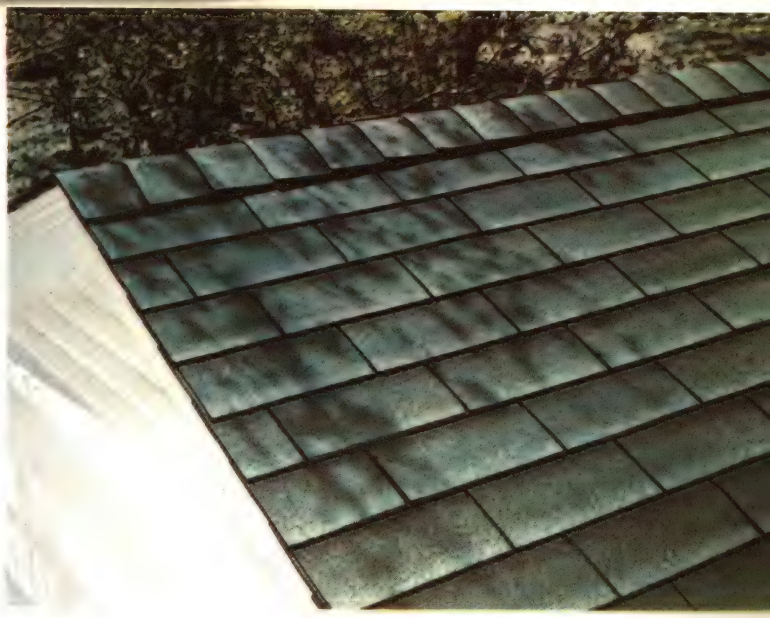
asbestos-plastic shingles in rich solid tones—dramatic shadow-blends, copyrighted as "works of art"!*

*Copyright 1949
**Copyright 1951
†Copyright 1952
The Philip Carey Mfg. Co.

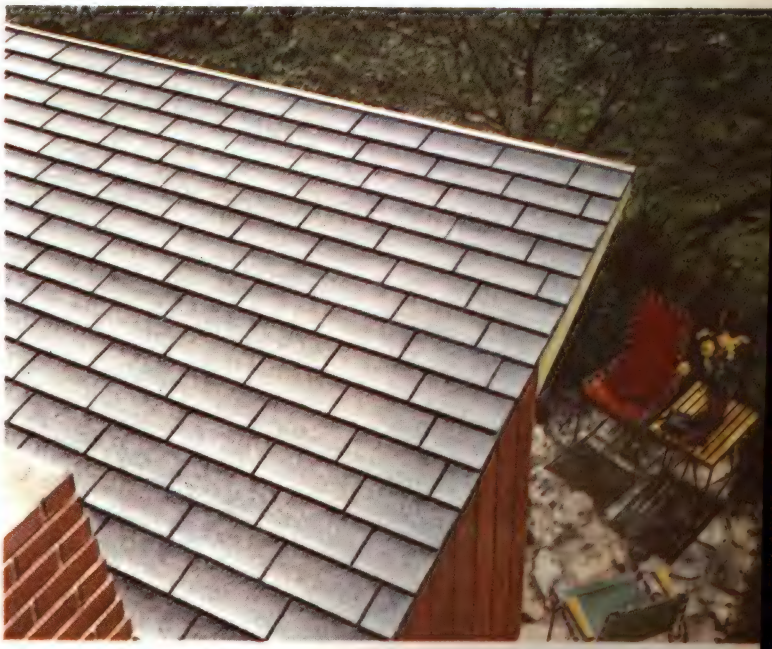














THE

CROWNING TOUCH

FOR ANY HOME

Carey Ceramo

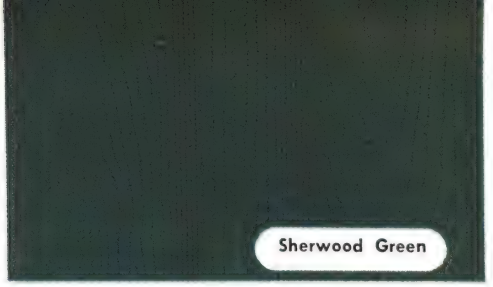
glazed asbestos siding with a baked-on ceramic finish that's permanent! washable!

Choose from new deep-tone colors or brilliant Ceramo White, proved whiter than fine white paint by actual laboratory tests!

Ceramo is the last word in beauty, fire-protection and weather protection for exterior walls. It's made of first-quality asbestos and cement, to which a glazed ceramic surface is applied. This surface seals out dust, dirt, grime, stains, moisture. Keeps Ceramo sparkling clean and new-looking for extra years of service.

Washable—Never needs paint! Ceramo colors are permanently baked in with the ceramic surface. Should the surface of Ceramo become soiled with soot, grime or staining agents, washing with household detergent and water instantly renews its exquisite beauty!

Architecturally Correct! Ceramo's authentic wood-grain texture and beautiful colors harmonize with most architectural styles. And Ceramo is low in cost, ideal for new building or remodeling.











Test Proves Only Ceramo Glazed Asbestos Siding Unscathed by

BATH OF FIRE!



Wood Siding
Resistance to fire is almost nil, even when "treated." Application of paint, stains and preservatives add to fire hazard!

Aluminum Siding
Surrenders to fire at 1200° F. Melts and flows like water, exposing vital wood structural members under surface.

Asphalt Siding
Melts between temperatures of 140° F to 240° F. Contains oils that feed the blaze—give the "go" sign to fire damage.

Carey Ceramo Siding
Fire is powerless to melt, char or burn Ceramo, the ceramic glazed siding made of two of the most fire-resistant materials known—Portland cement and asbestos!

Carey Ceramo Siding Defies Fire — Saves Lives and Property

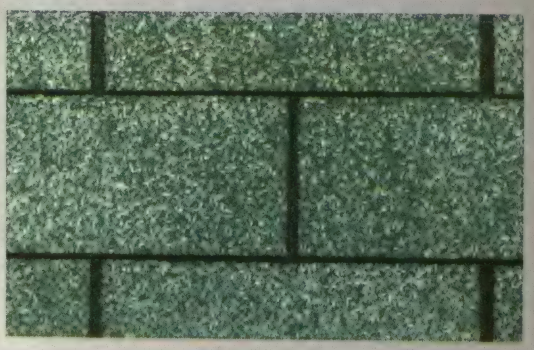
Carey

asphalt shingles

STRIP • INTERLOCKING • INDIVIDUAL

Carey Super Strip Shingles in beautiful new Shado-Crest blends

The Super Strip is a heavy duty 3-tab shingle, with superior weather resistance and wearing qualities. An interesting shadow pattern is created by the thickness of these shingles, and by the color treatment. The mineral granules, in beautiful new Shado-crest blends, accent the heavy shadows below the butts.



Specifications

Size: 3 Tab Square Butt, 12″ x 36″ Headlap: 2″ Exposure: 5″
Beautiful Shado-Crest blends and solid colors.
Weight: 250 lbs. per square; 80 shingles per sq., 3 bundles.
Underwriters' Class C rating.

Carey Thick-Butt Shingles in popular Sno-Crest Pastel Blends

The ideal shingle for low-cost roofing on new homes, or re-roofing, with toughness and durability proven under all extremes of weather. The surfacing of fire-resistant mineral granules in beautiful Sno-Crest pastel blends provides beauty that harmonizes with any style of architecture.

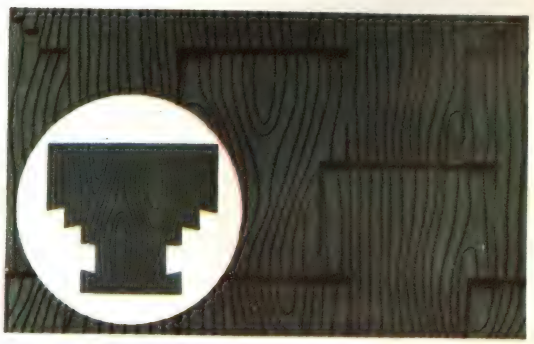


Specifications

Size: 3-Tab Square Butt, 12″ x 36″ Headlap: 2″ Exposure: 5″
Beautiful Sno-Crest blends and solid colors.

Windmaster Self-Interlocking

Feature exclusive 4-point self-interlock design, with further anchorage by nailing at 4 points. Windmasters stay firmly anchored through "big blows"; won't allow penetration of rain, wind, snow. May be laid without ripping up old shingles.



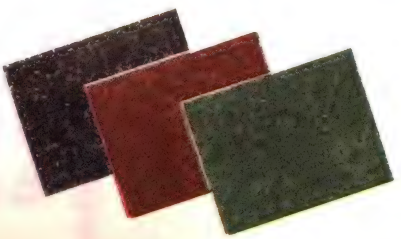
STANDARD WINDMASTER INTER-LOCKING SHINGLES. Beautiful pastel blends and solid colors. Size: 19¾″ x 21⅛″; min. headlap 2¼″; weight approx. 160 lbs. per sq.—79 shingles (3 bundles) per sq.

DOUBLE COVERAGE WINDMASTER INTER-LOCKING SHINGLES. Beautiful pastel blends and solid colors. Size: 19¾″ x 23⅜″; min. headlap 4½″—max. 7″; weight approx. 225 lbs. per sq.—96 shingles (3 bundles) per sq.

3-Tab Hexagonal — Hexagonal design provides a pleasing relief from the conventional-shape shingles. Standard weight of approximately 167 lbs. per square. 86 shingles, packed 2 bundles per square. 2″ headlap. 4⅔″ exposure. Colorful solid and blend patterns available. Size: 3-tab hexagonal strip 11⅓ x 36 in.



Individual — This sturdy, conventional-shape shingle can be used in both new work and re-roofing. By varying the depth of the overlap, the over-all design can be altered to suit any taste. Easily secured by anchors or staples.



Size: Main body 12 x 16 in. Anchors furnished. 112 shingles (2 bundles) per square. Weighs approximately 162 lbs. per square. 5 in. exposure. Colors to suit all tastes.

dependable products since 1873

Architects may specify and Builders and Contractors may select any of the CAREY products presented in this book, secure in the knowledge that long experience of a nationwide organization and its modern research and manufacturing facilities, have reduced the element of chance to a minimum.

Naturally you want assurance that you can depend upon the shingles, siding, insulation and other materials selected for your jobs. The CAREY label, on the products, assures satisfactory performance—it is a guide to dependable products.

Carey

DISTRICT OFFICES:

Atlanta 5, Ga.	The Philip Carey Mfg. Company	251 Armour Drive, N. E.
Cambridge 38, Mass.	The Philip Carey Mfg. Company	22 Moulton Street
Chicago 1, Ill.	The Philip Carey Mfg. Company	121 W. Wacker Drive
Cincinnati 15, Ohio	The Philip Carey Mfg. Company	316 South Wayne
Cleveland 29, Ohio	The Philip Carey Mfg. Company	8551 Brookpark Road
Detroit 2, Mich.	The Philip Carey Mfg. Company	6197 John C. Lodge Highway
Houston 8, Texas	The Philip Carey Mfg. Company	211 East 11th Street
Los Angeles 21, Cal.	The Philip Carey Mfg. Company	1760 E. 15th Street
New York 17, N. Y.	The Philip Carey Mfg. Company	Lincoln Bldg., 60 E. 42nd Street
Philadelphia 32, Pa.	The Philip Carey Mfg. Company	24th and Sedgley Avenue
Pittsburgh 19, Pa.	The Philip Carey Mfg. Company	101 Frick Bldg.
St. Louis 3, Mo.	The Philip Carey Mfg. Company	307 N. Theresa Avenue
San Francisco 11, Cal.	The Philip Carey Mfg. Company	444 Market St., Board of Trade Bldg.
Seattle 4, Wash.	The Philip Carey Mfg. Company	505 Dexter Horton Building

IN CANADA

The Philip Carey Company, Ltd., 277 Duke St., Montreal 3, P. Q.

Form No. 6118-50M-1154-PL

Litho in U. S. A.

THE PHILIP CAREY MANUFACTURING COMPANY

GENERAL OFFICES: CINCINNATI 15, OHIO, U. S. A.

Certain-teed



ASPHALT

Roofing and Siding

Certain-teed Shingles



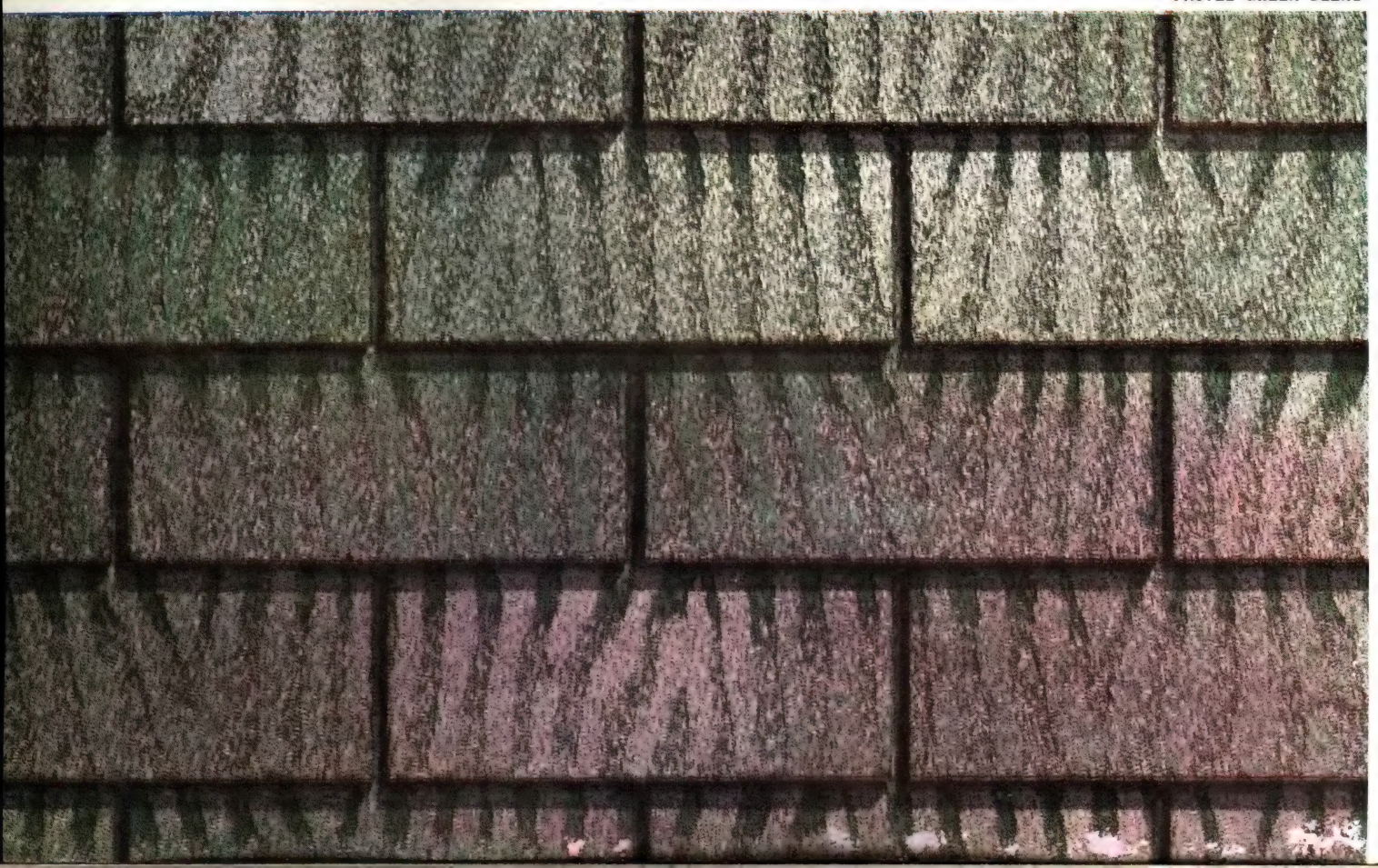


THE UNIQUE feature of these shingles is the graining which is built up on top of an extra thick base shingle. Designed for greater wind resistance as well as for beauty, Woodtex shingles are especially suited to low pitch roofs. Appropriate to most styles of residential architecture, they are also widely used on apartments, churches, motels and similar types of buildings.

The new line of Woodtex colors, soft pastels and warm medium blends supplemented by darker two-tones, is shown on these pages. The new Pastel Gray Blend is also available.

WOODTEX

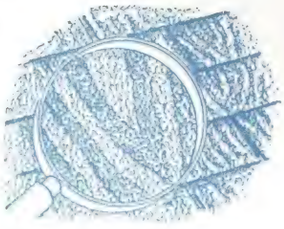
PASTEL GREEN BLEND



The WOODTEX® Graining Process



A specially designed steel graining roll deposits hot asphalt on a finished strip of **extra thick** asphalt roofing.



An additional layer of mineral granules, embedded in the hot asphalt, creates the attractive grain pattern.



Because they are built up on top of the shingle, these ridges afford greater rigidity and weight (250 lbs. per square), making it highly wind-resistant.

The extra thickness of the built-up tab provides greater wind resistance, longer wear and more lasting beauty.

SPECIFICATIONS

Size	Headlap	Exposure	Slabs Per Square	Bdls. Per Square	Approx. Weight Per Sq.
12″ x 36″	2″	5″	80	3	250 lbs.

PASTEL BLUE BLEND



Certain-teed Shingles

2b Ce



GRAY BLEND



RED BLEND



TWO-TONE GREEN

TWO-TONE BLACK



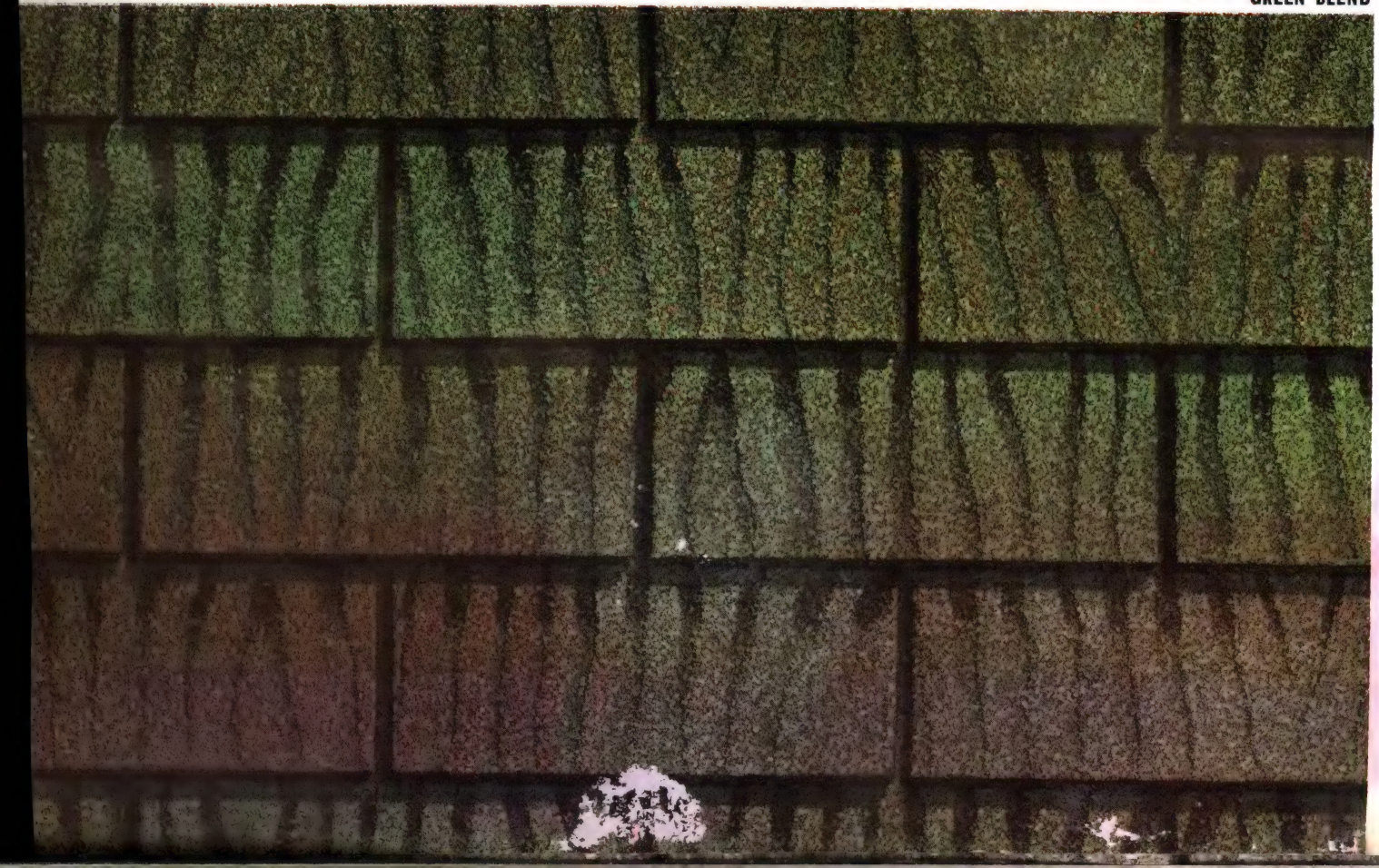
Inches 1 2 3 4 5 6 7 8
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
Centimetres
TIFFEN® Color Control Patches © The Tiffen Company, 2007
Blue Cyan Green Yellow Red Magenta White 3/Color Black



PASTEL BROWN BLEND

WOODTEX...*for homes of distinction...*

GREEN BLEND



THICK BUTT

Certain-teed's famous line of blends and solid colors now includes the soft pastel shades so much in demand. In addition to the extra-thick, extra-heavy tabs, Thick Butts are "Millerized" for longer wear.

COLORS

PLAIN

- Green Blend
- Blue Blend
- Red Blend
- Brown Blend
- Light Slate Blend
- Dark Slate Blend
- Pastel Brown Blend
- Pastel Green Blend
- Pastel Blue Blend
- Pastel Gray Blend
- Pastel Red Blend
- Silver Blend
- Two-tone Green
- Lawn Green
- Black
- Gray Green
- Brick Red
- White

GRAINED

- Green Blend
- Blue Blend
- Red Blend
- Brown Blend
- Light Slate Blend
- Dark Slate Blend
- Pastel Brown Blend
- Pastel Green Blend
- Pastel Blue Blend
- Silver Blend
- Lawn Green
- Black

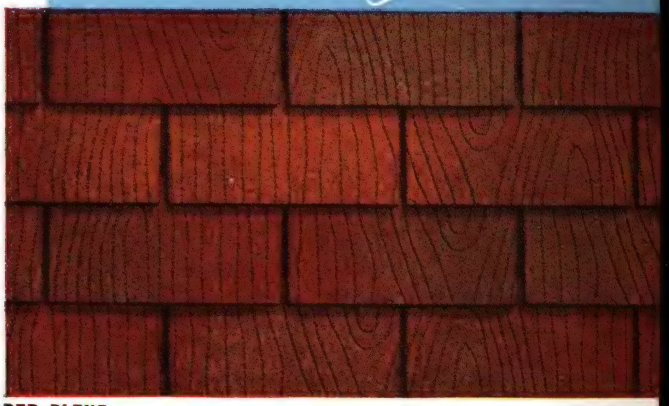
SPECIFICATIONS

Size	Head-lap	Expo-sure*	Slabs Per Square	Bdls. Per Square	Approx. Weight Per Sq.
12″x36″	2″	5″	80	3	215 lbs.

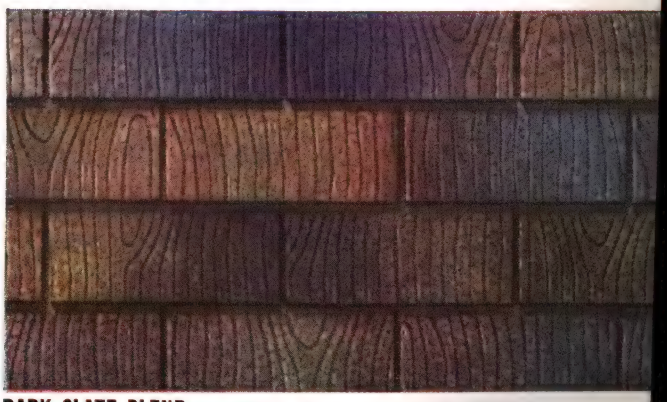
*Marked also for 4″ exposure

Certain-teed Shingles

2b Ce



RED BLEND



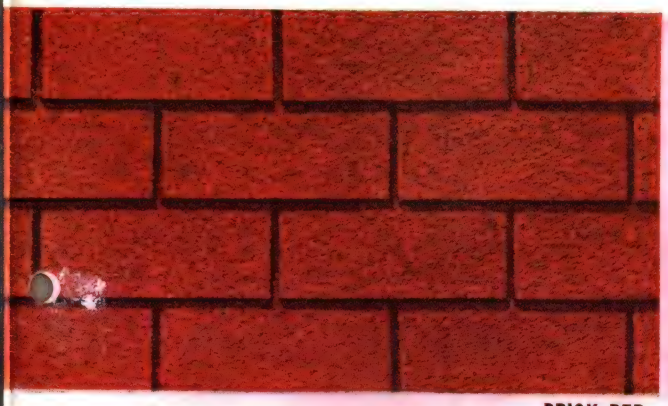
DARK SLATE BLEND



PASTEL GREEN BLEND



LIGHT SLATE BLEND



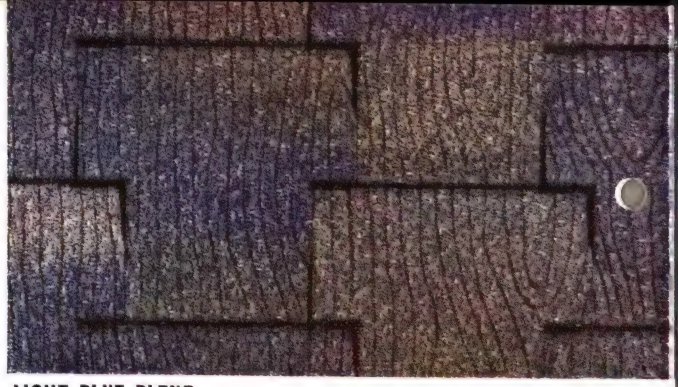
BRICK RED



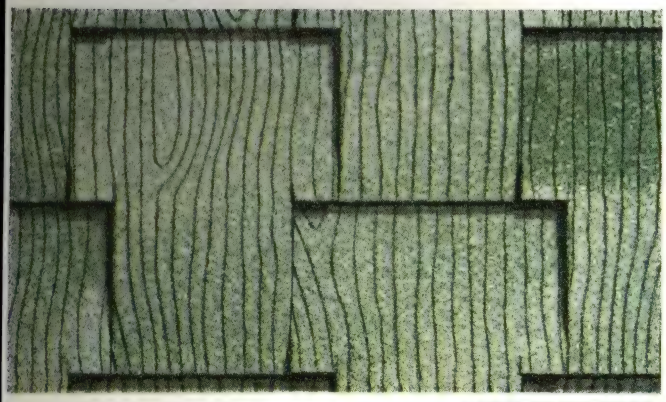
BLUE BLEND

SAF-T-LOK

The tightly interwoven roof created by the inter-locking tabs of Saf-T-Lok shingles is designed for high wind areas. Available in Single Coverage (170 lbs.) and Double Coverage (230 lbs.). Saf-T-Loks are recommended for homes, schools, farm and other buildings.



LIGHT BLUE BLEND

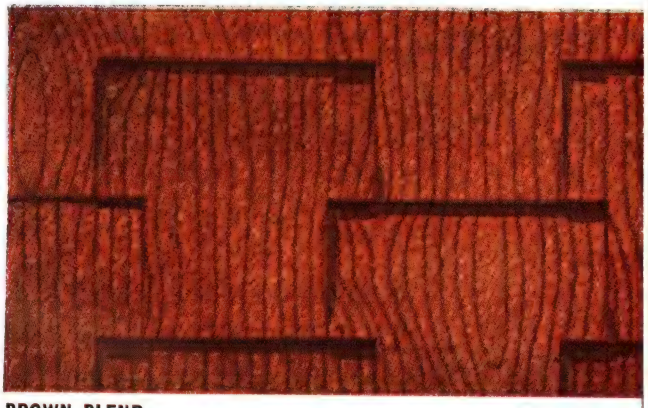


LIGHT GREEN BLEND

DOUBLE COVERAGE

COLORS
Green Blend
Red Blend
Brown Blend
Light Blue Blend
Light Red Blend
Silver Blend
Lawn Green
Black

SPECIFICATIONS						
Size	Side-lap	Head-lap	Expo-sure	Slabs Per Square	Bdls. Per Square	Approx. Weight Per Sq.
18½"x20$\frac{1}{16}$"	4"	6"	12"	120	3	230 lbs.



BROWN BLEND

SINGLE COVERAGE

SPECIFICATIONS						
Size	Side-lap	Head-lap	Expo-sure	Slabs Per Square	Bdls. Per Square	Approx. Weight Per Sq.
18¾"x20$\frac{1}{16}$"	2"	3¾"	15"	96	3	170 lbs.

COLORS
Green Blend
Red Blend
Blue Blend
Light Green Blend
Light Red Blend
Lawn Green
Black

THREE TAB HEXAGONAL

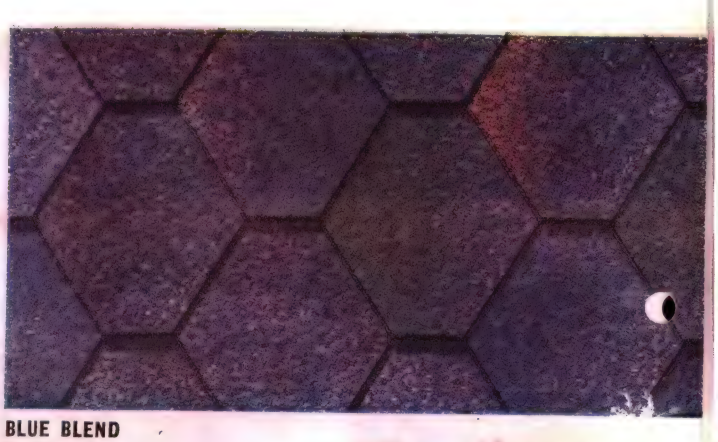
The attractive symmetrical pattern of the hexagonal shingle is particularly well-suited to small roof areas and is widely used for siding.

SPECIFICATIONS					
Size	Head-lap	Expo-sure	Slabs Per Square	Bdls. Per Square	Approx. Weight Per Sq.
11⅓"x 36"	2"	4⅔"	86	2	167 lbs.

RED BLEND



COLORS
Green Blend
Red Blend
Blue Blend
Lawn Green
Brick Red
Black



BLUE BLEND

OTHER CERTAIN-TEED ROOFING, SIDING AND RELATED PRODUCTS

ASPHALT ROOFING SHINGLES	Size Per Shingle	Side-lap	Head-lap	Expo-sure	In One Square: Slabs	In One Square: Bdls.	In One Square: Approx. Wt.
*UNIVERSAL Re-roofing. Interlocking tabs give thatched roof effect. New light colors.	16″ x 18″	4″	3″	7½″	80	2	138 lbs.
*FRENCH LOCK Re-roofing. Hexagonal design suited to irregular roofs. Choice of colors.	16″ x 16″	2½″	—	13½″	82	2	140 lbs.
*JUMBO DUTCH LAP Extra thick, extra heavy for economical re-roofing. New colors.	12″ x 16″	3″	2″	10″	112	2	162 lbs.
*HIP & RIDGE SHINGLES Same colors as shingles.	9″ x 12¾″	—	—	—	380	3	253 lbs.

ASPHALT SIDINGS							
WIDE SPACE SHINGLES Striated. New colors.	12″ x 16″	2″	1″	7½″	96	2	142 lbs.
WAVE LINE SHINGLES Grained. Whitetone. Nails and strips included.	10¼″ x 32″	¾″ to 1¼″	—	Aver. 9″	50	1	105 lbs.
	Per Roll				Strips per Sq.		Per Roll
ROLL BRICK-TEX® Colors. 2 strips per Roll	32″ x 42″	—	11 1/16″	14 5/16″	2		105 lbs.
ROLL STONE DESIGN Gray stone. 2 Strips per Roll	32″ x 43′3″	—	2⅛″	13⅞″	2		105 lbs.

Matching Corner Strips for Roll Sidings—Per Carton: 57½ Lineal Ft.—2⅜″ x 2⅜″ x 34½″—20 pcs.—35 lbs.

ROLL ROOFINGS— Mineral Surfaced	Dimensions per Roll	Approx. Weight per Roll
*EXTRA QUALITY 90# Long wearing. High quality. Choice of colors.	36″ x 36′ (108 Sq. Ft.)	Heavy 90 lbs.
*19″ SELVAGE EDGE Double thickness built-up roof at low cost. Colors.	36″ x 36′ (2 Rolls per Sq.)	Heavy 55 lbs.
*BLOCKEDGE®–Grained. Staggered edge gives shingle effect at roll roofing cost. Choice of colors.	32″ x 48′ (128 Sq. Ft. (2 Strips 17½″ wide)	Heavy 105 lbs.

ROLL ROOFINGS—Smooth Surface			
*EXTRA QUALITY For heavy duty. May be recoated for long wear.	#4 Extra heavy #3 Heavy	36″ x 36′ (108 Sq. Ft.)	65 lbs. 55 lbs.
GUARD Economical. Medium weight.	#2 Medium	36″ x 36′ (108 Sq. Ft.)	45 lbs.
BLACK & WHITE CAP SHEET For capping built-up roofs.		36″ x 36′ (108 Sq. Ft.)	43 lbs.
COLD PROCESS For constructing cold process built-up roofs.		36″ x 36′ (108 Sq. Ft.)	55 lbs.

ASBESTOS CEMENT ROOFING SHINGLES		Size	Side-lap	Head-lap	Exposure	Pieces: Bdls.	Pieces: Sq.	Approx. Wt. per Sq.
DUTCH LAP Grained. Square edge.	Old or new construction. New colors.	16″ x 16″	4″	3″	12″ x 13″	23	92	260 lbs.
HEXAGONAL Plain surface. (Starters, Hip & Ridge, Ridge Roll.)		16″ x 16″	—	3″	13″ x 13″	20	86	245 lbs.

ASBESTOS CEMENT SIDING SHINGLES								
SHAKELINE New vertical graining. WAVE LINE Grained. Wavy edge. STRAIGHT EDGE Grained.	Old or new construction. New colors.	12″ x 24″	—	1½″	10½″x24″	19	57	175 lbs.

*Carries Underwriter's Label

(For Felts, Roof Coatings, etc., see Back Cover)

FELTS AND BUILDING PAPERS

TARRED FELT
ASPHALT FELT
PERFORATED ASPHALT FELT
SLATERS FELT
ASPHALT SHEATHING
DEADENING FELT
SHEATHING PAPER — RED

ROOF COATINGS AND CEMENTS

ASPHALT ROOF COATING — BLACK
ASBESTOS ROOF COATING — BLACK
ASPHALT PRIMER
STABILIZED ROOF COATING
BLIND NAILING CEMENT
PLASTIC CEMENT (BLACK)
COLD PROCESS CEMENT
LAP CEMENT
FOUNDATION COATING

Certain-teed BUILDING PRODUCTS

CERTAIN-TEED PRODUCTS CORPORATION

GENERAL OFFICES: **Ardmore, Pennsylvania**

DISTRICT SALES OFFICES

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NIAGARA FALLS, NEW YORK
Box No. 367

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Ardmore, Penna.

RICHMOND 4, CALIFORNIA
1014 Chesley Avenue

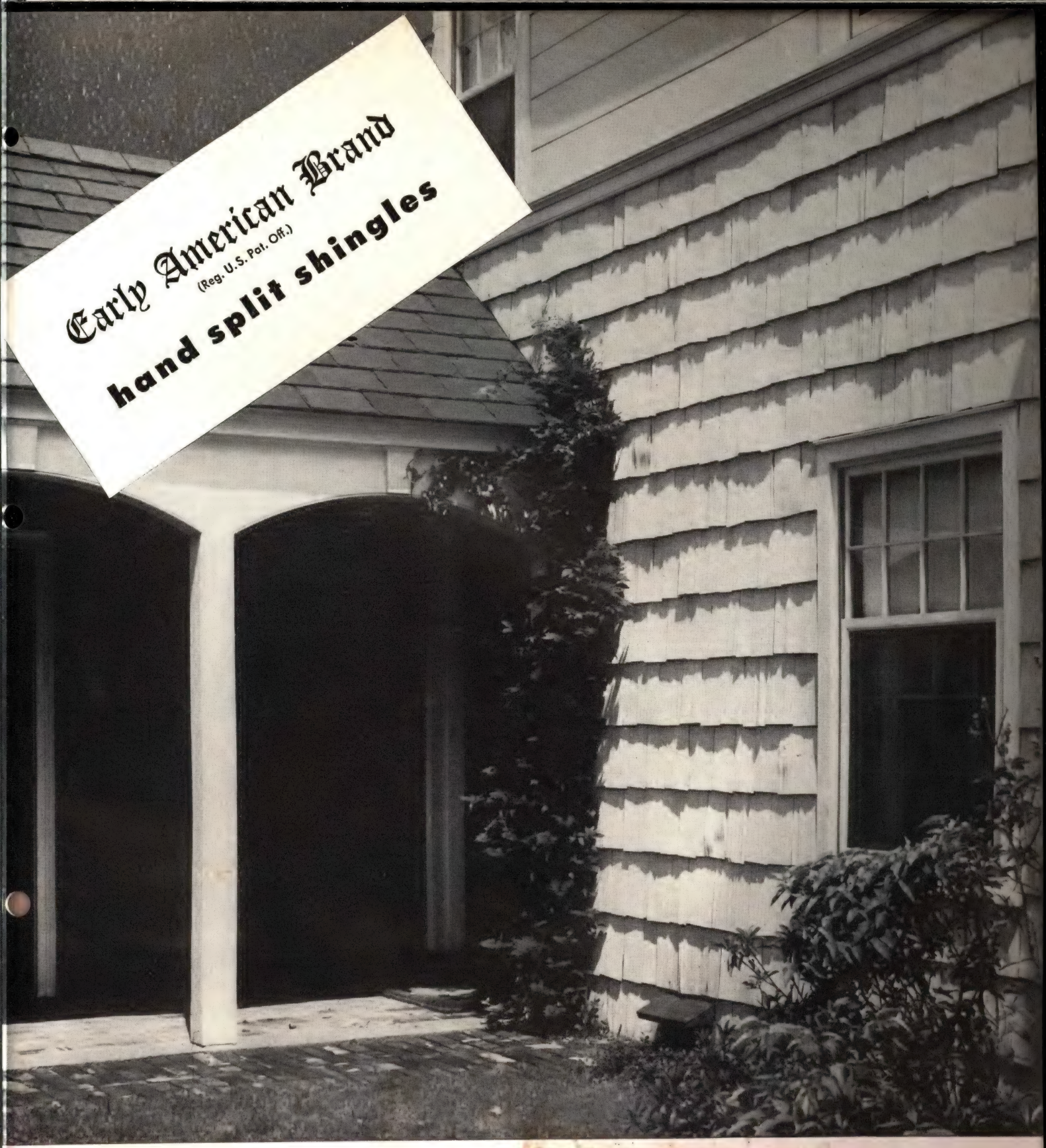
SALT LAKE CITY, UTAH
314 Dooly Building

ROOFING PLANTS

MILLER (DALLAS), TEXAS
EAST ST. LOUIS, ILLINOIS
KANSAS CITY, MISSOURI
MARSEILLES, ILLINOIS
NIAGARA FALLS, NEW YORK
RICHMOND, CALIFORNIA
SAVANNAH, GEORGIA
YORK, PENNSYLVANIA

9-54

Printed in U.S.A.



Colonial Hand Split Shingles, Inc.

formerly COLONIAL LUMBER SPECIALTIES INC.

EARLY AMERICAN BRAND HAND SPLIT SHINGLES
POST AND RAIL FENCE OF VARIOUS TYPES

30 CHURCH STREET
NEW YORK 7 N.Y.
PHONE WORTH 4-6650



description

EARLY AMERICAN BRAND hand split shingles are hand hewn from air dried western red cedar and are of a rough texture on their exposed faces.

They are identical in appearance and quality to those used by the pioneer home-builders of America. They differ only in modern improvements which have been added to assure best building practices.

These shingles are 25″ to 27″ long, random widths, manufactured with adequate length to permit a safe head-lap at any recommended exposure. Type "bb" is also available in 18″ lengths.

uses They are extensively used for roofs or sidewalls wherein it is desired to achieve both natural beauty and enduring charm at reasonable cost. This product has received wide acceptance among architects and engineers in restoration work of historical nature. Because of the high fidelity to character of these shingles, a true authenticity may be obtained with their use.

The unique character of this shingle is particularly suited to the prevailing trend of ranch-house style architecture.

DELIVERIES

EARLY AMERICAN BRAND HAND SPLIT SHINGLES can be delivered to the job site via truck when within a 75-mile radius of New York City; otherwise f.o.b. cars nearest station. Shipments made to Illinois, Michigan, Indiana and states East. Deliveries arranged for other destinations.

features

design Manufactured edge-grain from select quartered logs, these shingles lay flat without cupping or curling and make a surface of extraordinary durability. Unlike "moulded" or "processed" products, each shingle in the bundle has a distinctly different appearance. This avoids a monotonous or tiresome repetition of pattern.

economical Unlike many roof and sidewall materials, the extreme durability of this product and the absence of replacements or upkeep, make an economical installation when viewed over a long-term period. We have been told by a number of contractors that the cost of laying our shingle is comparable to that of the common sawn shingles, inasmuch as there is less fitting to be done.

tight fitting All have a smooth, flat back and a natural tapering tip to insure a tight fitting roof or sidewall.

weathering These shingles contain the natural preservative oils inherent to the wood and require no paint or stain to color or preserve them. When used without paint or stain, they weather in a short time. White or colored stain is easily applied if desired.

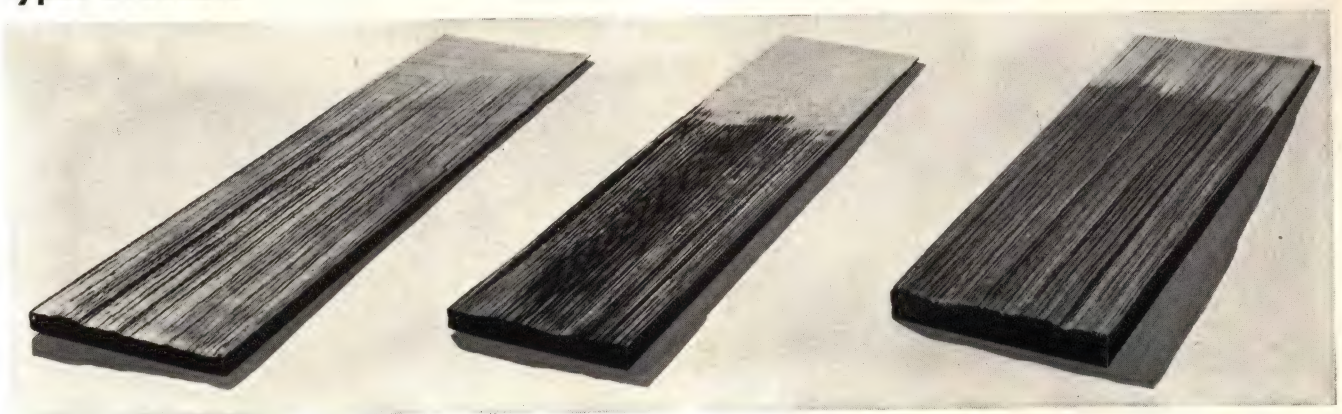
insulation As a roof or sidewall, these shingles are among the most highly prized lumber products because of their excellent insulating value.

sidewalls Because of their full 25″ length these shingles may be exposed for sidewall usages up to 12″ T. W. and still maintain the 1″ head lap necessary for weather-tight security.

Early American Brand (Reg. U.S. Pat. Off.) | hand split shingles

2b
Co

types available



type "a" Butt thickness varies from ⅜" to ⅝". This type is particularly adapted to sidewall installations where cost is a prime factor. May be exposed up to 12" to the weather for sidewalls. Produced in limited quantities. Inquire for availability.

type "b" Butt thickness varies from ½" to ¾". This type suited to roofing uses and sidewall installations wherein both *texture* and extreme durability is indicated. Customary exposure to weather is: roofs 8"; sidewalls up to 12". type "bb" same as above but in 18" lengths.

type "c" Butt thickness varies from ¾" to 1¼". This type is widely used for ranch architecture. Where striking effects are desired, or where the size and expanse of the roof indicate broad, heavy scale, this type is particularly effective.

installation – roofs

Shingles may be laid on 1" x 2" or 1" x 3" shingle strip, or on tongue and groove or shiplap solid sheathing covered with a good grade of waterproof building paper, or paper may be woven between courses. Paper used is 18" wide strip of roofer's felt.







Dry rot or condensed moisture decay will not occur in any of these installations.

specifications

All (roofs), (sidewalls), shall be covered with EARLY AMERICAN BRAND Hand Split Shingles (specify type), as furnished by Colonial Hand Split Shingles, Inc., 30 Church Street, New York, N.Y.

Expose shingles (specify exposure in inches) to the weather.

Shingles shall be laid in parallel courses. Double all starter courses. For this purpose a sawn shingle is adequate.

Break all joints of Hand Split Shingles with at least a 2" sidelap. Lay Hand Split Shingles not less than ⅛" apart.

Use hot-dipped zinc coated shingle nails with corrugated shank and large head of adequate length with due regard to the thickness of the shingle involved.

Each 4" in width or fraction thereof shall contain a nail. No shingle shall employ less than two nails.

In the interest of maximum durability, the use of 16 oz. copper, lead coated is endorsed wherever flashings or valleys are indicated.

When possible, all cutting and trimming shall be done with a hatchet in preference to sawing. Make a material allowance of approximately 5% for waste due to trimming and fitting around openings.

Due to the off-square butt lines, shingles shall be laid in straight parallel courses as much as possible excepting when a staggered or rustic appearance is desired. It is advisable to lay shingles just as they come from the bundles.

Early American Brand **hand split shingles**

(Reg. U.S. Pat. Off.)



Type "A", sidewall exposed 11" to the weather



Type "C", roof exposed 8" to the weather



EARLY AMERICAN BRAND POST AND RAIL FENCING
Available in two, three and four rail types.

Colonial Hand Split Shingles, Inc.

formerly COLONIAL LUMBER SPECIALTIES INC.

EARLY AMERICAN BRAND HAND SPLIT SHINGLES
POST AND RAIL FENCING

30 CHURCH STREET
NEW YORK 7 N. Y.
PHONE WORTH 4-6650

Creo-Dipt

- **Stained Shingles and Shakes**
- **Shingle and Shake Coatings**





Build with Pryme-Shakes



Finish with Fynal-Kolor

Creo-Dipt Optional Kolor Plan

This new plan for stained red cedar shake sidewalls is based on the use of Creo-Dipt Pryme-Shakes, which are factory stained in one prime color. Creo-Dipt Fynal-Kolor, a heavy-bodied linseed oil base shake coating, available in twenty modern pastel and deep-tone shades, is supplied for a finish coat on the job. While Pryme-Shakes and Fynal-Kolor are sold as a unit, the Fynal-Kolor may be requisitioned independently as needed so that construction can proceed without waiting for the selection of side-wall colors.

Pryme-Shakes are applied by the Creo-Dipt Double Wall or Double Coursing Methods over conventional wood sheathing, or by the Creo-Dipt Over-Lath Method over insulation or Gypsum sheathing. Since the Fynal-Kolor will conceal construction blemishes, shake application and trim painting operations can be speeded and touch-up time eliminated.

Fynal-Kolor may be applied by brush or spray gun. A single coat over Pryme-Shakes will give a uniform and solid color in the modern manner. Where the color variation characteristic of conventional stained shakes is desired, Creo-Dipt Zephyr Shakes should be specified. Creo-Dipt Pryme-Shakes and Zephyr Shakes are available in two sizes—16″ for a recommended exposure of 12″, and 18″ for a 14″ exposure.



Creo-Dipt Hand Split Shakes

Creo-Dipt Hand Split Shakes, illustrated above, are the modern counterpart of the hand split shake of Colonial days, and their rustic beauty cannot be surpassed in any other building material. Because they are tapered shakes with thick butts and thin tips, they are easily applied on a roof or sidewall in the same manner as regular shingles. Smooth sawn backs allow them to lay flat and snug. Two types of Creo-Dipt Hand Split Shakes are available—Pilgrims which are ¾″ to 1¼″ thick at the butt and Yorktowns which average ½″ to ¾″ at the butt. Both are 25″ in length and come in random widths. They are factory stained and preserved with linseed oil base stain of highest quality in a wide assortment of lasting colors.

Single-Coursing Construction

Where a smooth surface stained shingle is desired for single coursing on roofs or sidewalls, there are none finer than Creo-Dipt Regular Stained Shingles. These shingles are pre-stained full length on all surfaces with Creo-Dipt linseed oil base Shingle Stains in an excellent selection of popular shingle colors. Creo-Dipt Regular Stained Shingles are manufactured in three standard lengths and are known as 16″ 5X, 18″ Perfections and 24″ Royals. No. 1 genuine Certigrade red cedar shingles represent the finest grade in each length, being vertical, edge grain timber cut entirely from heartwood free of all defects.



Creo-Dipt Shingle and Shake Coatings

• FYNAL-KOTE

Creo-Dipt Fynal-Kote is a new heavy-bodied linseed oil base coating available in twenty popular pastel and deep-tone shades. It has exceptional hiding powers, covering capacity and reducibility. Developed especially for red cedar shingles and shakes, it provides a flat preservative finish. It can also be used over any unfinished, stained or painted surface including rough and finished lumber, brick, concrete, stucco or stone with no more preparation of the surface than is required for paint. Fynal-Kote is extremely economical to use and may be easily applied with brush or spray gun.

• SHINGLE STAINS

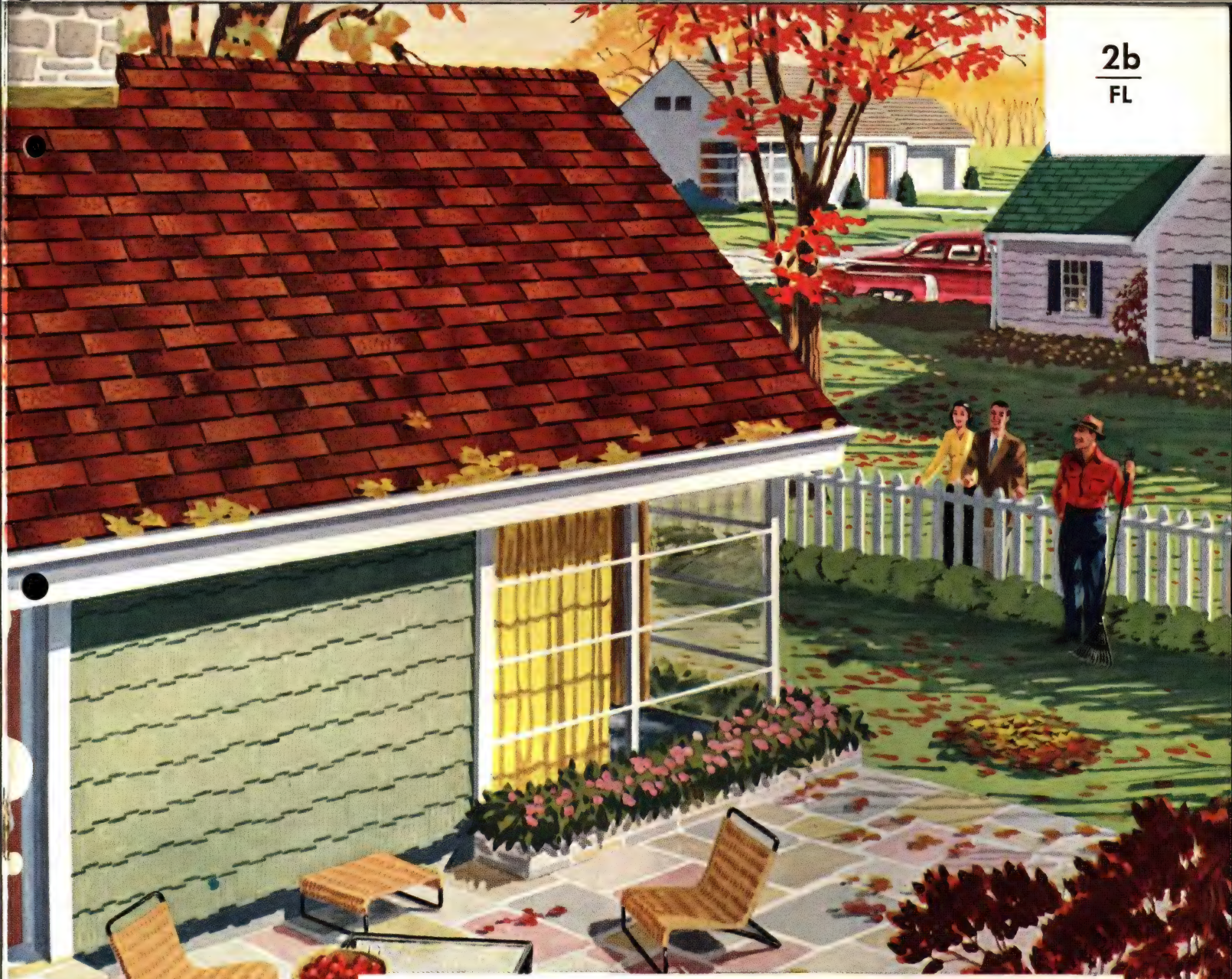
Quality leaders for over forty years, these pure linseed oil base Shingle Stains preserve, protect and beautify red cedar shingle roofs and sidewalls. They are available in a wide range of colors including Double Strength White, whitest white ever developed for wood shingles. Creo-Dipt Shingle Stains flow on evenly with great covering capacity. When applied to red cedar shingles they penetrate deep into the wood to preserve the fibres and assure lasting color brilliance.

Data Sheets giving complete technical information on all Creo-Dipt products and application methods are available free on request.

CREO-DIPT COMPANY, INC., NORTH TONAWANDA, NEW YORK

Form No. Cat. 53-A

Printed in U. S. A.



FLINTKOTE
Building Materials

3	Asphalt Strip Shingles
4	Individual Asphalt Shingles
5	Asbestos-Cement Products
6	Insulation Board Products
7	Insulating Wool
8	Built-Up Roofing
9	Roll Roofings and Sidings
10	Insulating Sidings

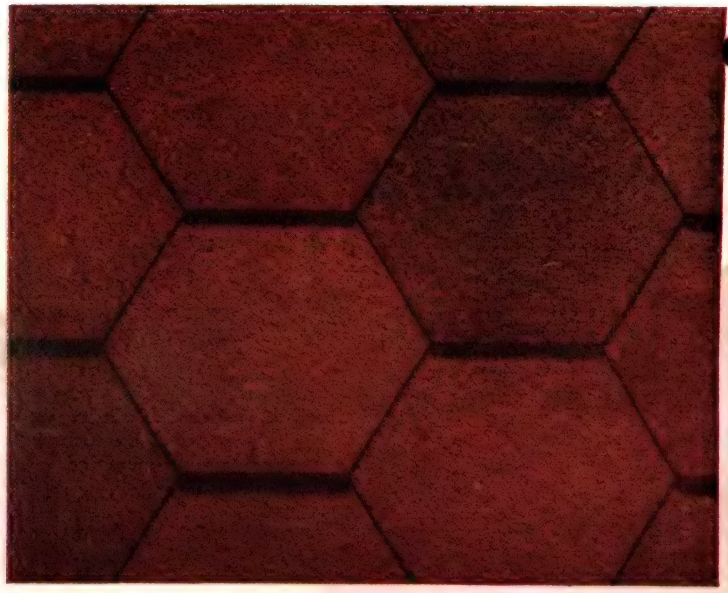












A FEW OF THE RICH COLOR BLENDS AND DISTINCTIVE STYLES AVAILABLE IN FLINTKOTE ASPHALT ROOFING

FLINTKOTE

2b
FL

ASPHALT STRIP SHINGLES

Flintkote Asphalt Strip Shingles are the style leaders of roofing—providing a combination of rugged construction, economical roof protection, and a wide variety of pleasing colors which enhance the appearance of any house.

TAPERED STRIP SHINGLES are the ultimate in roof protection at economical cost. The tapered structure gives 25% to 33% more thickness at the butts than ordinary shingles. This extra thickness is placed at the exposed portion where the wear occurs. Tapered Strips are also available in a beautiful design called SHADO-TEX.* SHADO-TEX Tapered Strips embody all of the distinctive features of Flintkote Tapered Shingles plus a design that emphasizes the deep shadow cast by their sturdy butts. They are available in the new Shado-Kool colors—a design that combines beautiful pastel and light colored granules with the handsome Shado-Tex shadow line.

THIKBUT STRIP SHINGLES are virtually "two shingles for the price of one", because of the double thickness on the butts. Over the tabs of a standard Flintkote shingle is added another layer of stabilized asphalt coating *plus* a second layer of fireproof mineral granules.

HEXAGON STRIP SHINGLES provide durable, pleasing roofs at low cost. Hexagon Strips are available in the same range of attractive colors as Giant Overlay Strips and Thikbut Strips.

GIANT OVERLAY SHINGLES†† and 12" GIANT STRIPS† ideally meet the need for a heavier top-quality shingle. Weighing 250 lbs. per square they give additional proven weathering performance.

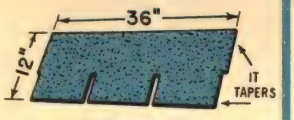
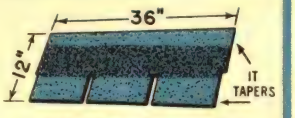
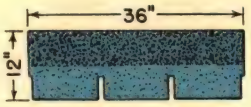
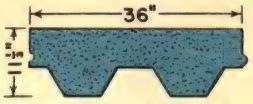
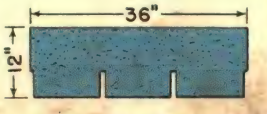
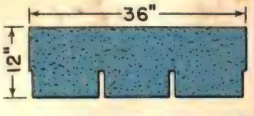
*Reg. U.S. Pat. Off.

The Flintkote SKYLINE Roofing System

An entirely new System of Roofing Application engineeered especially for Low-Pitched Roofs.

The present trend toward low sloped roofs for today's modern homes has resulted in a large demand for suitable roofing systems specifically designed for these slopes. With this problem in mind, The Flintkote Company created the Skyline Roofing System. Skyline consists of three separate specifications: Skytab ... Skytex ... and Skykote, each of which helps solve a specific roofing need.

Consult your nearest Flintkote Sales Office or Dealer for detailed specifications.

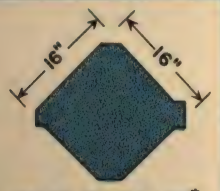
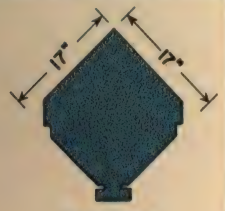
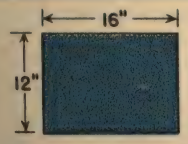
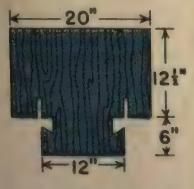
SHINGLE	Strips per square	Weight per square	Exposure	Headlap
 TAPERED STRIP	80	275 lbs.	5"	2"
 SHADO-TEX Tapered Strip	80	275 lbs.	5"	2"
 THIKBUT STRIP (also in Cedartex Finish)	80	215 lbs.	5"	2"
 HEXAGON STRIP	86	167 lbs.	4⅔"	2"
 12" GIANT STRIP†	80	250 lbs.	5"	2"
 GIANT OVERLAY STRIP††	80	250 lbs.	5"	2"

SPECIFICATIONS

A few representative colors are shown on page 2. Consult your nearest Flintkote Sales Office or Dealer for a complete list and samples of available colors. †Available in the East. ††Available in the West.

FLINTKOTE

INDIVIDUAL ASPHALT SHINGLES

SHINGLE	Shingles per square	Weight per square	Exposure	Headlap
 GIANT STAPLE-LOX*	82	162 lbs.	13½"x13½"	2½" (Sidelap)
 FLINTLOCK	77	138 lbs.	13¾"x13¾"	3¼" (Sidelap)
 DUTCH LAP	113	162 lbs.	10"x13"	2"
 DOUBLE COVERAGE SHURLOK	120	230 lbs.	12"	3⅝"

SPECIFICATIONS

Flintkote Individual Asphalt Shingles are available in a wide range of colors and distinctive styles; many of which are particularly designed for re-roofing work. These shingles may be applied right over the old roof, conveniently providing *added* insulation against heat loss through the roof.

GIANT STAPLE-LOX** is a shingle with distinctive pattern, especially designed for re-roofing. A special staple is used to bind the shingles together and lock them onto the roof.

FLINTLOCK** is another re-roofing shingle which has dependable interlocking tabs, eliminating the use of special clips or other fastenings to secure them to the roof.

DUTCH LAP shingles can be used in both new work and re-roofing. Special clips are used to lock the shingles together.

THE DOUBLE COVERAGE SHURLOK SHINGLE** is a lock-type shingle designed to provide extra protection for homes located in high wind areas. Their interlocking design makes them an integral part of the roof and their method of application provides full double coverage plus an extra margin of safety over the entire roof area. Double Coverage SHURLOKS are available in a wide variety of pleasing blends and the attractive cedartex texture greatly enhances the appearance of the finished roof.

** Reg. U.S. Pat. Off.



A few representative colors are shown on page 2. Consult your nearest Flintkote Sales Office or Dealer for a complete list and samples of available colors.

*Not available in the East.

FLINTKOTE

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ASBESTOS CEMENT PRODUCTS

Flintkote Asbestos-Cement Sidings are equally adaptable to both re-modeling and new construction... old houses can be readily transformed into homes with charm... new houses are made even more attractive with a permanent, pleasing exterior. Combining mellow, attractive appearance with the permanence, durability and fire resistance of stone, these beautiful textured Sidings will never require protective coatings to preserve them.

DURA-SHIELD* FINISH
Exclusive with Flintkote!

Flintkote Asbestos-Cement Shingles and Sidings will stay fresh looking and beautiful because they are protected with the *exclusive* Flintkote DURA-SHIELD Finish. DURA-SHIELD, a continuous shield integrated and fused with the surface of the asbestos-cement, gives Flintkote shingles and sidings a protective self-cleansing finish—a water repellent finish which helps to resist the staining action of the elements.

TAPERTEX* Asbestos-Cement Siding produces a pleasing effect unlike any similar material on the market today. Its impressive vertical texture extending from the top to the bottom of the shingle produces deep indentations which create interesting, heavy shadows.

WAVELINE Asbestos-Cement Sidings have been one of the most popular types of siding materials for years. Low in cost, but expensive in appearance, Waveline Siding is available in the ever-popular Woodgrain finish, which reproduces the mellow wood grain of cypress shingles.

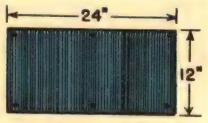
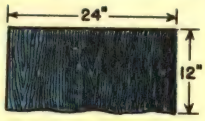
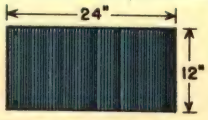
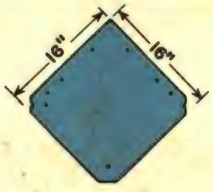
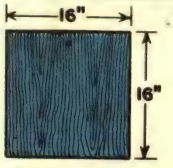
STRI-COLOR* Asbestos-Cement Siding is the newest addition to Flintkote's Asbestos-Cement Siding line. It has a deeply embossed striated surface texture that's smart and distinctive. Available in the following colors—Brown, Green, Gray, Weathered White, Weathered Green, Weathered Coral and Weathered Brown.

FLINTKOTE ASBESTOS-CEMENT ROOFING SHINGLES are made in three styles: Hexagonal with a smooth surface, Dutch Lap with a woodgrain finish and Monticello American Method with a woodgrain finish. Distributed in the South only, all are available in Gray, White, Black, Green and Red.

FLINTKOTE ASBESTOS-CEMENT BOARD, available in the West and South, is produced in two sizes: 4′ x 4′ and 4′ x 8′ and in two thicknesses: 3/16″ and 1/4″. It is extremely water repellent due to its DURA-SHIELD* Finish and makes an excellent fireproof, sanitary sheet material—light gray in color.

Easily applied, it can be sawed or score-cut and nailed without drilling. It is ideal for interior or exterior use on the farm for dairy buildings, poultry houses, equipment sheds, etc., or for commercial use in garages, warehouses, filling stations and many other locations.

*A Trade Mark of The Flintkote Company

PRODUCT	Pieces Per Square	Weight Per Square	Exposure	Headlap
 TAPERTEX Sidings	57	185 lbs.	10½″ x 24″	1½″
 WAVELINE Sidings	57	185 lbs.	10½″ x 24″	1½″
 STRI-COLOR Sidings	57	185 lbs.	10½″ x 24″	1½″
 MONTICELLO Shingles	100	280 lbs.	6″ x 24″	2″
 HEXAGON Shingles	86	265 lbs.	13″ x 13″	3″ Sidelap
 DUTCH LAP Shingles	92	280 lbs.	13″ x 12″	3″ Headlap 4″ Sidelap

SPECIFICATIONS

DECORATIVE AND STRUCTURAL INSULATION BOARD PRODUCTS

DECORATIVE INSULATION BOARD

Flintkote Decorative Insulation Board Products, designed for interior finish, do four big jobs—build, decorate, insulate and reduce noise—at one low cost. These products are widely used for basement game rooms, attic bedrooms, libraries, dining rooms and living rooms in private houses, for interiors of churches, schools, stores, theatres, offices and many other commercial structures.

INSULATION TILE is available in a number of sizes and a variety of warm, pleasant colors. Any one of the colors is beautiful when used alone or, since they harmonize with each other, many pleasant decorative effects may be achieved with combinations of sizes and colors.

PERFORATED INSULATION TILE is designed for sound absorption, insulation and decoration. Available in white only.

INSULATION PLANK, designed primarily for wall application, is available in a wide variety of smart new colors and two surface finishes, plain and textured. It is particularly effective when used in combination with Insulation Tile.

STRUCTURAL INSULATION BOARD

Flintkote manufactures a complete line of Structural Insulation Board Products at its modern plant in Meridian, Mississippi. Made from fibres of native timber selected from Flintkote's own forests, these products represent the highest development of this type of material.

STALWART* Insulation Sheathing Board, 25/32" and ½" thick, is applied in big easy-to-handle sheets, provides 2 to 3 times more insulation than ordinary wood sheathing and makes the wall stronger. Special asphalt treatment increases strength and protects against moisture absorption.



Tile and Plank have a Flintkote Blind Nailing Joint which conceals all nail-heads and gives unmarred finishes.

PRODUCT DATA—FLINTKOTE DECORATIVE INSULATION BOARD PRODUCTS**

Product	Thickness	Sizes	Package	Colors
Insulation Tile†	½"	12" x 12", 12" x 24" 16" x 16", 16" x 32"	64 Sq. Ft. per Carton	White, Spruce Green, Heather Rose and Decoblend (a pleasing blend of pastel tones)
Insulation Twin Tile†	½"	12" x 24" (scored to simulate 2–12" x 12" tile)	64 Sq. Ft. per Carton	White only
Perforated Insulation Tile Style A (Blind Nailing Joint) Style B (Butt and Bevel Joint)	½"	12" x 12" 12" x 24" (scored to simulate 2-12" x 12" tile)	64 Sq. Ft. per Carton	White Only
Insulation Plank†	½"	Widths: 8", 10", 12" and 16" Lengths: 8', 10' and 12'	12 pieces per bundle	White, Decoblend (a pleasing blend of pastel tones), Gray-Tex and Green-Tex
	½"	Widths: 12" and 16" Lengths: 8', 10' and 12'	12 pieces per bundle	Heather Rose, Spruce Green

†Flame resistant surface finish that conforms to U. S. Department of Commerce Commercial Standard CS 42-49 (Class F).

PRODUCT DATA—FLINTKOTE STRUCTURAL INSULATION BOARD PRODUCTS**

Products	Size	Thickness	Color	Joint
Stalwart Insulation Sheathing Board	2' x 8' 4' x 8', 8½', 9', 10' and 12'	½" ½"	Black	Tongue & Groove Square Edge
	2' x 8' 4' x 8', 9', 10' and 12'	25/32" 25/32"	Black Black	Tongue & Groove Square Edge
Insulation Lath	18" x 48"	½"	Natural	V-W
Building Board	4' x 6', 7', 8', 9', 10' and 12'	½"	Ivory White	Square Edge
Thriftex Wallboard	4' x 6', 7', 8', 9', 10' and 12'	Wallboard Thickness	Ivory White	Square Edge
Roof Insulation	23" x 47"	½", 1", 1½" and 2"	Natural	Square Edge
Asphalt Coated Roof Insulation	23" x 47"	½", 1", 1½" and 2"	Black	Square Edge

* Reg. U. S. Pat.Off.

**Subject to change without notice.

FLINTKOTE

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INSULATION PRODUCTS

INSULATION LATH is an ideal plaster base and insulation combined. It prevents the appearance of lath marks, and requires less plaster on the scratch coat because it eliminates keys and droppings. The convenient size makes application easy and economical.

BUILDING BOARD is an economical insulating and structural material. Ideal for remodeling basement rooms and attics, or for new construction in cottages or utility buildings.

THRIFTEX WALLBOARD is an economical general utility board, ideal for partitions, window displays, and other temporary structures.

HARDBOARD is another versatile material with a smooth, hard finish—it will not warp, splinter, split or crack. Can be worked with ordinary tools, and can be painted, varnished, or lacquered.

FLINTKOTE INSULATING WOOL

Flintkote Insulating Wool is unique in that it is made from incredibly thin, flexible glass fibers (Fiberglas**) which are interlaced in a resilient wool-like mass and fabricated into batts, blankets and other forms. These long glass fibers are extremely light in weight, cannot absorb moisture and will not rust, rot or mildew. They do not sustain vermin or become odorous and do not burn.

Flintkote Insulating Wool (Fiberglas) complies with the requirements of Federal Specification HH-I-521c. Its Thermal Conductivity is established in the A.S.H.V.E. Guide as "K"=.27 B.T.U. This figure is recommended for use in calculating building heat loss.

It is made in a variety of forms each designed to serve a specific purpose both in the insulation of buildings under construction and the insulation of existing structures. When placed between the studs Flintkote Insulating Wool also helps retard the spread of fire.

PRODUCT DATA FOR INSULATING WOOL

Form	Approximate Thickness	Approximate Width*	Approximate Length	No. of Pieces Per Package	Type of Package	Surface Area Square Feet Per Package
Roll Blanket	Thick 3"	15"	40'	1	Roll	50
	Medium 2"	15"	60'	1	Roll	75
	Economy 1½"	15"	80'	1	Roll	100
Roll Blanket	Thick 3"	19"	31'7"	1	Roll	50
	Medium 2"	19"	47'5"	1	Roll	75
	Economy 1½"	19"	63'2"	1	Roll	100
Roll Blanket	Thick 3"	23"	39'1"	1	Roll	75
	Medium 2"	23"	52'1"	1	Roll	100
	Economy 1½"	23"	65'3"	1	Roll	125
Batt Blanket	Thick 3"	15"	24"	16	Bag	40
	Medium 2"	15"	24"	24	Bag	60
Batt Blanket	Thick 3"	15"	48"	8	Bag	40
	Medium 2"	15"	48"	12	Bag	60
Batt Blanket	Thick 3"	15"	96"	4	Bag	40
	Medium 2"	15"	96"	6	Bag	60
	Economy 1½"	15"	96"	10	Bag	80
Batt Blanket	Thick 3"	23"	48"	5	Bag	38.3
	Medium 2"	23"	48"	8	Bag	61.3
Dixie Batt Blanket	Medium 2"	15"	48"	12	Bag	60
Bantam Batt	Wall Thickness	15"	10¾"	28	Bag	31
Pouring Wool	4"				Bag	20†

*Material 15" wide fits between studs 16" on centers; 19" wide fits between studs 20" on centers; 23" wide fits studs on 24" centers.

†Approx. coverage, sq. ft. per bag when applied 4" thick.

** Reg. U.S. Pat. Off.—Mfg. by Owens-Corning Fiberglas Corp.

FLINTKOTE

BUILT-UP ROOFING

COLD AND HOT PROCESS

Flintkote Built-Up Roofing Materials are available for either the standard type of hot applied built-up roofing or for the Cold Process type of built-up roofing.

The particular advantage of Flintkote Cold Process Roofing lies in the fact that all felts are saturated and heavily precoated in manufacture and in application are solidly embedded and cemented with cold FIBREX* Cement in its original consistency—no heating is used, therefore no change is involved in the physical characteristics of the cementing agent. The surface of the coated Cold Process Felts are further protected by a heavy coating of STATIC* Asphalt. STATIC* Asphalt is an emulsion which contains unusual weathering properties. STATIC* Asphalt does not alligator, crack, slip or flow from the surface over which it is applied. In fact, it will outlast any other type of bituminous coating under exposure to the weather. Both the FIBREX* Cement and the STATIC* Asphalt used in the construction of Flintkote Cold Process Roofing may be applied by either brush or spray. Flintkote Cold Process Roofing Materials are available through Flintkote distributors and applied by Flintkote approved roofers. Consult your nearest Flintkote Sales Office for complete specifications or for the name of nearest Flintkote distributor or Flintkote approved roofer.

Flintkote Specifications include the following types of built-up roof construction, each of which may be bonded for a specific term of years:

Smooth Surface VISKALT* Roofs
Gravel or Slag Surfaced Asphalt Roofs
Slate Surfaced Asphalt Roofs
Gravel or Slag Surfaced Coal Tar Pitch Roofs
Cold Process Roofs

Long life, weatherproof protection, and absolute satisfaction are the basic considerations back of the development of Flintkote built-up roofing Specifications. Roofs may be bonded when applied in accordance with Specification by an approved Flintkote Roofer and when inspected by an authorized Inspector. Consult your nearest Flintkote Sales Office.

BUILT-UP ROOFING MATERIALS

VISKALT* Saturated Felt (For Hot Application)—A superior type of saturated felt 36" wide for built-up roof application—No. 15—432 sq. ft. 60 lbs. per roll, No. 30 Base Felt—216 sq. ft. 60 lbs. per roll.

Tar Saturated Felt (For Hot Application)—A heavily saturated tar felt 36" wide for built-up roof application—No. 15—432 sq. ft. 60 lbs. per roll.

Double Coverage REX CONSTRUCTION ROOFING* (For Hot Application)—A double coverage roofing felt 36" wide, 17" covered with a heavy mineral surfacing and having a 19" coated and sanded selvage edge. Applied over a base course of VISKALT Saturated Felt as specified.

Asphalt Saturated Membrane—A strong asphalt saturated fabric used as a reinforcing material especially in flashing construction.

Roofing Asphalt (For Hot Application) Used as the bonding and cementing agent with VISKALT Saturated Felt on inclines not less than ¼" per foot.

DEAD LEVEL BITUMEN (For Hot Application)—Used as the bonding and cementing agent with VISKALT Saturated Felt where the roofing is applied on inclines less than ¼" per foot.

Roofing Pitch (For Hot Application)—Used as the bonding and cementing agent with tar saturated felt.

Cold Process Felt (For Cold Application)—a pliable high-strength super-saturated felt, coated both sides with an asphalt of special affinity for FIBREX Cement. Rolls 36" wide, 108 sq. ft. Wt.: 53 lbs.

FIBREX* Cement (For Cold Application)—for cementing Cold Process Felts. Has a quick set with unusual bonding strength. Applied by spray or brush. Available in 55 and 30 gal. drums and in 5 and 1 gal. cans.

STATIC* Asphalt (Fibrated) (For Cold Application)—applied in cold form as a protective coating for new and old roofs. For brush application only. Available in 55 and 30 gal. drums and 5 and 1 gal. cans.

NU-STATIC Asphalt** (For cold application)—a bituminous, fibrated coating which will outlast any other form of bituminous coating exposed to the weather. Applied by spray. Available in 55 and 30 gal. drums and 5 gal. cans.

STATIC* Asphalt (Non-Fibrated)—applied in cold form as a protective coating over bare metal roofs and masonry walls and parapets. For brush application only. Available in 55 and 30 gal. drums and 5 and 1 gal. cans.

ROLL ROOFING SIDINGS AND ACCESSORIES

Flintkote Embossed Strip Siding, an economical material for re-siding ailing houses, comes in easy-to-handle rolls, brick or stone design. Surfaced with the same colorful mineral granules used on Flintkote Insulating Siding (see page 11). Siding rolls are 31" wide, 43' long, 2 strips per roll. Weight: 105 lbs.

MINERAL SURFACED ROLL ROOFING

SHADOWPOINT* Roofing is an exclusive design with colorful mineral surfacing for use over old roofs only. Underwriters' Class C Label. Rolls cover 100 square feet. Weight: 105 lbs.

90 Lb. Mineral Surfaced is a heavy, durable roll roofing. Furnished with or without a 2" selvage edge. Underwriters' Class C Label. Rolls are 36" wide by 36' long. Packed in 90 lb. rolls with nails and lap cement.

Double Coverage REX CONSTRUCTION ROOFING* is designed for roofs with a pitch of ¾ inch or more per foot. Rolls are 36" wide, 17" mineral surfaced and 19" coated selvage edge. Underwriters' Class C Label. Roll covers ½ square.

Blind Nailing is a sturdy mineral surfaced roofing 18" wide with a 3" selvage edge. For use on all roofs with a pitch of 4 inches or more to the horizontal foot. Underwriters' Class C Label. Rolls cover 100 square feet. Weight: approx. 99 lbs. including nails and ½ gal. WELD-ON Cement. (Nails packed with roll. Cement packed separately.)

Consult your nearest Flintkote Sales Office or Dealer for complete list of colors.

SMOOTH ROLL ROOFING

REX FLINTKOTE* is a super-grade reversible roofing with special Rayflex finish on one side and corrugated mica finish on the other, for use either side up. Underwriters' Class C Label. Packed in 65 lb. rolls, with nails and lap cement.

STALWART* is a high quality roofing with gun metal corrugated finish. Underwriters' Class C Label. In 55 lb. rolls with nails and lap cement.

RELIANCE* is a moderately priced roofing, mica surfaced on both sides. Packed in 45 lb. rolls with nails and lap cement.

COATINGS AND CEMENTS

Flintkote Asphalt Coating is a liquid non-fibrated coating for resurfacing roofs, applied by brush or spray, or for painting metal roofs of buildings. 55 and 30 gal. drums and in 5 and 1 gal. cans.

Flintkote Roof Coating is a heavy-bodied fibrated bituminous coating for resurfacing of existing roofs, relining gutters and for dampproofing. 55 and 30 gal. drums and in 5 and 1 gal. cans.

Flintkote Plastic Cement is a heavy-bodied fibrated asphalt cement of trowel consistency. Sets firmly and quickly, yet retains its elastic properties. 550 and 300 lb. drums, and in 50, 25, 10, 5 and 1 lb. cans.

Flintkote Lap Cement provides a waterproof lap between successive sheets of roll roofing. 5 gal., 1 gal., and 1 pint cans.

Flintkote REXALT Roof Coating** is a superior fibrated coating for resurfacing old composition, built-up and metal roofs, steep or flat. 55 and 30 gal. drums and in 5 and 1 gal. cans.

WELD-ON* Roofing Cement, formulated from selected asphalts, blended with a highly volatile solvent and asbestos fibres, for blind nailing lap cement for roll roofing; adhesive for Flintkote REX CONSTRUCTION roofing; cementing agent for bonding. Available in 1 pt. and 1 qt. cans; 5 and 1 gal. cans; and 55 and 30 gal. drums.

COL-PLY* Cement is for patching and flashing construction. Applied by trowel. 550 and 345 lb. drums, and in 50 and 10 lb. cans.

Roof Saturant is a high penetration liquid asphalt for reconditioning old felts and as a priming coat in Cold Process Specifications. Available in 55 and 30 gal. drums and in 5 and 1 gal. cans.

* Reg. U.S. Pat. Off. **A Trade Mark of The Flintkote Company.

FLINTKOTE

INSULATING SIDINGS

No other home improvement so quickly transforms an old house into a modern, attractive home as covering old weathered sidewalls with Flintkote Insulating Siding.

These modern, durable sidewall materials which weather-proof and insulate a home at one cost are available in a wide variety of popular colors in brick, shake, or stone designs. New Sidewalls of Flintkote Insulating Siding Give:

NEW BEAUTY with distinctive sidewalls of brick, shake, or stone design.

ADDED COMFORT... a cooler home in summer, a warmer one in winter since the flow of heat through walls is retarded.

GREATER VALUE... slows down depreciation, increases rental and resale values.

LONG-LIFE PROTECTION by combining time-tested Insulation Board, durable weather-resistant asphalt and mineral granules.

NO PAINTING EXPENSE because this durable fire-resistant siding never needs paint or stain to maintain its life.

LOWER FUEL BILLS since heat losses through walls is reduced up to 30 per cent.

REDUCED OUTSIDE NOISE... makes a home more peaceful and restful... assures better living all year round.

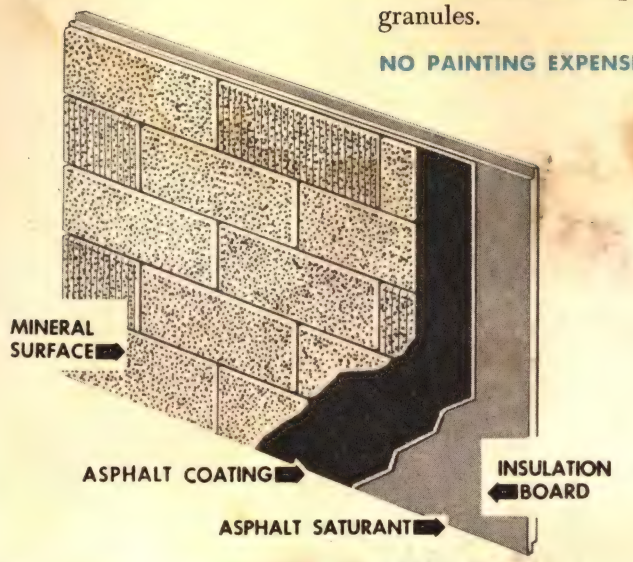
SAVINGS in Fuel, Paint and Maintenance soon pay for this new home improvement.

Combining attractiveness of brick, shake or stone appearance with effective insulation, Flintkote Insulating Siding is a "double-value" siding material. For little more than the cost of either *insulation* or *siding*, the home owner obtains *both* when his home is re-sided with Flintkote Insulating siding.

This attractive siding has the rugged appearance of wire cut brick, shake, or stone design. It never needs paint to maintain its long life. Transforming an old rundown house is easy and inexpensive with Flintkote Insulating Siding.

Insulation board, made from selected timber from Flintkote's own forests, is used as the base. Saturated with long-weathering asphalt, it is then coated on one side with a durable asphalt coating, into which colorful, fire-resistant granules are firmly embedded.

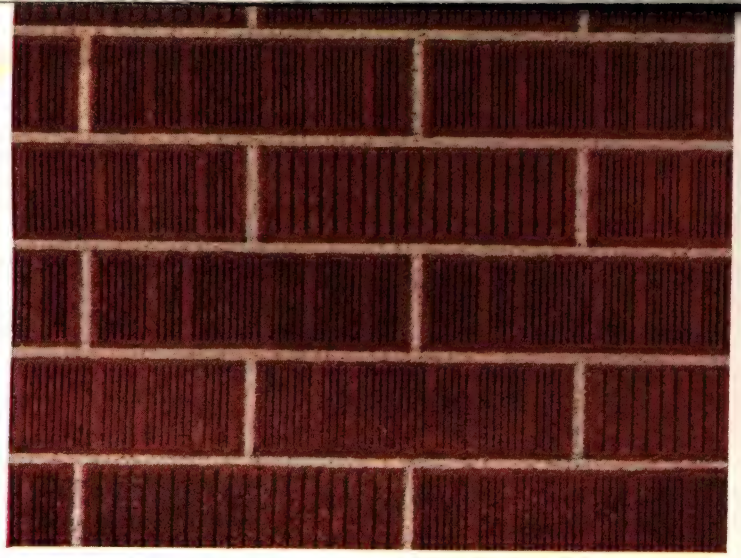
The master panel, a big, economical, easy-to-handle sheet, with four ship-lap edges, comes in either a brick, shake or stone pattern. Matching Corner Pieces give a siding job a finished appearance and make this attractive and popular siding weather-tight. A special asphalt base caulking compound must be used on all cut edges.



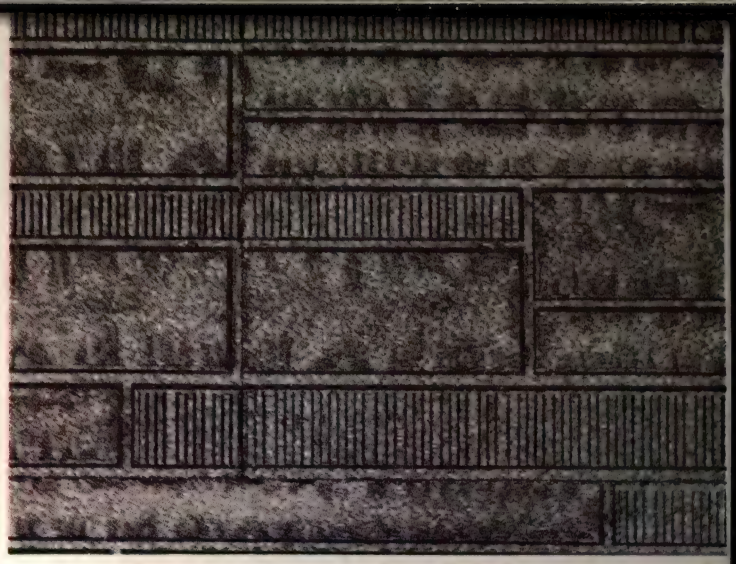
Approx. Size	Pieces per Carton	Cartons per Square	Weight per Square
43″x 14″	8	3	195 lbs.** 205 lbs.*
NARRO-LAP† 43″x 11⅜″	8	4	205 lbs.

*Available in the West only. **Available in the East only.
†Color Line Narro-Lap, 220 lbs. per square, available in the West only.

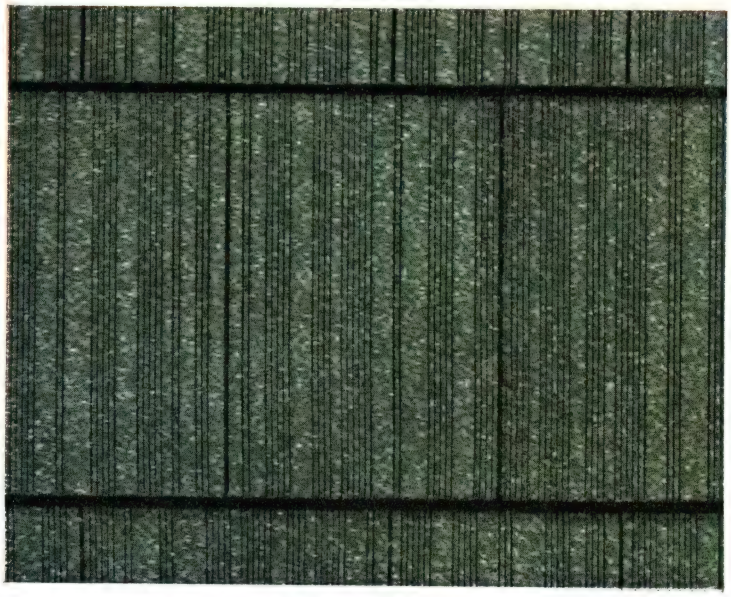
Consult your nearest Flintkote Sales Office or Dealer for a complete list and samples of available colors.



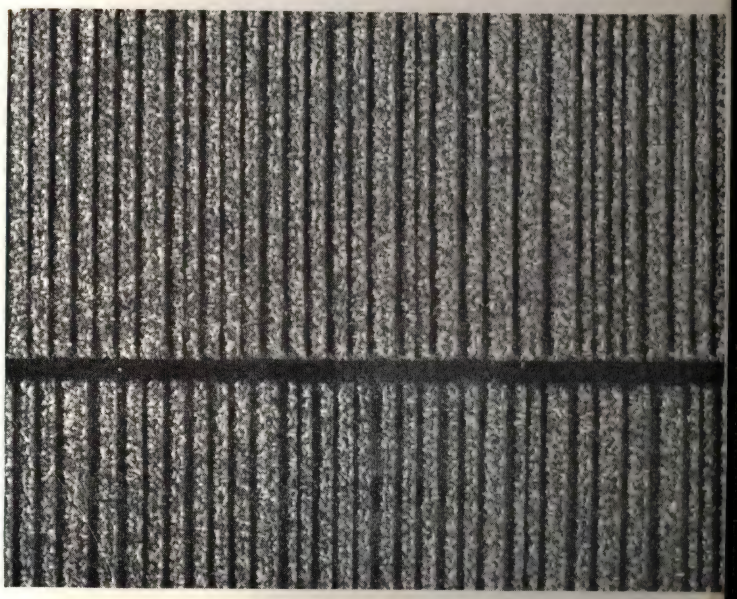
BRICK DESIGN — COLORED MORTAR JOINTS



3-D VILLA STONE DESIGN



SHAKE DESIGN



COLOR LINE DESIGN

Stri-Color ASBESTOS-CEMENT SIDINGS







With the wide variety of shapes, sizes and colors available in Flintkote Interior Insulation Board Products almost any desired pattern, design, or color combination is possible for both residential or commercial buildings.

FLINTKOTE BUILDING MATERIALS

THE FLINTKOTE COMPANY

BUILDING MATERIALS DIVISION

30 Rockefeller Plaza • New York 20, N. Y.

BK-216
54

PRINTED IN U. S. A.



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925 Park Square Building

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DETROIT 27, MICH.
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Oak St. & Central Ave.

LOS ANGELES 54, CALIF.
55th & Alameda Streets

NEW ORLEANS 4, LA.
4500 N. Galvez Street

WACO, TEXAS
Medical Arts Building

WASHINGTON 5, D. C.
Woodward Building



Here illustrated are the new No. 12 "Dualay" Roofing Shingles and the silicone-treated "Nu-Grain" Siding Shingles.

K&M best in asbestos

"Century"® ASBESTOS-CEMENT

roofing shingles • siding shingles • flat sheets

KEASBEY & MATTISON COMPANY • AMBLER, PENNSYLVANIA

Nature made asbestos... Keasbey & Mattison has made it serve mankind since 1873

For assured quality in asbestos-cement building products you can depend on Keasbey & Mattison Company, the country's oldest manufacturer of asbestos-cement shingles and corrugated sheets.

K&M "Century" asbestos-cement shingles, for example, do not vary in quality from one style to another. Strict quality control assures uniformity. Each style is equally durable, equally weatherproof and equally fire-resistant.

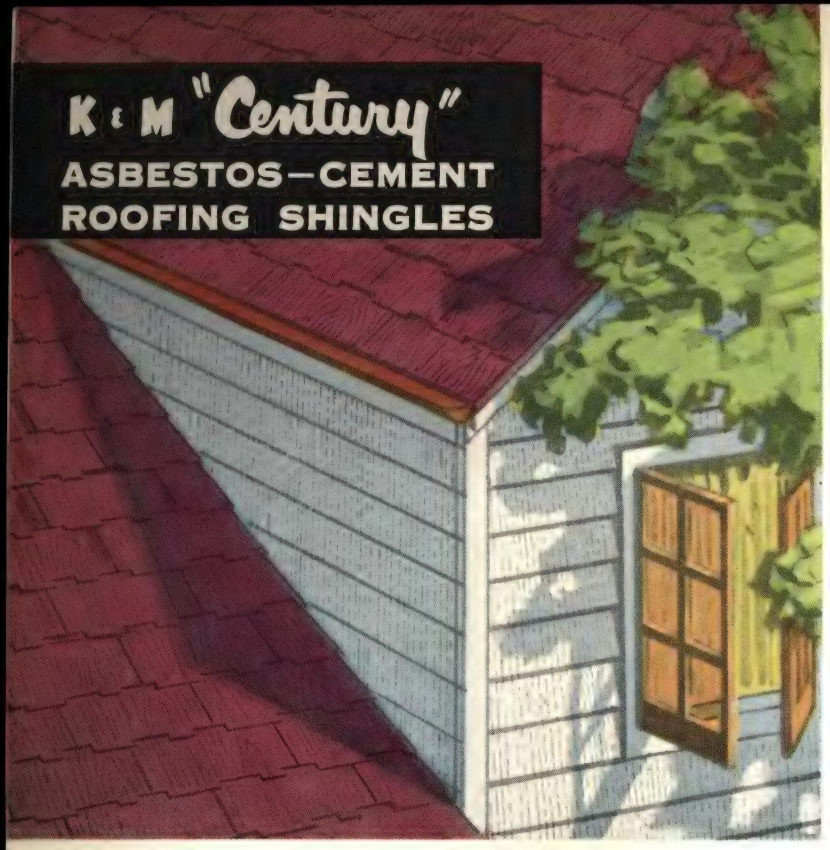
K & M "Century" asbestos shingles are made for both roofing and siding, with styles, colors and shapes for every type of building. They are available in smooth as well as rough-textured surfaces.

For a water-tight pitched roof, American Method type "Century" shingles should be applied to roofs having a pitch of at least 4″. Hexagonal or Dutch Lap shingles should be applied to a pitch of at least 5″.

K & M asbestos-cement siding shingles are ideal for both new construction and for renovation of existing structures. They work wonders at transforming the appearance of old homes.

In addition to roofing and siding shingles, several types of flat asbestos sheets are offered by K & M for both interior and exterior application. See the back page for further details.

K & M "Century" ASBESTOS–CEMENT ROOFING SHINGLES



Illustrating "Century" No. 5 Roofing Shingles.

"Century" Shingles are always the outstanding choice. Made of asbestos fiber and portland cement, they won't burn, rot or corrode. They are long-lived, dependable and never need protective paint.

HEXAGONAL



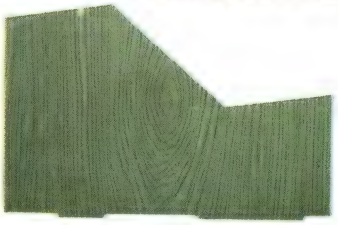
GRAY DUOFACE

The No. 4 hexagonal shingle provides beauty and lasting protection at moderate cost. It is recommended where economy is a factor. The No. 4 Shingle is available *only* with smooth surface.

specifications

Size—16″ x 16″ x $\frac{5}{32}$″
No. per square—86
Exposure—13″ x 13″
Approximate weight per square—245 lbs.
Colors: Gray Duoface, Spanish Red, Black and Surf Green.

AMERICAN METHOD TYPE NO. 5



NO. 5 SURF GREEN

The No. 5 American Method Type Shingle has been scientifically designed for quick and economical application. On the roof, it presents the random widths and thatched butt lines characteristic of the American Method.

specifications

Size—15$\frac{3}{8}$″ x 24″ x $\frac{5}{32}$″
No. per square—90
Exposure—6$\frac{5}{8}$″, 2″ head lap
Approximate weight per square—285 lbs.
Colors: Spanish Red, White, Black, Surf Green and Dell Green.

K & M "Century"

"CENTURY" SIDING SHINGLES

These shingles are ideal for either new construction or for renovation of existing side-walls. They can be applied over existing siding, and can be depended upon to make an amazing transformation in the appearance of a home.

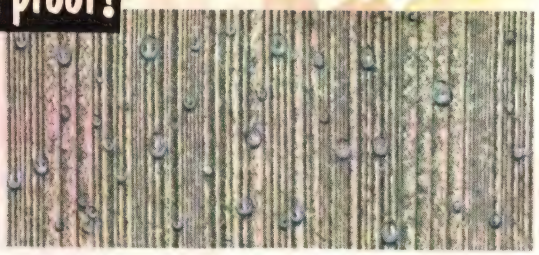
"Century" siding shingles are available in a number of colors and are fire- and weather-resistant. They become harder with age and never require protective painting—cut maintenance cost to a minimum.



NOW..."CENTURY" NU-GRAIN SIDING

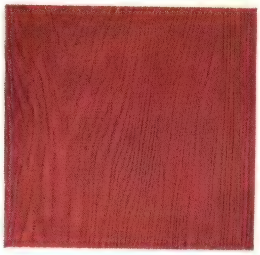
These silicone-treated shingles are the most weather-resistant, dirt-resistant asbestos-cement shingles ever offered by K&M. Water-borne dirt, causing streaks under window sills and around other trim does not readily gain a foothold to mar the natural beauty of the shingles. The attractive wood-grain pattern, designed for a lifetime, is obtained with ceramic granules imbedded into the shingles under hydraulic pressure.

here's proof!



Water "balls up" and rolls off this silicone-treated shingle

DUTCH LAP



SPANISH RED

The No. 30 Shingle provides all the economies of Dutch Lap application, yet resembles the more expensive American Method types in appearance. The large size of this shingle gives greater unit coverage and reduces cost of application. The K & M Dutch Lap Shingle is rigid and strong and provides an unusually secure roof.

specifications

Size—16″ x 16″ x $\frac{5}{32}$″
No. per square—92 ($\frac{1}{4}$ lap)
Exposure—12″ x 13″ (head lap 3″—side lap 4″)
Approximate weight per square—260 lbs.
Colors: Spanish Red, Black and Surf Green.

AMERICAN METHOD NO. 9



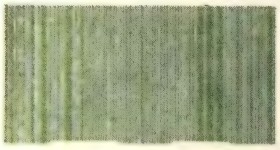
DELL GREEN

The No. 9 American Method Shingle, with heavy shadow lines and rich wood-grain texture, offers added beauty and dependable weather protection for almost every type of structure.

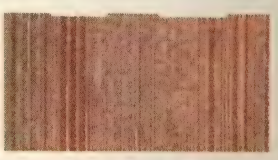
specifications

Size—9″ x 18″ x $\frac{1}{4}$″
No. per square—200
Exposure—8″, 2″ head lap
Approximate weight per square—570 lbs.
Colors: Red, Black, Surf Green and Dell Green.

"CENTURY" NO. 12
"DUALAY" ROOFING SHINGLE
(Straight or thatched butt)



PASTEL GREEN



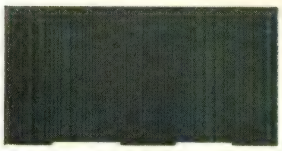
PASTEL RED



LINDENWOLD



ANTIQUE RED



PEACOCK BLUE



RUSTIC BROWN

An entirely new conception of color is evident in the six available choices, obtained with a combination of mineral pigments and ceramic granules. The shingle can be laid with either a straight or thatched butt. Application is facilitated by the larger area covered with each shingle and the self aligning feature. Increased resistance to extremes in weather is secured by the use of a storm anchor.

specifications

Size—12″ x 24″ x $\frac{5}{32}$″
No. per square—80
Exposure—20″ x 9″ (head lap 3″—side lap 4″)
Approximate weight per square—260 lbs.

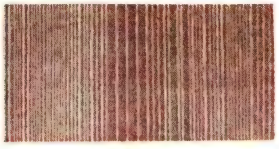
ASBESTOS–CEMENT SIDING SHINGLES

SHINGLES TREATED WITH SILICONE

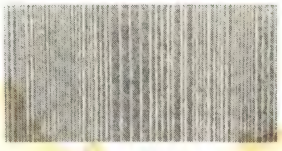
STYLE NO. 58, Straight butt line



GREEN



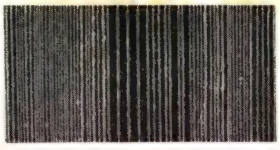
RED



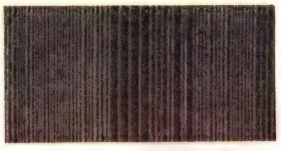
WHITETONE



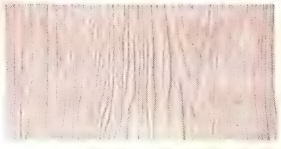
BROWN



GRAY



SEPIA



STYLE NO. 57
wavy butt line

SHELL WHITE WITH CYPRESS GRAINING

PASTEL "Century" Asbestos-Cement Siding Shingles

Here are eye-catching pastel colors produced from mineral pigments and made an integral part of the shingles for lasting results.
(available in style No. 57, wavy butt and style No. 58, straight butt)
all with cypress graining
Sun-Glo Buff, Sea Gull Gray, Fathom Green.



specifications

Size—12″ x 24″ x $\frac{5}{32}$″
No. per square—57
Approximate weight per square—175 lbs.
Exposure—10$\frac{1}{2}$″ x 24″

To apply, sheathe all surfaces with asphalt saturated felt (at least 15 lb. weight), flash all [illegible] joints with asphalt felt strips and use non-corrosive [illegible] asphalt felt strips and face nails are supplied with the [illegible] shingles.

K & M "Century" FLAT ASBESTOS-CEMENT SHEETS

"Century" APAC



A principal feature of Apac is its versatility. There is almost no limit to the number of ways Apac can be used.

Durable, easy to apply, fire- and weather-resistant, it is suited equally well to exterior siding and all types of interior panelling and partitions.

"Century" APAC sheets are light gray in color and their pleasing appearance makes painting unnecessary. Apac is furnished in large, easily worked sheets and is easy to cut by scoring on one side and snapping off along a straight edge.

Specifications. Sizes: 48″ x 48″ and 48″ x 96″—thicknesses: 3/16″, 1/4″ and 3/8″—approximate weights in lbs. per square ft.: 1.75, 2.35 and 3.50 respectively.

"Century" SHEETFLEXTOS



"Century" SHEETFLEXTOS is designed primarily for interior use—residential, commercial or industrial. As the name implies, flexibility is one of its principal characteristics. Although it is a hard material, a full size sheet has a minimum safe bending radius of 36″ with the long edges curved and 60″ with the short edges curved. The most common applications are in the construction of incombustible linings, panelling and ceilings in the interior of buildings.

SHEETFLEXTOS, light gray in color, blends with many color schemes. Its attractive texture lends itself to the finishing of kitchens, bath rooms and game room ceilings and walls. It may be painted, if desired, for decorative purposes.

Specifications. Sizes: 48″ x 48″ and 48″ x 96″—thickness: 1/8″ only—approximate weight: 1.29 lbs. per sq. ft.

"Century" LINABESTOS



"Century" LINABESTOS has been a popular favorite for years for such types of buildings as industrial plants, farm buildings, homes, garages and stores. A thicker sheet (3/16″, 1/4″ and 3/8″) than its companion, Sheetflextos, LINABESTOS is used to replace wood, plaster and perishable materials where it will be subjected to hard usage. For exterior side-walls, it offers exceptional fire and weather protection.

"Century" LINABESTOS is light gray in color with an attractive grain or texture. It does not require painting for protective purposes but it can be decorated if architectural effects are desired.

Specifications. Sizes: 48″ x 48″ and 48″ x 96″—thicknesses: 3/16″, 1/4″ and 3/8″—approximate weights in lbs. per sq. ft.: 1.93, 2.57 and 3.86 respectively.

BATTENS

Apac battens are furnished in 3/16″ and 1/4″ thicknesses and Linabestos in 3/16″ thickness. Both are furnished in 2″, 3″ and 4″ widths, 4 and 8 feet long. The recommended practice is to imbed all battens in caulking compound when used in exterior applications.

KEASBEY & MATTISON COMPANY • AMBLER, PENNA.

DISTRICT OFFICES:

New York, New York
San Francisco, California
Philadelphia, Pennsylvania
Chicago, Illinois
Houston, Texas
Cleveland, Ohio
Atlanta, Georgia



KEYWELD

KEYMESH

KEYMESH

galvanized reinforcing

Woven from cold-drawn steel wire, Keymesh provides multidirectional reinforcing and excellent bonding surface due to its reverse twist weave and hexagonal mesh design. It is easy to handle . . . rolls out flat . . . can be formed to irregular shapes easily . . . and does not injure hands. Keymesh is galvanized, eliminating the rust problem during storage and use.



SPECIFICATIONS

150′ x 3′ rolls	Approx. Wt.
1½"—17 gauge	71 lbs.
1" —18 gauge	88 lbs.
150′ x 4′ rolls	
1½"—17 gauge	94 lbs.
1" —18 gauge	116 lbs.

other widths and gauges available

KEYWELD

welded wire reinforcing

Expertly electrically welded, Keyweld provides extra-strength for heavy-duty reinforcement jobs. It is available in a number of gauges and styles to suit any job requirement. All welded intersections are uniform in bond and strength. Keyweld is easy to handle, cut and form.

See specifications for your requirements or write Keystone.



SPECIFICATIONS

Spacing of Wires in Inches		Gauge		Wt. Per
Longitudinal	Transverse	Longitudinal	Transverse	100 Sq. Ft.
6	6	10	10	21
6	6	8	8	30
6	6	6	6	42

Available in 5 ft. or 6 ft. widths, and 100 ft., 150 ft. or 200 ft. lengths. Available in all standard spacings and gauges, plain or galvanized.

roofing
siding
insulation

KEYSTONE STEEL & WIRE COMPANY

PEORIA 7, ILLINOIS

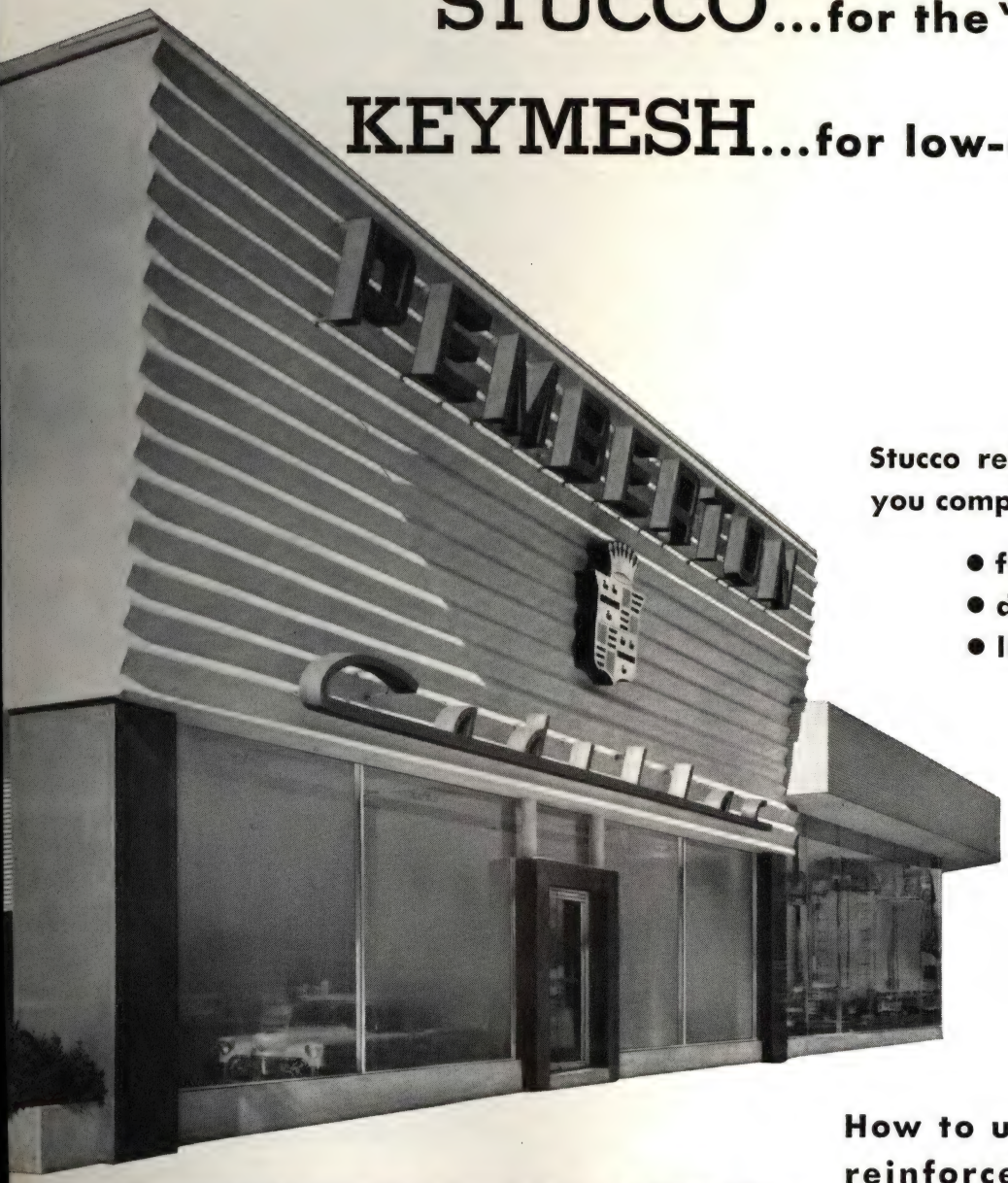
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Simulated Brick & Stone.....page 3
Reinforced Roofs.....page 4
Insulation .....page 4

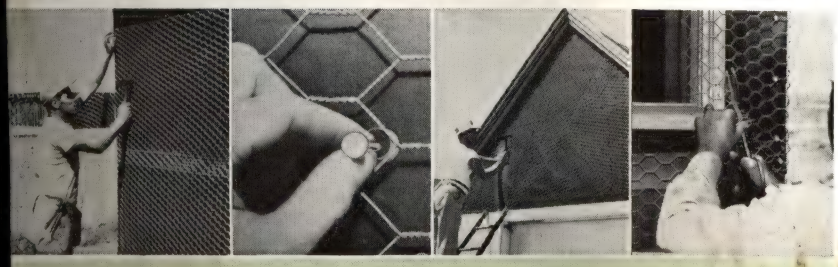
STUCCO...for the "new look"

KEYMESH...for low-cost reinforcement



Stucco reinforced with KEYMESH gives you complete freedom of design

- fire safe
- long life
- durable
- low cost
- little maintenance



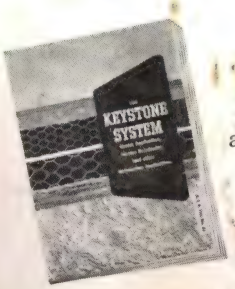
Keymesh is easy to handle. It comes in a convenient size roll. Goes up fast. Forms easily around corners. Furring nails hold the Keymesh ¼ to ⅜ inch from felt for complete embedment and maximum reinforcement. Irregular shapes in gables and around openings are rapidly lathed. Keymesh laps and joints are smooth.



The first coat applied ⅜ inch thick, flows through and around the Keymesh embedding it for maximum reinforcement. It is then scratched in preparation for the second coat. The second, or brown coat is applied over the Keymesh-reinforced scratch coat. The finish coat completes the strong, durable, uniform 1 inch thick concrete slab.

How to use KEYMESH for modern reinforced STUCCO siding

Keystone has developed a system of Stucco Application as a guide for architects, builders, lathers and plasterers. This system insures a durable, attractive and economical finished job. There is nothing radical about it, but rather is a combination of the best-known methods used by builders and tradesmen. It also incorporates recommended procedures developed by associations and technical experts in the building industry . . . . .



This system is completely explained and illustrated in a 44 page book available to you at no charge. Write Keystone Steel & Wire Company, Peoria 7, Ill., for your copy of "The Keystone System of Stucco Application, Plaster Reinforcing and other Reinforcing Applications."

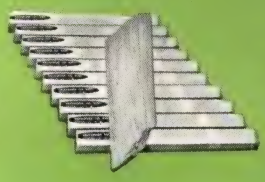
Simulated brick or stone siding reinforced with KEYMESH

A BEAUTY TREATMENT for buildings—old or new

The cost of beautifying buildings with simulated brick or stone is a fraction of the cost of natural stone or brick. You also have a much wider choice of colors. For example, the charm of an ashular stone pattern, with a beautiful split face or other natural stone texture, or the distinctive appearance of handmade Roman type brick, all in a wide variety of colors.

APPLIED TO LAST with KEYMESH galvanized reinforcing lath

Simulated brick and stone are actually slabs of reinforced concrete. They combine the strength and durability of concrete with the beauty of brick and stone. They are weatherproof because there are no actual mortar joints. They never need painting, because color is obtained by using crushed brick and stone aggregate. And they give a natural strength to any building. They will not burn, providing the additional feature of fire safe walls. When Keymesh is used, the result is multidirectional reinforcing and great bonding surface due to the reverse twist and hexagonal mesh design.



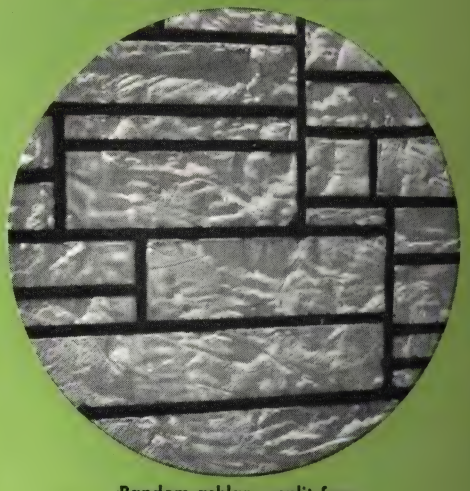
TIE WIRE
Available in coils or straight pieces. All standard sizes. Conveniently packaged. Is smooth and pliable. Can be used for innumerable building purposes.



SPECIAL NAILS
A full selection of nails for various applications is available from Keystone. For example, furring, concrete, duplex, blued lath and galvanized roofing nails. There is also a complete assortment of sizes.



Random ashlar — smooth planer



Random ashlar — split face



Coursed ashlar — split face



Sand floated reinforced stucco



Random length coursed

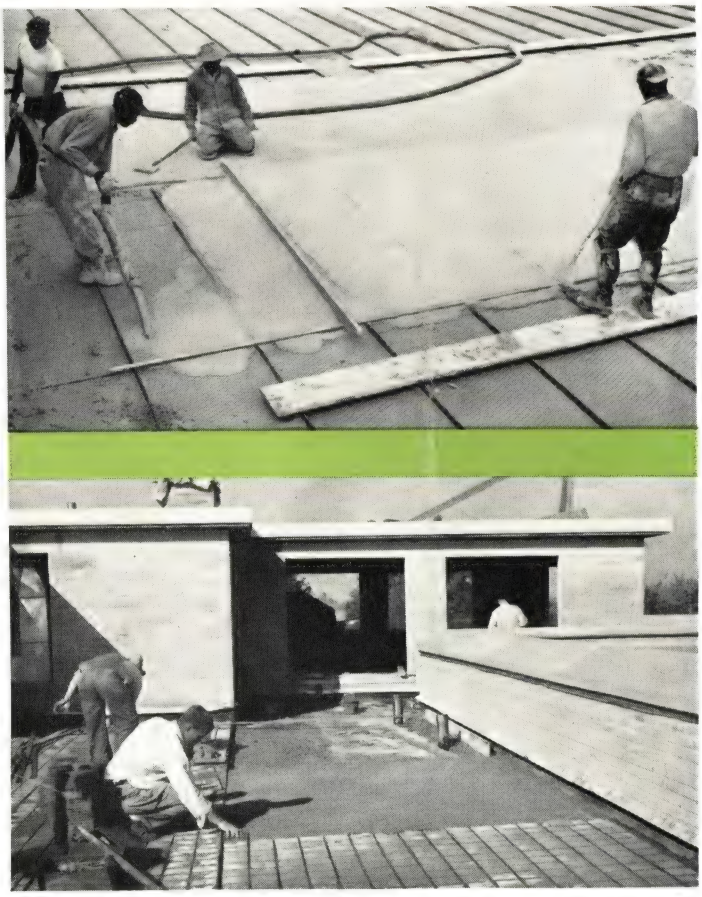


Handmade Roman brick type

KEYSTONE reinforced roofs

KEYMESH

Economical for poured gypsum roof deck and several types of light duty concrete decks. The open mesh of Keymesh assures thorough embedment in the mix for maximum strength. It is always advisable to reinforce any roof deck area with Keymesh when tile or thickly poured finishes are contemplated. Write for your copy of the Keystone System explained on page 2 of this folder.



KEYWELD

For larger, heavy-duty roof deck applications, Keystone Keyweld has proved its efficiency. The expertly electrically welded intersections remain intact to provide lateral reinforcing in both directions and give additional longevity to every job. Keyweld is easy to handle, cut and form. See page 1 of this folder for specifications, availability and description.

INSULATION WRAPPING reinforced with KEYMESH



- tanks
- vessels
- breeching
- ducts
- pipes
- exhaust pipes
- incinerator flues
- stacks

Because of its flexibility and "workability," Keymesh has proved itself as an efficient reinforcement for insulation of air ducts, pipe lines, tanks and boilers. Where cement is used, cracking and separating is reduced because of the tight bond to the twist weave and hexagonal mesh. Where batts or felts are used, Keymesh is wrapped around them to hold them securely in position and to protect them.

KEYSTONE STEEL & WIRE COMPANY, Peoria 7, Illinois

Keymesh • Keybead • Keycorner • Keystone [illegible]e Wire • Nails
Welded Wire Fabric • Non-Climbable and [illegible]-mental Fen[illegible]

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Gold Bond®

asbestos-cement products

asbestos-cement siding shingles

CHROMA-TEX

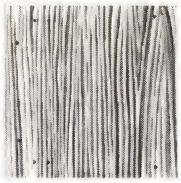


WOOD-GRAIN



asbestos-cement roofing shingles

DUTCH LAP



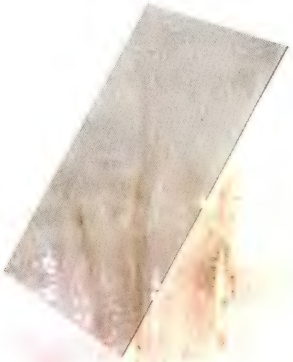
corrugated roofing and siding

ASBESTONE "ECONOMY 250"



asbestos-cement wallboard

PERMABOARD



PLIABOARD



NATIONAL GYPSUM COMPANY · Buffalo 2, N. Y.

Gold Bond®

ASBESTOS-CEMENT PRODUCTS

advantages of asbestos-cement products

For trim good looks, rugged durability and long-range economy, asbestos-cement, whether it be in the form of shingles, corrugated sheets or wallboards, assures a permanent, fine quality finish material. And, the Gold Bond label assures you of the top-most quality in asbestos-cement products.

The Gold Bond line of asbestos-cement products has been time-tested in thousands of installations on homes, farms, and light industrial and commercial buildings. They have been installed throughout the United States where every kind of weather condition prevails, and they literally have weathered outstandingly every condition.

The combination of high quality Portland Cement and Asbestos fibers produces a stone-like material that wears like stone and provides the following distinct advantages:

non-combustible Being wholly inorganic in composition, asbestos-cement products cannot burn. Sparks or embers from adjacent fires will not ignite roof or side walls covered by asbestos-cement products, thus offering definite fire protection.

weather resistance They remain unaffected by wind, rain, snow, salt air, summer heat or winter cold.

durable Asbestos-cement products will not rot, rust or corrode. They resist completely the action of acid fumes, corrosive smoke, and ordinary weathering, wear and tear.

economy Whether shingles, corrugated sheets or wallboards, asbestos-cement products provide long-range economy. They are made for easy installation, and they have a comparatively low initial cost. But savings do not end here. Gold Bond Asbestos-Cement Products become more economical with the years, because maintenance is reduced to practically nothing. They never need paint or protective coating. Their color is permanent. They can be painted, however, at anytime, if color changes or specific color combinations are desired.

asbestos-cement siding and roofing products

shingles

CHROMA-TEX SIDING SHINGLES. Here are beautiful, straight-edged shingles in seven pleasing colors. They are made with a vertically-striated texture that provides a two-toned color effect and gives a natural look to the shingles.

WOOD-GRAIN SIDING SHINGLES. These handsome shingles are made with a simulated wood graining in either straight-edge or waveline edge for a choice of application. Color is sparkling white.

ASBESTOS ROOFING SHINGLE. This wood-grain textured shingle is for Dutch Lap Application. Comes in five beautiful colors.

corrugated siding and roofing

ASBESTONE "ECONOMY 250." A lightweight, low-cost, fire-resistant roofing and siding that can be installed over wood or steel framing and that provides heavy-duty service for farm, light industrial, commercial and residential buildings. It comes in a natural cement gray color and never requires paint, costing practically nothing to maintain.

wallboards

PERMABOARD. A rigid, ¼" or 3/16"-thick, rock-like sheet that comes 4′ x 8′ and 4′ x 4′ for flat, large-area coverage either interior or exterior.

PLIABOARD. Similar to Permaboard, except that it is ⅛" thick so it can be bent to fit curved applications. It is a premium grade board with a high content of asbestos fibers.

sales engineering service

ASBESTOS-CEMENT SHINGLES. These shingles are sold by thousands of dealers and siding and roofing contractors throughout the United States and Canada. Consult the classified telephone directory for the nearest or write National Gypsum Company. Dealers will furnish all necessary information. Siding and roofing contractors will handle the entire job.

ASBESTONE "ECONOMY 250." This new light-weight product is sold through Gold Bond Dealers everywhere. Because it can be applied over regular wood framing, most contractors are equipped to apply it. If construction details are required, write National Gypsum Company.

ASBESTOS-CEMENT WALLBOARD. The same dealers who handle Gold Bond siding and roofing shingles and "250" Corrugated, also carry Gold Bond Pliaboard and Permaboard. The same services apply.

If more complete information is desired on any of these Gold Bond products, or, on any specific problem relating to siding and roofing, contact the nearest National Gypsum Company sales office, or write directly to the National Gypsum Company, Buffalo 2, New York. Sales offices are located in 23 cities throughout the United States and can be located through the classified telephone directory.

Gold Bond®

ASBESTOS-CEMENT SIDING and ROOFING SHINGLES

Chroma-Tex and Wood-Grain siding plus Asbestos Roofing Shingles

CHROMA-TEX Siding Shingles • beautiful, weather-proof, non-combustible, rot-proof, low-in-cost, never wear out



DESCRIPTION

wide color range Gold Bond Chroma-Tex Siding Shingles provide the key to finer homes — *with color* — at lower cost. These attractive shingles have a deep, natural-looking, vertical graining that gives a rich texture to the whole surface of a home. Seven soft, beautiful colors — Pheasant Brown, Holiday Blue, Seafoam Green, Mellow Ivory, Poplar Green, Dusty Coral and Twilight Gray — provide a wide choice for exterior decoration. (See page 4.)

color protective coating What's more — Chroma-Tex colors will not fade with time and weathering. They are protected by Gold Bond "Surfaseal", a transparent, protective finish-coating that is exclusive with the National Gypsum Company. Surfaseal acts to lock out weather stain and dirt and keeps the color fresh-looking.

striated texture, asbestos-cement Chroma-Tex Siding Shingles are composed of Portland Cement combined with Asbestos fibers to form a hard, stone-like, striated shingle that cannot burn and that resists the elements. These shingles come with a straight edge for straight-line application. They are 12″ wide by 24″ long and 5/32″ thick. Approximate weight of Chroma-Tex Shingles is 175 lbs. per square.

ADVANTAGES

economy Chroma-Tex Siding Shingles cost no more than other siding materials, and they are installed quickly, keeping labor cost to a minimum. But not only is the initial cost low, Chroma-Tex shingles become more economical with the years. They do not deteriorate under weathering and never need painting for preservation or repairing, thus reducing maintenance to practically zero. They can be painted at any time, however, if a color change is desired. Also, redecoration with Chroma-Tex is financially desirable, since they can be applied over almost any old surface, such as wood or stucco, as easily as on new construction.

non-combustible Made from Portland Cement and Asbestos fibers, Chroma-Tex Shingles cannot burn.

durability and protection Chroma-Tex Shingles wear like stone. The asbestos-cement combination forms a rugged, stone-like sheet, naturally protecting and preserving the building structure. Furthermore, Chroma-Tex resists the errosive effects of all weather: heat, cold, wind, rain, snow, fog; and the corrosive effects of salt air, smoke, acid and alkali. And finally, rats and termites cannot eat through Chroma-Tex Siding.

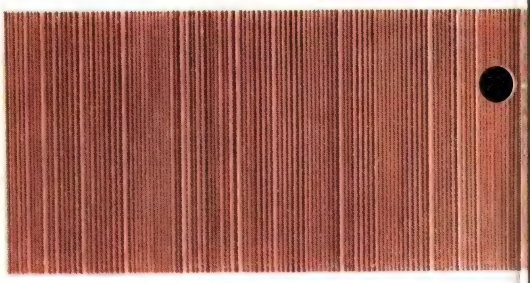


Here is a close-up of the Chroma-Tex Siding Shingle. Note its striated, natural-looking texture and two-toned color effect that rival the costliest sidings available.

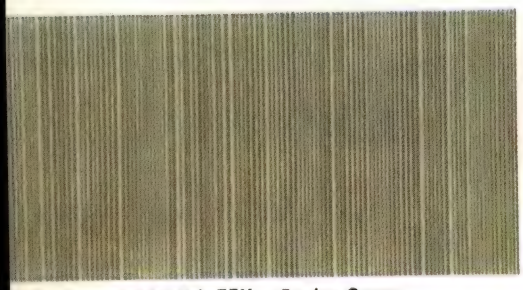
CHROMA-TEX SIDING SHINGLES

now come in 7 handsome colors

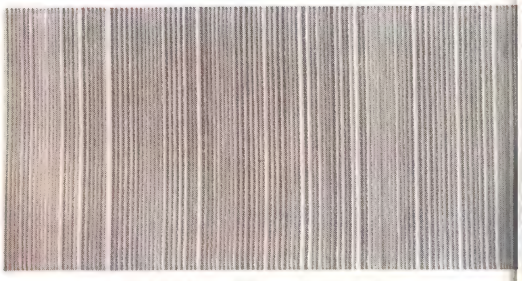
all Gold Bond Asbestos-Cement Siding Shingles can be applied over old shingles, clapboard or any sidewall surface.



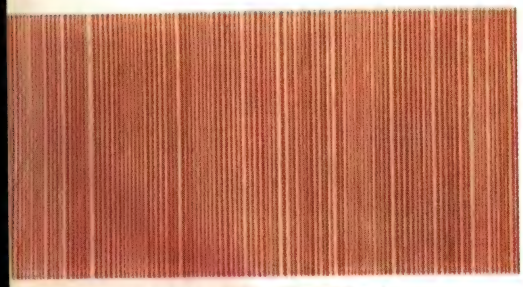
CHROMA-TEX—Pheasant Brown



CHROMA-TEX—Poplar Green



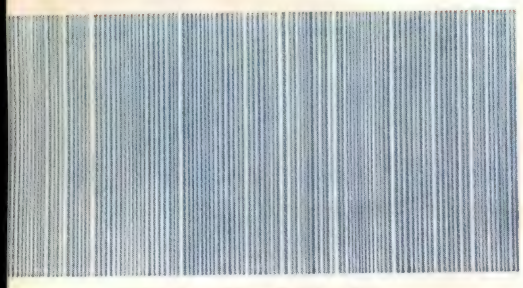
CHROMA-TEX—Twilight Gray



CHROMA-TEX—Dusty Coral

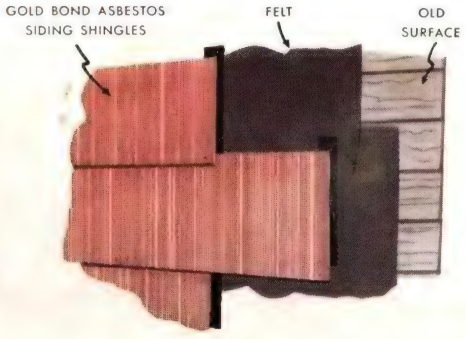


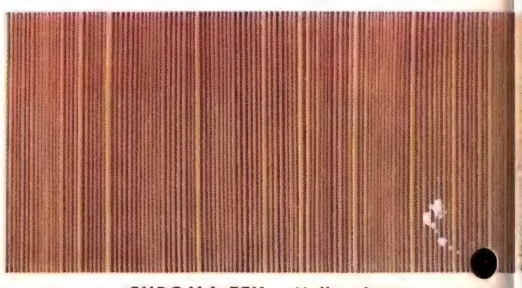
CHROMA-TEX—Seafoam Green



CHROMA-TEX—Holiday Blue

Gold Bond siding shingles can be made to cover any existing sidewall surface with ease, whether it be clapboards, shingles or stucco. The existing surface must be made as smooth and true as possible — all loose boards or shingles must be re-nailed. Over clapboards, shingles or beveled siding, a layer of asphalt roofing felt is first laid, and then either a rigid backer board is applied overall or the wall surface is filled out by nailing beveled strips or lath under the exposed butt edge of old siding pieces. With stucco, shingles can be nailed over furring strips applied directly over old stucco, or the old stucco can be removed and the shingles applied directly to the old sheathing.





CHROMA-TEX—Mellow Ivory

Gold Bond

WOOD-GRAIN SIDING SHINGLES

These siding shingles are identical in composition and size to the Chroma-Tex Shingles; therefore, they have the same advantages: economy, stone-like ruggedness, durability, fire-resistance, weather-resistance and inertness.

They differ from Chroma-Tex Shingles only in appearance and color. Manufactured with a wood graining, and are available with either straight edge or waveline edge. Wood-Grain Shingles come in traditional white.



condensed specifications for Gold Bond Siding Shingles

CHROMA-TEX • straight edge only



COLOR RANGE

Dusty Coral	Holiday Blue
Mellow Ivory	Pheasant Brown
Poplar Green	Seafoam Green
Twilight Gray	

WOOD-GRAIN • straight edge and waveline • white only



size	5/32" x 12" x 24"
per square	57
per bundle	19
exposure	10½" x 24"
head lap	1½"
wgt. per square, approx. av.	175 lbs.

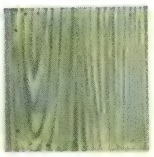
Asphalt backer strips and 1½" aluminum face nails furnished without extra charge; for new construction and for plywood sheathing, 1⅛" aluminum ring nails are furnished. ¾ lb. of 1¼" galv. nails per square required for top nailing.

Gold Bond

ASBESTOS ROOFING SHINGLES

This handsome roofing shingle, to be applied by the Dutch Lap method, has the same qualities of economy, stone-like ruggedness, durability, fire-resistance, weather-resistance and inertness found in Gold Bond's Siding Shingles.

Dutch Lap They are square cut, 16" x 16", to carry out the traditional straight-line roof treatment. They have an attractive, wood-grain texture and come in five colors: Black, Gray, Green, Red and White.





condensed specifications for Gold Bond roofing shingles

DUTCH LAP

size: 5/32" x 16" x 16"
per square: 92 (¼ lap)
per bundle: 23
exposure: 12" x 13"
head lap: 3"
side lap: 4"
wgt. per square: 260 lbs. (approx. av.)
colors: black, green, red, gray, white

Use 4" x 16" 1st starters. 1 lb. of 1¼" galv. nails and 92 copper storm anchors per square.

ASBESTONE "ECONOMY 250"

lightweight, corrugated asbestos-cement siding and roofing

DESCRIPTION

"Economy 250" is a rugged lightweight, corrugated siding and roofing material. Composed of Portland Cement and Asbestos fibers highly compressed, it weighs approximately 2.25 lbs. per sq. ft. and comes in a standard width of 42" having ten corrugations. Standard lengths extend from 3'-0" to 10'-0" in 1'-0" increments. Thickness is about ¼".

ADVANTAGES

"Economy 250" needs no more support than ordinary wood framing, so now the most inexpensive building can have top quality siding and roofing. Composed of two inorganic substances, asbestos and cement, "Economy 250" is a dense, stone-like sheet, possessing the same inert properties of stone itself.

- Like stone, it provides a permanent, durable finish that withstands all ordinary weathering, wear and tear.
- It will not rot, rust or burn; it is non-combustible and resistant to acid fumes, corrosive smoke and salt air.
- It remains unaffected by summer heat and winter cold.
- And, it is economical. Installation is quick and comparatively inexpensive. Asbestone never needs paint or protective coatings, eliminating maintenance costs.

MANUFACTURE

The Portland Cement and Asbestos fibers are blended uniformly in water, and, by means of a laminating-wet machine, the sheet is built layer on layer to the proper thickness. While still plastic, the sheet is corrugated and subjected to tremendous hydraulic pressure, which consolidates the whole into a stone-like substance.



can be applied with ordinary carpenter tools

Because it is lightweight and strong, Gold Bond "Economy 250" can be installed safely on regular wood framing and fastened directly to the framing with nails. No underdecking or weather proofing is required although it works well with all insulating materials. It is furnished complete with necessary fasteners. Ordinary carpenter tools are all that are needed although portable power saws and drills make construction easier and faster.
If more details are required, write National Gypsum Company, Buffalo 2, New York.

USES

As a result of its light weight, inertness, durability and low cost, "Economy 250" has an almost limitless number of light industrial, commercial, residential and farm uses. Also, it is effectively used for decorative partitions and highly styled modern fronts for stores and offices.

Gold Bond Corrugated does so many jobs so well . . .

for homes



for farms



for business

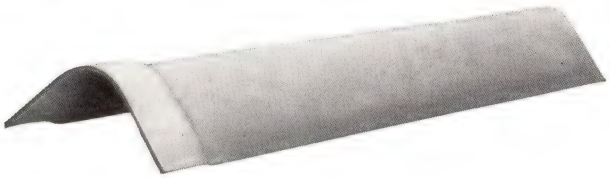


for display



accessories

ridge roll and corner roll



Matching Asbestone Ridge Roll and Corner Roll give streamlined curves and full protection to corners and ridges of buildings. They are easy to apply and weathertight. Ridge roll is 12″ wide, 4′ long with 4″ bell allowing for a tight lap joint (no battens required). Weighs 4 lbs. per ft. Corner roll has 7½″ flanges and is 4′ long with 4″ bell at one end for proper lap. Weighs approx. 3 lbs. per ft.

fasteners

OVER WOOD FRAMING a 3″ galvanized iron ring shank nail is used. This includes a lead washer. Nail head is sealed with gray mastic. These are furnished with Asbestone when application will be over wood framing.



HERE are only a few of the many places where "Economy 250" can be used to assure beauty, low maintenance and lasting protection.

BARNS	GARAGES	CHICKEN HOUSES
MILL BUILDINGS	FACTORIES	SHEDS
HOMES	RANGE SHELTERS	DOCKS
COVERED CONVEYORS	ROUND HOUSES	GYMNASIUMS
AUDITORIUMS	PARTITION WALLS	BOAT HOUSES
WALKWAYS	CONCRETE FORMS	STORES
SHOWROOMS	MACHINE SHOPS	WAREHOUSES
PATIOS	CAR PORTS	FENCES
WHARVES	FILLING STATIONS	MOTELS
CORN CRIBS	THEATERS	PUMP HOUSES

condensed specifications

sheet dimensions

width: 42″
pitch: 4.2″ center to center
length: 3′-0″ to 10′-0″ (increasing by 1′-0″ intervals)
thickness: approx. ¼″
depth of corrugation: 1 ½″
weight: approximately 2.25 lbs. per sq. ft.
color: natural cement gray

application specifications

minimum roof pitch: 3″ to 12″
maximum purlin (roof) spacing: 2′-6″
maximum girt (side) spacing: 3′-6″
minimum side lap: 1 corrugation (4.2″)
minimum end lap: 6″
weight per net square, including side and end laps: approximately 275 lbs.

work to be done

The roof and sides of the building, as indicated on the plans, shall be covered with Gold Bond Asbestone "Economy 250" corrugated siding and roofing material as manufactured by the National Gypsum Company, Buffalo 2, New York.

material

Gold Bond Asbestone "Economy 250" shall be made of Portland Cement and Asbestos fibers formed into dense, tough, corrugated sheets. All sheets shall be 42″ wide and of suitable length so that all end laps fall over purlin or girt.

application

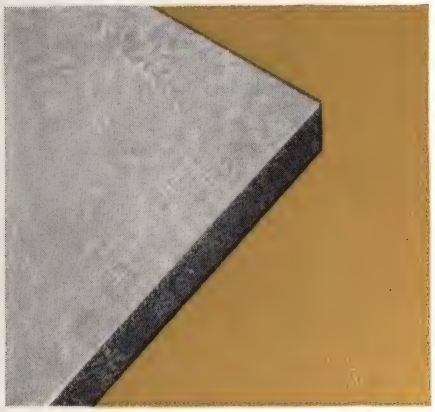
Application of Gold Bond Asbestone "Economy 250" shall be made by any general contractor or roofer who is equipped to apply this light-weight material over equal wood framing.

Gold Bond®

ASBESTOS-CEMENT PERMABOARD • PLIABOARD

flat asbestos-cement sheets for interior and exterior use

PERMABOARD • 3/16" • 1/4" thick



for flat, rigid application

durable
strong
non-combustible
weather-proof
rodent-proof
termite-proof
rot, rust and corrosion proof

PLIABOARD • 1/8" thick



for curved or flat application

DESCRIPTION

Gold Bond Permaboard and Pliaboard are versatile building materials designed for countless uses indoors and out — for new construction and remodeling. Made of Portland Cement and Asbestos fibers, they come in 4′ x 8′ and 4′ x 4′ flat sheets. One surface of the board is smooth, the other slightly textured; but either side can be exposed or painted if desired. They can be used anyplace where a non-combustible, rotproof, practically indestructible surface is required. Especially suited for farm buildings, factory construction and homes, they are not harmed by weather, salt air or corrosive acid and alkalis.

APPLICATION

Permaboard and Pliaboard can be fastened with nails, screws, adhesives supplemented with nails, and by mouldings or other overlapping devices.

condensed specifications

	sheet size and thickness	weight	color	texture	composition
PLIABOARD	4′ x 8′ x 1/8″	1.25 lbs. per sq. ft.	gray	smooth one side	Portland Cement and Asbestos Fiber
	4′ x 4′ x 1/8″				
PERMABOARD	4′ x 4′ x 3/16″	1.8 lbs. per sq. ft.			
	4′ x 8′ x 3/16″				
	4′ x 8′ x 1/4″	2.4 lbs. per sq. ft.			
	4′ x 4′ x 1/4″				

PERMABOARD • a rigid board

This is a standard, *utility*-type board designed for rugged, heavy-duty work on flat areas. It covers large surfaces quickly and economically. It comes in 3/16″ and 1/4″ thicknesses for great rigidity.

PLIABOARD • pliable for straight or curved surfaces

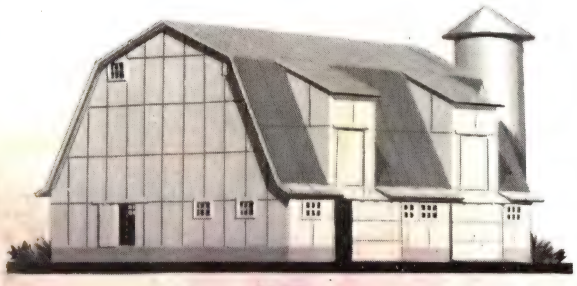
A thinner, premium grade board with long, strong Asbestos fibers for added strength and flexibility, Pliaboard is highly compressed for extra strength when flexed. It can be used for curved surfaces such as rounded corners, roofs, arched ceilings, circular alcoves, etc.



HOME



GARAGE



BARN

Send for . . . your book "How to Build everything with PLIABOARD and PERMABOARD", free, containing information on these wonderful products.

NATIONAL GYPSUM COMPANY BUFFALO 2, NEW YORK

Sales offices in principal cities throughout the United States. Consult classified telephone directory.

for beauty
and economy
on roofs
and sidewalls

Shakertown

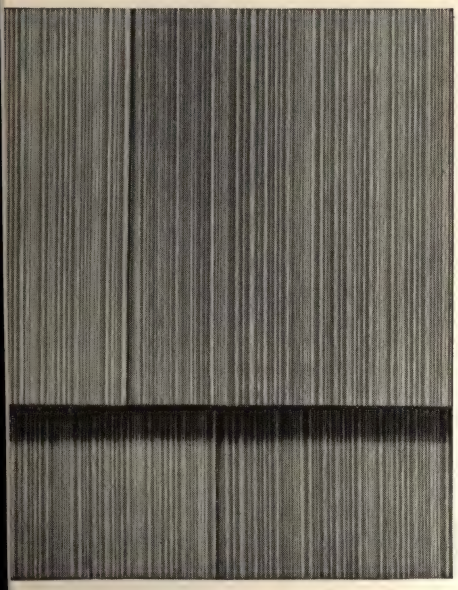
CEDAR SHINGLES AND SHAKES

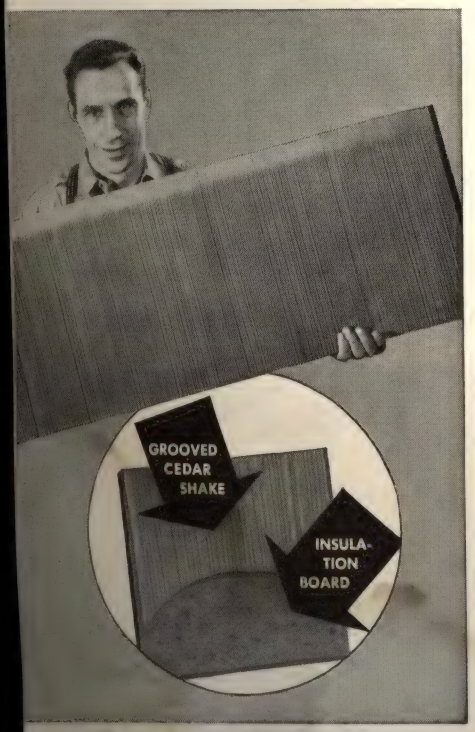


THE PERMA PRODUCTS COMPANY 5455 Broadway, Cleveland 27, Ohio

the first name in Cedar Shakes

Shakertown





GLUMAC actual size: 16" x 46¾"

Shakertown SIDEWALL Shakes

America's finest sidewall material! Shakertowns are all No. 1 cedar, machine grooved and machine squared for uniformity in appearance and application. All Shakertowns are factory-stained with especially formulated oils and pigments for best possible resistance to moisture, sunlight and exposure. Laid in double courses, with an outercourse of Shakertowns applied over an undercoursing of low-cost, smooth-surface shingles. Extra-thick butts and double-coursing create a distinctive shadow-line of exceptional beauty and architectural styling. Cedar shakes add extra insulation, ideal for air-conditioned homes, new construction or remodeling. Twelve colors. Packed one square per carton, including nails in matching colors.

Shakertown GLUMAC Units

Fastest way to a finer home! GLUMAC Units feature the exclusive Shakertown process of bonding stained shakes to a tapered backing of asphalt-impregnated backer board. Eliminates cutting, fitting or planing of individual shakes. No lost time because of off-square shakes. Each factory-stained and grooved GLUMAC Unit is 16" x 46¾" and end-lapped for fast slide-together application. Only finish nailing of each shake is needed to complete a colorful finished sidewall in any climate, in any weather. *Stained surface won't crack, peel or blister!* Made in all 12 Shakertown architect-selected colors. Packed 11 units per carton including nails in matching colors — covers 50 sq. ft. at 14" exposure.

Available in 12 COLORS for roofs and sidewalls

All GLUMAC Units and Shakertown Sidewall Shakes are available in 12 popular colors, selected by architects for their color harmony and durable non-fading qualities. Order by number: 350 Medium Green, 345 Apple Green, 517 Lime Green, 550 Silver Gray, 581 Pastel Gray, 612 Shale Gray, 559 White Primer (requires finish coat after application), 520 Rose Buff, 426 Rust, 443 Burgundy, 230 Cocoa Brown, 224 Mahogany.

Save 70%...

Amazing savings are possible with GLUMACS. *Only 22 pieces* are required to cover 100 sq. ft. of sidewall — compared to about 400 individual shingles formerly needed for identical coverage.

GLUMACS are quick and easy to apply. No special tools required. There's no metal to dull tools. A saw or knife and an ordinary hammer are all you need to produce sidewall construction at its best.

Installation Data

Shakertown GLUMACS may be applied at any exposure up to 14 inches. The starter course should be applied over a ⅜" strip to give proper pitch. Each shake should be nailed with two rust-resistant, small-headed 6d nails, applied 1½" above the butt-line and 1" from each side. For remodeling, use 8d finish rust-resistant nails. Line or snapped chalk-line recommended as guide (shiplap guide not necessary).

WEST COAST PLANT AT WINLOCK, WASHINGTON

most profitable line you can sell!



Shakertown ROOF Shingles

Smooth-surfaced cedar, factory-stained in same colors as Shakertown Sidewalls (see opposite page). Ideal for remodeling and modernizing. Machine squared and trued for fast, weather-tight application. Long lasting, economical. Packed four cartons per square at standard roof exposure.



Re-Sawn, Taper-Split and Hand-Split Shakes

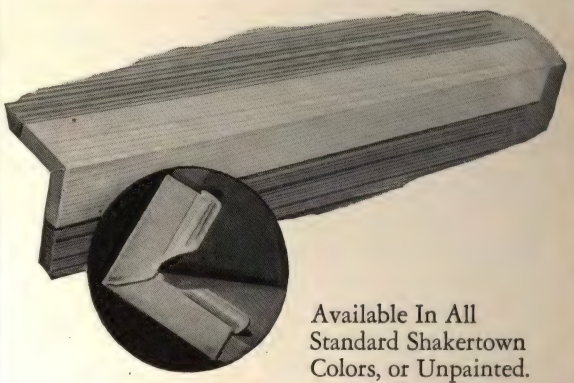
Shakertown offers a complete line of all sizes and grade of custom-made red cedar shingles for luxury homes, resorts and special applications. Details available on request.



Shakertown STAIN

Has a balanced blending of oils and pigments formulated for greatest capacity to preserve and cover against exposure. Economical, long-lasting. Has good coverage. In one and five gallon cans and 50-gallon drums.

Use Shakertown JIFFY CORNERS



Available In All Standard Shakertown Colors, or Unpainted.

Eliminate lacing, jointing, fitting of shingle corners. Metal JIFFY CORNERS are designed expressly for a uniform, neat and finished corner with greater protection against damage and exposure. Striated surface matches grooved shakes and has good paint-retentive qualities. Pre-drilled nail holes concealed spring clips at base hold corner tight against shakes. Galvanealed steel. One gross per carton.

Shakertown NAILS



Designed and made especially for Shakertown GLUMAC and Shakertown Sidewall applications. A small head, thin-shank zinc coated 6d annular ringed nail. Available in all standard Shakertown colors. Nails included in each carton.

COVERAGE TABLE—Number of Sq. Ft. Covered by ONE CARTON, According to Exposure

(Underlined figures denote coverage at recommended WALL exposure BOLD figures denote coverage at recommended ROOF exposure)

SIZE—GRADE	PACK	Exposure (Inches)																
		4½	5	5½	6	6½	7	7½	8	8½	9	9½	10	10½	11	11½	12	14
16″ XXXXX	20/20	23.1	**25.7**	28.3	30.8	33.4	36.0	38.5	41.1	43.7	46.3	48.8	51.4	54.0	56.5	59.1	61.7	– –
16″ Double Butts	16/16	18.5	**20.6**	22.6	24.7	26.8	28.8	30.9	32.9	35.0	37.0	39.1	41.1	43.1	45.2	47.2	49.3	– –
18″ Perfections 18″ Processed Shakes	18/18	20.8	23.1	**25.4**	27.8	30.1	32.4	34.7	37.0	39.3	41.6	43.9	46.2	48.6	50.9	53.2	55.5	– –
18″ Double Butts	12/12	13.9	15.4	**16.9**	18.5	20.0	21.6	23.1	24.7	26.2	27.8	29.3	30.8	32.4	33.9	35.5	37.0	– –
24″ Royals 24″ Processed Shakes	13/14	15.6	17.3	19.1	20.8	22.5	24.3	**26.0**	27.8	29.5	31.2	33.0	34.7	36.4	38.2	39.9	41.6	– –
24″ Double Butts	7/7	8.1	9.0	9.9	10.8	11.7	12.6	**13.5**	14.4	15.3	16.2	17.1	18.0	18.9	19.8	20.7	21.6	– –
26″ Hand-Riv. Shakes	8/8	9.3	10.3	11.3	12.3	13.4	14.4	15.4	**16.4**	17.5	18.5	19.5	20.6	21.6	22.6	23.6	24.7	– –
32″ Hand-Riv. Shakes	6/7	7.5	8.3	9.2	10.2	10.9	11.7	12.5	13.4	14.2	15.0	15.9	**16.7**	17.5	18.4	19.2	20.0	– –
16″ SHAKERTOWN SIDEWALLS	33/33	37.5	41.7	45.8	50.0	54.2	58.3	62.5	66.7	70.9	75.0	79.2	83.3	87.5	91.6	95.8	100.	– –
18″ SHAKERTOWN SIDEWALLS	28/28	32.1	35.7	39.3	42.9	46.5	50.0	53.6	57.1	60.7	64.3	67.9	71.4	75.0	78.5	82.1	85.7	100.

THE
PERMA PRODUCTS CO.
5455 BROADWAY
CLEVELAND 27, OHIO

First Name in Cedar Shakes

Shakertown

Specifications for roof and sidewalls

SHINGLES AND SHAKES:

1. The contractor shall cover all roof surfaces with *(Specify Shakertown Stained Cedar Shingles or Handsplit Cedar Shakes.)*
2. and all exterior side walls, sides of dormers, gable ends.
3. with Shakertown Sidewall Cedar Shakes (or Shakertown Glumac Units).

(Stained Cedar Shakes and Stained Shingles are manufactured in three different lengths: 16", 18" and 24". The choice of length to be used should be determined upon the basis of the architectural effect. The longer shingles have thicker butts and are consequently longer lived, although the 16-in. length will give exceedingly good service, and very long life when properly applied according to these specifications.)

4. Perma-Stain Shingles (or Handsplit Shakes) for roofs shall be *(Specify length.)*
5. Shakertown Shakes (or Perma-Stain Stained Shingles) for side walls shall be *(Specify length.)*
6. Shakertown Shakes (or Perma-Stain Stained Shingles) for outer courses shall be *(Specify length.)*
7. Shingles for under courses shall be *(Specify grade and length.)*
8. Perma-Stain roof shingles shall be laid with a weather exposure of *(Specify exposure to the weather in inches from the following table.)*

(In general the lowest pitch used in the roof will govern, although certain instances may permit two different weather exposures for separate parts of the same roof.)

Pitch of Roof			*Exposure of Shingles in Inches*		
Pitch	*Rise in inches*	*Run*	*16*	*18*	*24*
1/8	3	12	3¾	4¼	5¾
1/8	4	12			
1/4	6	12	5	5½	7½
1/3	8	12			
1/2	12	12			
5/8	15	12			
3/4	18	12			

9. Shakertown Sidewall Shakes (or Perma-Stain Stained Shingles) shall be applied with a weather exposure of *(Specify exposure to the weather in inches from the following table.)*

Length of Shingles (in inches)	*Exposure of Shingles (in inches)*	
	Single Course	*Double Course**
16	6 to 7½	8 to 12
18	6 to 8½	9 to 14
24	8 to 11	12 to 16

**Assuming exposed course is face or butt-nailed.*

10. Shingles or Shakes shall be doubled at all eaves. *(Specify "tripled" where box cornices or narrow eaves occur.)*
(Use 10 for side walls.)
11. and at foundation line.
(To insure proper spill into gutters use 12.)
12. Butts of the shingles in the first course on roofs shall project 1½" from the first sheathing board.
13. All hips and ridges shall be *(Specify type of which 14 is an example.)*
14. the modified "Boston" type. Shingles shall be of approximately the same uniform width. The first Shingle of the hip shall be sawed across the butt so that the end of the butt will be parallel with the butts of the Shingles in the first course of Shingles at the eave line. It shall then be nailed in place with the lower edge extending along a line previously marked off back from the center line of the hip on that side, the nails being placed so that they will be covered by the next hip Shingle applied.
The edge of this Shingle projecting above the center line of the hip shall be cut back flush with the face of the opposite hip or ridge Shingle. The next two Shingles are now applied, but in reverse order, so that the final trimmed-off edge slants in a direction opposite to that of the first exposed edge.

NAILS AND NAILING:

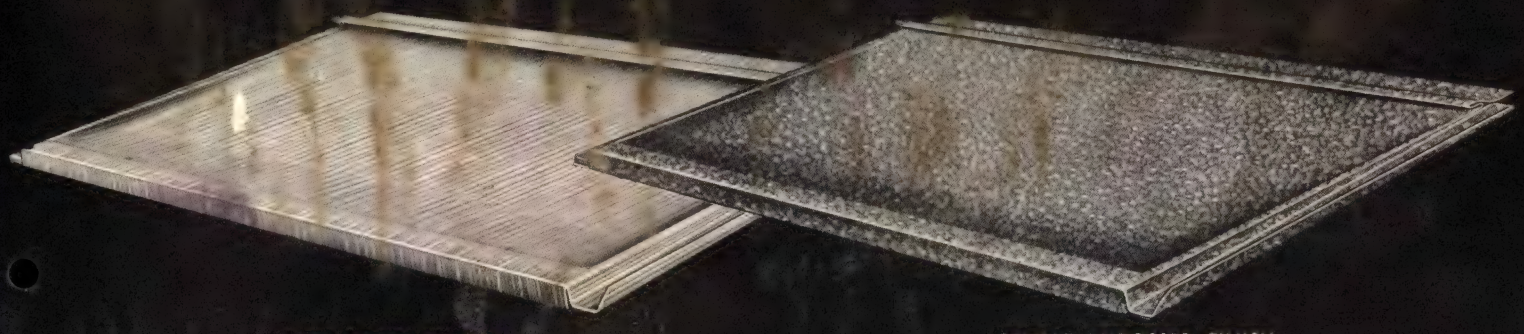
(Do not use bright, or blued, steel wire nails in applying Shakes or Shingles. Use Perma-Clad nails.)
15. Each roof Shingle shall be rigidly secured in place with not more than two full driven rust-resistant or zinc coated. *(Specify size.)*
(Use 16 with 20 for new roofs with 16" and 18" shingles and for new single-coursed side walls.)
16. 3d shingle nails.
(Use 17 for new roofs with 24" shingles.)
17. 4d shingle nails.
(Use 18 for new double-coursed side walls with all shingles and for over-roofing with 16" and 18" shingles.)
18. 6d small head thin-shanked zinc-coated annular ringed nail, colored to match Shakertown Shakes or Glumac Units.
(Use 19 for over-roofing with 24" shingles. For butt-nailing in double-coursing use 18.)
19. 6d "box" or special 14-gauge shingle nails.
20. except that 5d shingle nails shall be used for hips and ridges. (See 18.)
21. Nails shall be driven flush but not so that the head crushes the wood and shall be placed not more than ¾" from the side edges of the shingles and ¾" to 2" above the butt line of the shingles in the next course above.
(Use 22 where double-coursing occurs.)
22. except that in butt-nailing in double-coursing, the nails shall be placed from 2" to 3" above the butt line, and there shall be a third nail used in shakes over 8" wide.



REYNOLDS *Lifetime* TRADE MARK

ALUMINUM MASTER SHINGLES

. . . the *perfected* aluminum shingle . . . for new building and re-roofing



WOOD GRAIN FINISH

STIPPLE EMBOSSED FINISH

At last *Shingles* as perman

NEW REYNOLDS *Lifetime* TRADE MARK ALUMINUM MASTER SHINGLES

can't rust, rot, crack, curl or stain! No granules to come off!

Shingles used to be a replacement item—a recurring cause for repair expense. But that was before Reynolds *Lifetime* ALUMINUM Master Shingles were developed . . . the *perfected* aluminum shingles with *new, improved* features of design and construction!

Here at last is a truly long-lasting shingle . . . with exclusive *"Shadow-Cup" design* for new beauty—*"Anti-Capillary" construction* for permanent *weather-tight* protection! Your best buy today . . . for maximum protection for years to come!

Made entirely of solid, durable aluminum, new Reynolds Master Shingles are impervious to rust, rot, sun and wear—there are no granules to come off. And equally important, sturdy Master Shingles help keep buildings cooler in summer, warmer in winter because aluminum INSULATES by reflecting radiant heat.

Add to these important advantages the "plus-factors" of easy application and low cost—and it's easy to see why so many home owners, builders and roofing contractors are swinging to *new* Reynolds *Lifetime* ALUMINUM Master Shingles. Why don't you?



NEW PROTECTION . . . NEW COMFORT . . . NEW ECONOMY



KEEPS INTERIORS UP TO 15° COOLER IN SUMMER

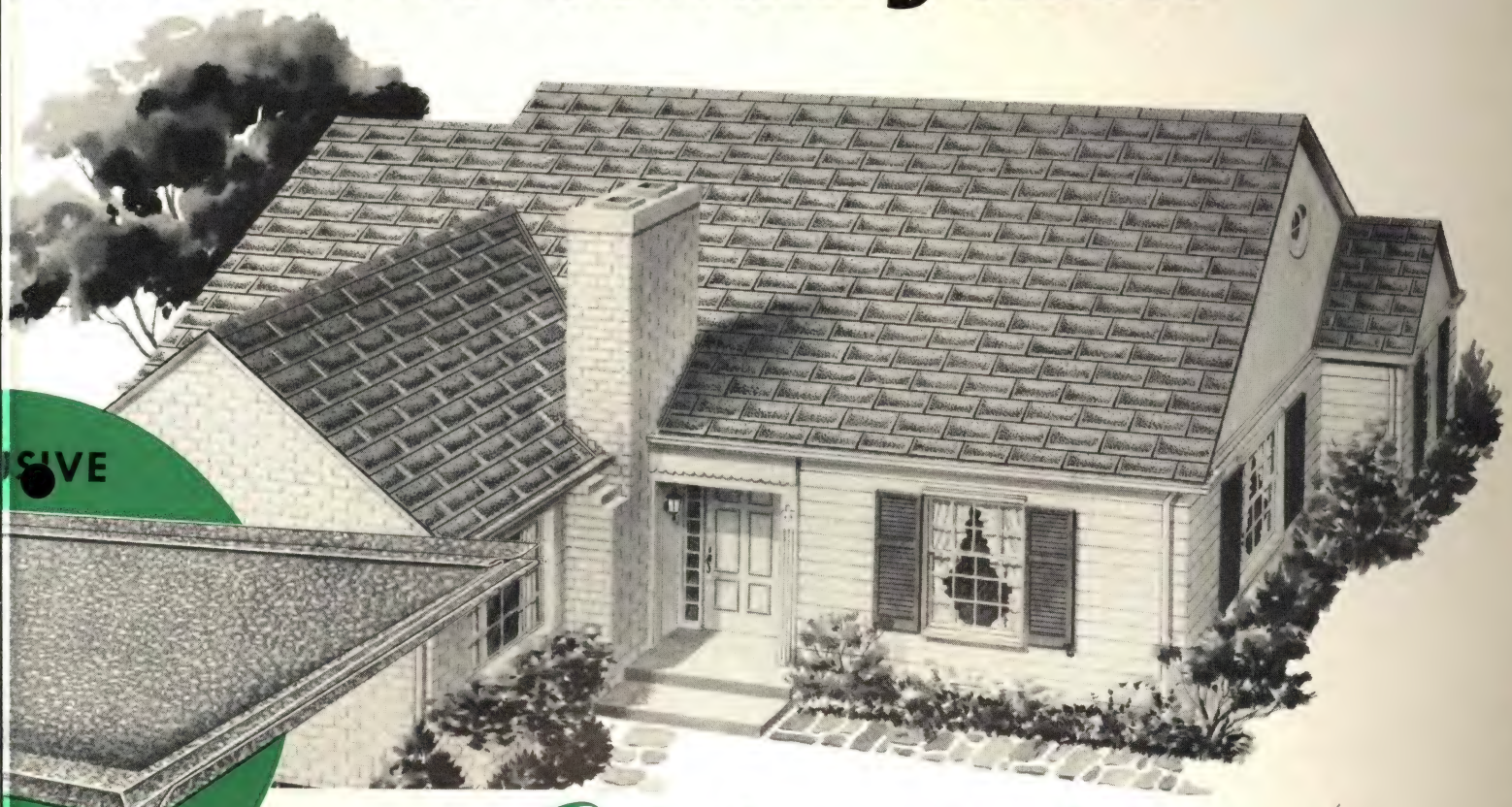
New Reynolds Aluminum Shingles *reflect* the rays of the sun, bounce them off the roof . . . to help keep building interiors as much as 15° cooler in summer. A big difference from old roofing materials that soaked up heat and transmitted it to the inside!



CUTS FUEL COSTS IN WINTER, TOO!

Heat from the furnace, rising through the building, *escapes* through porous, heat-transmitting roofing materials. *But not through Reynolds Master Shingles!* The reflective quality of Reynolds Aluminum helps keep the heat *in*—saves many dollars on winter fuel bills.

ent as the building itself

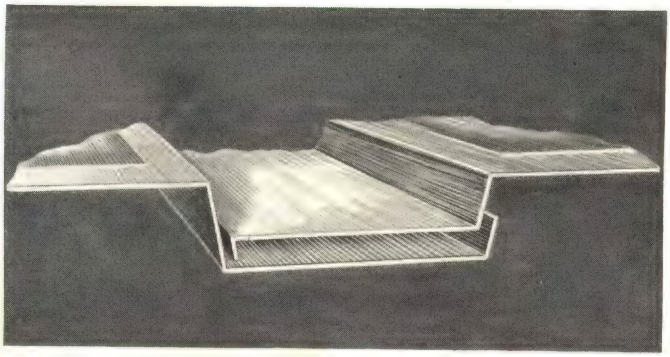


SIVE

UP DESIGN
ER BEAUTY

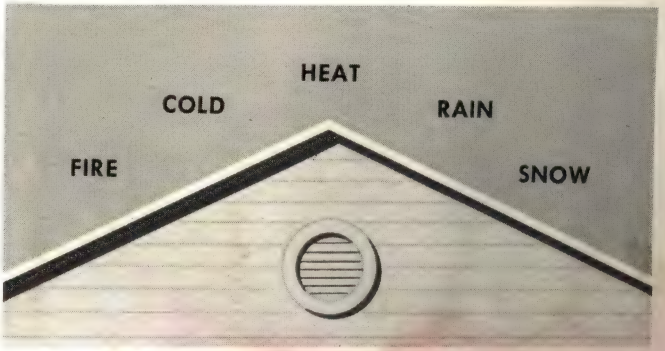
Perfect for every shingle roofing job

For new construction or remodeling of homes, schools, churches, institutions and commercial buildings. You get tighter, sounder application every time with Reynolds *Lifetime* ALUMINUM Master Shingles. Fast application, too. Self-aligning, interlocking. All nails concealed. 14½" x 8" exposed surfaces. ⅜" shadow line depth.



NEW IMPROVED WEATHER-TIGHT CONSTRUCTION

Capillary action of water is one of the major causes of leaking roofs. New Reynolds Master Shingles—with special *interlocking* construction— and specially engineered accessories are designed specifically to prevent leakage due to capillary action. That means truly weather-tight protection all year long.



MAXIMUM PROTECTION FOR ALL BUILDINGS

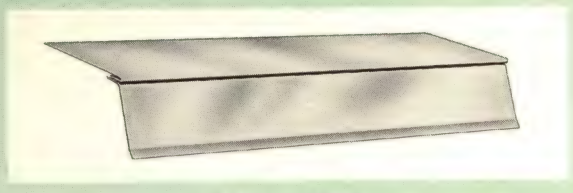
All-new, all-aluminum Reynolds Master Shingles mean no deterioration from rays of the sun, no rotting from water and exposure and no surfacing to break or come off. Require no painting or protective coating. And—they resist fire, *will not burn!* For maximum protection, minimum upkeep—always choose Reynolds *Lifetime* ALUMINUM Master Shingles!

REYNOLDS *Lifetime* TRADE MARK ALUMINUM ROOFING ACCESSORIES

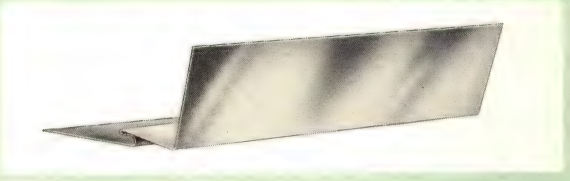
Custom Designed FOR USE WITH ALUMINUM MASTER SHINGLES

For best results, always use the following Reynolds Aluminum accessories—as needed—with Reynolds *Lifetime* ALUMINUM Master Shingles.

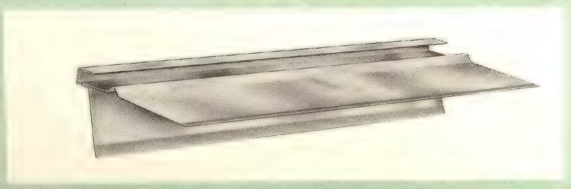
Use only recommended aluminum accessories and flashing. Do not make mixed installations of aluminum and copper. Where necessary, insulate aluminum from dissimilar metals and masonry with aluminum pigmented asphalt mastic. Use only aluminum nails (except for concrete nails).



EAVE STARTER



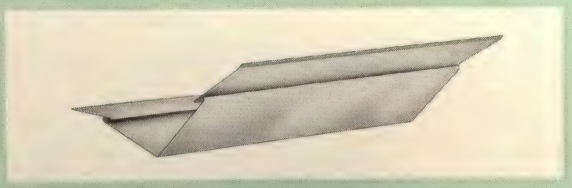
END WALL FLASHING



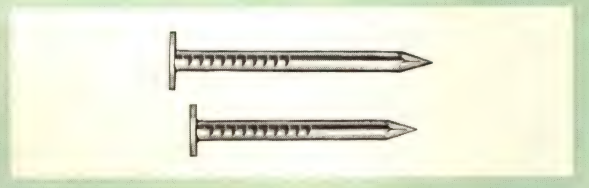
GABLE STARTER



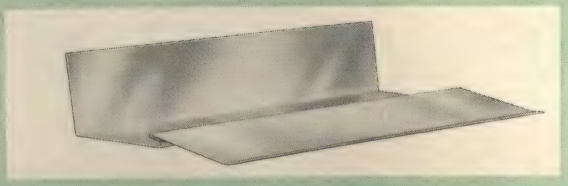
RIDGE CAP



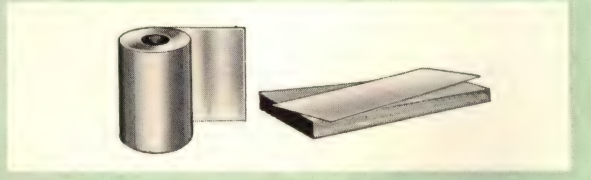
FORMED VALLEY



NAILS



SIDE WALL FLASHING



ROLL AND SHEET FLASHING

WARRANTY: Materials and sections are warranted sound and of good workmanship. Liability by Reynolds Metals Company due to defective material shall in no event exceed the purchase price applicable to such material.

REYNOLDS METALS COMPANY • Building Products Division • Louisville 1, Ky.

Form No. BP-303-C—6-54

Printed in U.S.A.

RUBEROID

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Color-Styled

ASPHALT AND ASBESTOS ROOFING AND SIDING

RUBEROID

LOK-TABS

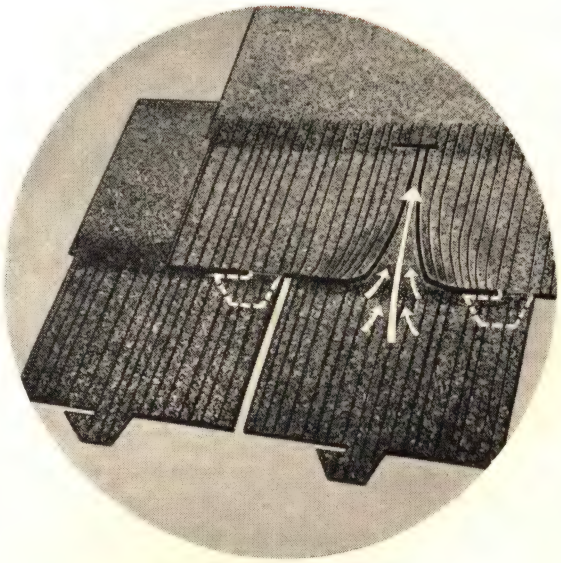
(Pat. No. 2,659,322)

A new advance in roof shingle design of particular interest to architects. Lok-Tabs combine traditional square-tab beauty with *interlocking wind-safe design*. They lock down, look beautiful, lay fast and last!

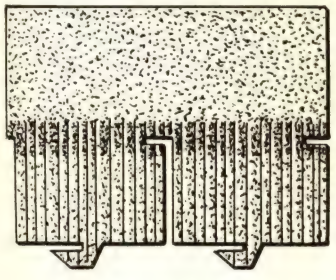
Dove Gray Blend Lok-Tab roof with Weathered White Color-Grained Asbestos Siding.



. . . A new asphalt shingle that locks, looks beautiful, lays fast and lasts!



Wind can't lift them . . . they're locked down with a concealed lock at the center of each butt. The wind is vented up the cut-out between the shingles and its force is dissipated!



SPECIFICATIONS

Average approx. wt. per square	215 lbs.
Size	24" x 18"
Strips per square	75
Headlap	2"
Exposure	8"
Nails per square	225

Class C Underwriters' Label
Meets FHA minimum property requirements



Pastel Green Blend, one of 12 new decorator colors available in Lok-Tab Shingles.

A new *exclusive* design principle

Ruberoid Lok-Tabs look like regular square tabs, yet each shingle is locked down at the center of the butt. Laboratory and field tests prove that even the strongest wind can't turn a Lok-Tab back.

A *new* kind of beauty

Lok-Tabs are decorator-styled with new colors with striated texture on the darker color blends . . . plus the de luxe effect of heavy shadowlines created by a band of dark color across the butt lines.

Costs less to lay

Lok-Tabs are faster and easier to lay than regular strip shingles. They take fewer nails per square foot. Locking tabs slip easily into place, aligning each shingle automatically.

SUBURBAN ROOF SHINGLES



Forest Green Blend



Regency Red Blend

You'll find in this new Ruberoid Suburban Shingle a means of adding fresh visual interest to residential roofs. It's a de luxe strip shingle built on a heavier weight felt, with a striated texture. The illusion of a pleasing interplay of light and shadow is created by a dark band of color across the butt lines, accentuating the cast shadow. It's available in a wide assortment of beautiful colors, including popular pastel blends. Ask your Ruberoid representative for samples.

Also available:

THICK BUTTS

Heavy duty Ruberoid Thick Butts are built to give long-lasting weather protection, fire resistance and beauty at low cost.



12" x 36" (illus. of single shingle)

SPECIFICATIONS

Avg. approx. wt. per sq.	215 lbs.
Strips per square	80
Exposure	5"
Headlap	2"

DUBL-COVERAGE TITE-ONS

Each Tite-On Shingle is self-locking with adjacent shingles at four points and is anchored to the roof by four concealed nails. Tite-On roofs have withstood winds up to 120 m.p.h. without lifting or shifting. Overlap gives complete second layer and triple coverage over ⅓ of roof area. Fire resistant, easy to apply, long lasting, these shingles come in a wide range of rich colors including new pastel blends.

- **Withstands hurricane winds**
- **Overlap forms 2 roofs in 1**
- **4-way interlocking**
- **4 concealed nails**
- **Fire-resistant**
- **Wood grain texture or smooth**
- **Easy to apply**



Dual Blue Blend

SPECIFICATIONS

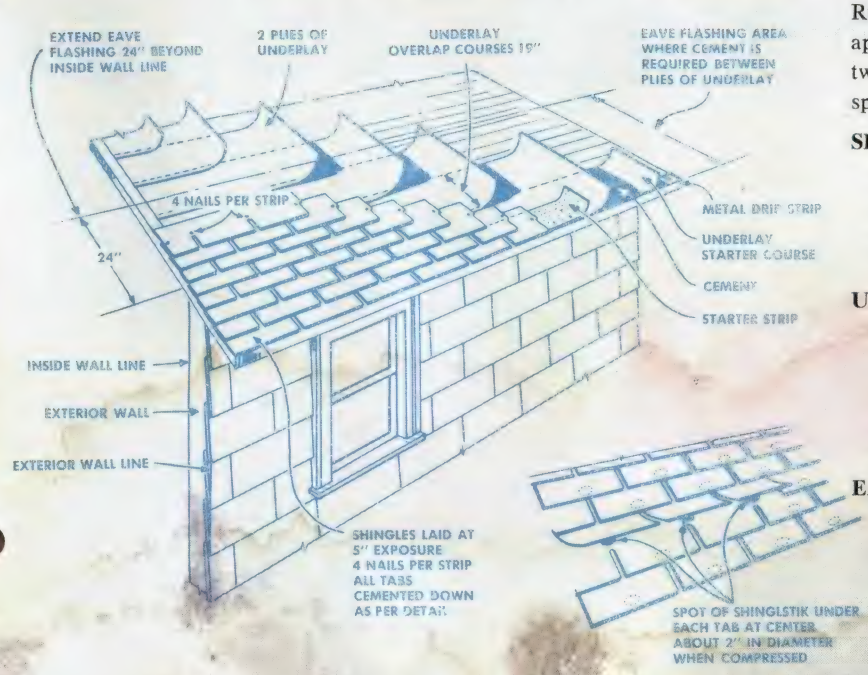
Avg. approx. weight per square	230 lbs.
Shingles per square	120
Headlap	6"



18½" x 20"

Colors vary slightly between Ruberoid factories; check your local Ruberoid representative for specific color choices available in your area.

ASPHALT SHINGLES FOR LOW SLOPE DECKS



Ruberoid asphalt strip shingles in all popular colors are now approved by F.H.A. for use on roof decks with slopes as low as two inches per foot when applied according to the following specifications:

SHINGLES: 12 x 36, 215 lb. and heavier, three square tab, asphalt strip shingles applied at 5" exposure, using 4 nails per strip. Secure tabs with spot of "Shinglstik" cement under tab, as shown. Lok-Tab shingles can also be used on low slope roof decks. The locks eliminate need for cementing tabs.

UNDERLAY (required): Two layers of No. 15 asphalt saturated felt. Start with 19" starter course over metal drip edge, followed by 36" sheet completely overlapping starter course. Continue with 36" strips, overlapping preceding course by 19". Secure to deck with either ¾" staples or ¾" roofing nails in upper 17" portion of strip.

EAVE FLASHING: Required in areas where January daily average temperature is 25°F or less. Apply felt underlay from edge of eaves to a point 24" inside the wall line. Apply continuous layer of plastic roof cement at rate of 2 gallons per 100 sq. ft. to surface of each course within the prescribed area.

RUBEROID ASBESTOS SIDING



RUBEROID

Color Grained ASBESTOS SIDING

Patent Nos. 2,307,733; 2,307,734; other pats. pending

with DUROC® FINISH

Thanks to its revolutionary *Duroc* finish, colors stay fresh, bright and clean . . . it never needs painting.

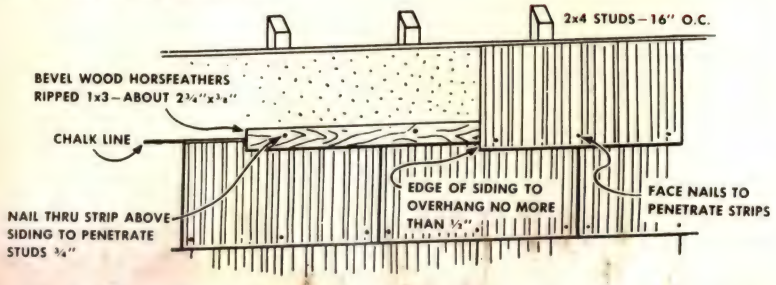
Color-Grained Asbestos Siding's fireproof, long-lasting maintenance-free qualities offer you functional advantages and a new range of design possibilities in color and texture.

REPLACEMENT OR A REFUND OF MONEY
Guaranteed by Good Housekeeping
IF DEFECTIVE OR NOT AS ADVERTISED THEREIN

SPECIFICATIONS

Average approx. weight per square	180 lbs.
Pieces per square	57
Exposure	10½" x 24"
Headlap	1½"

Method of Application



UNDERCOURSING ASBESTOS SIDING

The Ruberoid application technique shown here has been tested and proved the best. It's advantage is two-fold:

1. Wood strips (also called "horsefeathers") placed under lower edge of siding provide a heavy shadow line, adding greatly to the attractiveness.
2. Over non-lumber sheathing the wood strips provide a nailing base for the use of ordinary face nails.

Nailing strips should be a minimum of 4 ft. long and 1½" wide (2½ is desirable) preferably beveled, ¼" to ⅜" thick at the butts.

DUTCH LAP

Provides maximum roof coverage with a saving in materials. Wide range of colors are an integral part of the shingle.

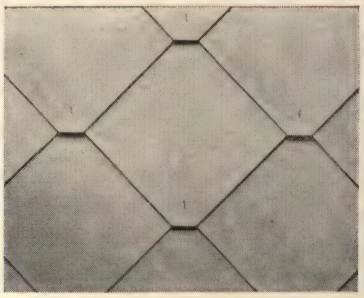




SPECIFICATIONS

Avg. approx. wt. per sq.....265 lbs.
Shingles per square 92
Exposure .....13" x 12"
Headlap ..... 3"
Sidelap ..... 4"
5⅓" sidelap requires
104 shingles per square
Size .....16" x 16"

HEXAGONAL



Hexagonal asbestos shingles give a roof a handsome and distinctive appearance. Available in a wide assortment of rich permanent colors.

SPECIFICATIONS

Avg. approx. wt. per sq.....245 lbs.
Shingles per square 86
Exposure .....13" x 13"
Headlap ..... 3"
Size .....16" x 16"



ASBESTOS-CEMENT BUILDING BOARD

STONEWALL

Stonewall Board, the building board of 1000 uses, is fireproof, rot-proof, rat-proof, rust-proof and weather-proof. It makes tough, lasting walls and partitions . . . the perfect material for ceilings, barriers, or for any purpose where moisture or heat present hazards. Readily nailed, scored and snapped to size.



SPECIFICATIONS

3/16" thick per 1000 sq. ft.....1800 lbs.
¼" thick per 1000 sq. ft.....2400 lbs.
⅜" thick per 1000 sq. ft.....3600 lbs.
Color: Natural Gray
Sizes: 4′ x 4′ and 4′ x 8′

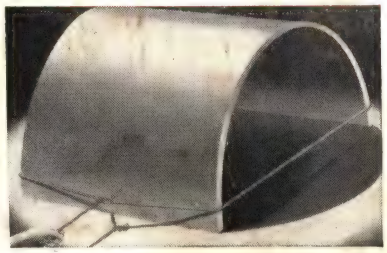


Application under concrete slab

CRAWL SPACE COVER

Crawl Space Cover, used in basementless houses and "cast-on-the-ground" concrete slabs, is required on many F.H.A. jobs. The 36" wide rolls contain 108 sq. ft., shipping wt. 58 lbs., sand finished one side. It has excellent self-sealing ability. Although it looks like asphalt roll roofing it is more flexible and has longer life than roll roofing. It is especially made to meet crawl space and under-slab conditions. Its use prevents rising ground moisture from rotting the structure and warping siding materials. Meets F.H.A. requirements.

PANELSTONE DELUXE BUILDING BOARD

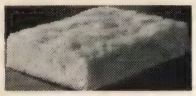
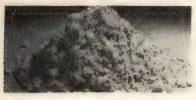
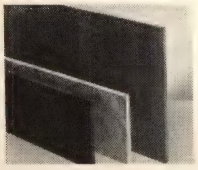


Panelstone possesses all the desirable qualities of Stonewall—plus light weight, a smoother finish and greater flexibility. It can be bent to a small radius without breaking, making it ideal for curved surfaces. Its smooth finish makes it particularly adaptable for interior walls and partitions. One man can handle a panel with ease. Panelstone in ⅛" and 3/16" comes in taped 2-sheet packages.

SPECIFICATIONS

⅛" thick per 1000 sq. ft.....1250 lbs.
3/16" thick per 1000 sq. ft.....1875 lbs.
¼" thick per 1000 sq. ft.....2500 lbs.
Color: Natural Gray Size: 4′ x 8′

RUBEROID BUILDING INSULATIONS

		Lengths	Widths	Thickness
	**FIBERGLAS* ROLL BLANKETS** Fiberglas Insulation enclosed in an envelope of vapor-barrier kraft paper on one side and perforated paper on the reverse. Flange provided on edges for nailing.	30 to 80 feet depending on width and thickness	15″—for 16″ stud spacing 19″—for 20″ stud spacing 23″—for 24″ stud spacing	Economy—1½″ Medium—2″ Thick—3″
	**FIBERGLAS* BATT BLANKETS** Fiberglas Insulation enclosed in an envelope of vapor-barrier kraft paper on one side and perforated paper on the reverse. Flange provided on edges for nailing.	24″, 48″, 96″	15″—for 16″ stud spacing 19″—for 20″ stud spacing 23″—for 24″ stud spacing	Economy—1½″ Medium—2″ Thick—3″
	**FIBERGLAS* UTILITY BATTS** Rectangular pieces of Fiberglas low density insulation similar to that in Batts and Blankets without the vapor barrier or enclosing envelope.	15″ nominal	10¾″ nominal	4″
	**FIBERGLAS* POURING WOOL** Fiberglas Insulation formed into small pellets which pour and rake easily . . . packaged in kraft paper bag.			
	**FIBERGLAS* PERIMITER INSULATION** Rigid insulation for edge of slabs. AE-6, enclosed in asphalt; PF-615, Insulation only; PF-615, Paper-faced, faced on one side with kraft paper and PF-619 (Paper Faced) Faced on one side with asphalt paper—12 lbs. density per cubic foot.	PF-615 48″ (no paper facing) AE-6 36″ PF-615 Paperfaced 48″ PF-619 48″ Paperfaced	12″, 18″ 4″, 6″, 8″, 12″, 18″, 24″ 12″, 18″ 20″	¾″, 1″, 1½″, 2″ 1″, 1½″, 2″ ¾″, 1″, 1½″, 2″ 1″, 1½″, 2″

*Fiberglas is the trade-mark (Reg. U. S. Pat. Off.) of Owens-Corning Fiberglas Corporation.

REFLECTIVE INSULATION

The economical building insulation material that reflects 95% of radiant heat and forms an ideal vapor barrier.

SPECIFICATIONS

Single Foil: Reflecting surfaces on one side.

Double Foil: Reflecting surface on both sides.

ROLL WIDTHS & QUANTITIES (Both Types):

Rolls, all widths, contain 250 sq. ft. Make allowance for laps and bends. Available in 3 widths:

(a) 25″ wide, to be applied to rafters 20″ o.c. and 24″ o.c.

(b) 33″ wide for stretching across face of framing members, 16″ o.c.

(c) 36″ wide for bending around edges of framing members, 16″ o.c.

Always Provide Air Space on Both Sides

VAPOR BARRIER

LIGHTER IN WEIGHT—LOWER IN COST!

Ruberoid Aluminum Vapor Barrier prevents the condensation which can result in mold, mildew, the eventual decay of structural timbers and costly damage to interior wallpaper and paint. It preserves the efficiency of bulk insulation by sealing it in against moisture absorption.

SPECIFICATIONS

Single Foil Aluminum Vapor Barrier—	Double Foil Aluminum Vapor Barrier—
500 Sq. Ft. Per Rl.	500 Sq. Ft. Per Rl.
Weight—Approx. 13 lbs. Per Rl.	Weight—Approx. 19 lbs. Per Rl.
Widths—25″ and 36″	Widths—25″ and 36″

The RUBEROID Co.

500 FIFTH AVENUE, NEW YORK 36, N. Y.

Asphalt and Asbestos Building Materials

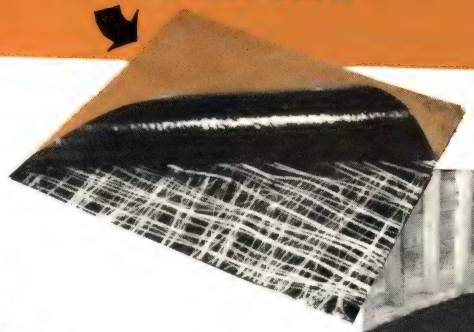
SALES OFFICES:

Baltimore 24, Md.—1500 So. Ponca Street
Chicago 1, Ill.—307 N. Michigan Avenue
Dallas, Texas—Singleton Road
Denver 16, Colo.—156 W. 56th Avenue
Erie, Pa.—16th Street
Kansas City 3, Mo.—7600 Truman Road
Millis, Mass.—Curve Street
Minneapolis 11, Minn.—50 Lowry Ave. North
Mobile 8, Ala.—Emogene Street
St. Louis 15, Mo.—9215 Riverview Drive
Salt Lake City, Utah—1674 Beck Street
South Bound Brook, N. J.—Canal Road
Savannah, Georgia—P. O. Box 1183

ARCHITECTURAL SPECIFICATIONS and INFORMATION FOR BUILDERS

SISALKRAFT
WATERPROOF
REENFORCED
PROTECTIVE PAPERS

SPECIAL-TREATED KRAFT

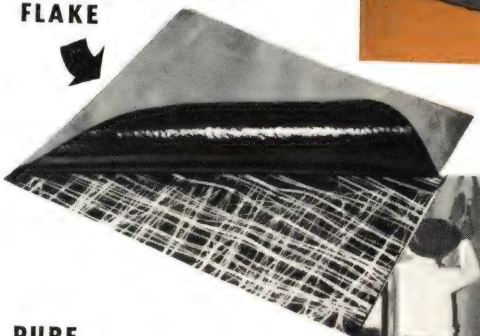




1 SISALKRAFT Reenforced Building Paper:

SISALKRAFT reenforcement consists of two layers of cross-laid unspun fibres (a minimum of 5 to the inch in both directions) which are nonelastic, nonabsorbent. These fibres are completely embedded in asphalt which helps make Sisalkraft waterproof, airtight and dustproof. The asphalt also serves to bond together the fibres and the top and bottom sheets of tough kraft paper. The kraft is specially treated to prevent the asphalt from oxidizing, and to provide resistance to scuffing, dry-rot, mildew and shrinkage.

PURE ALUMINUM FLAKE





2 SISALATION Reenforced Reflective Insulation:

SISALATION is basically the same as Sisalkraft in construction, but in addition, both outer surfaces are coated with pure aluminum, inseparably bonded to the kraft. This produces a hard-surfaced, continuous aluminum film with no voids, ruptures or openings. SISALATION is highly reflective, moisture resistant, windproof, dustproof, nonabsorbent, durable . . . resulting in an efficient, low-cost reflective *insulation* and *moisture-vapor barrier,* combined in this one product.

PURE ELECTRO-DEPOSIT COPPER





3 COPPER ARMORED SISALKRAFT:

COPPER ARMORED SISALKRAFT consists of a continuous sheet of electro-deposit pure Anaconda Copper and heavy Crepe Kraft, bonded together with special asphalt in which tough, cross-laid fibres are embedded for additional reenforcement.

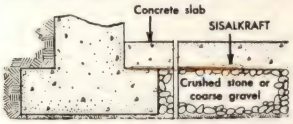


In all SISALKRAFT Products the tough, non-absorbent, close and uniformly-spaced reenforcement means more strength and unequalled waterproof, dust-proof, airtight, vapor-proof advantages

AMERICAN SISALKRAFT CORPORATION — Chicago 6, New York 17, San Francisco 5

SISALKRAFT OVER SUB-FILL... under concrete slabs





To prevent the entrance of cement into the voids of the sub-fill, and to maintain specified proportions in the mix when pouring floor slabs, cover all sub-fill completely with Sisalkraft, laid in the widest practicable widths, lapped at least 9″.

(Special One-Piece Sisalkraft Custom Made Blankets available in sizes 8′ 6″ to 26′ 6″ wide, up to 100′ long... practical for basementless homes. Write for details.)



CURING and PROTECTING CONCRETE



As soon as the finished concrete has set sufficiently to permit covering, Sisalkraft shall be laid over slab in the widest practicable width. All adjoining sheets must be overlapped at least 5″, and continuously sealed with a waterproof cement, as recommended by the manufacturers.

As an alternate method of sealing the laps, "Wetordry" masking tape, 1½″ wide (as manufactured by the Minnesota Mining & Mfg. Co.), shall be placed over a 3″ lap. The tape shall be completely bonded to the Sisalkraft.

The Sisalkraft shall be maintained in good condition and shall not be removed until a reasonable length of time has elapsed to assure thorough curing.

(The Sisalkraft may be left in place to provide protection from workmen-traffic and construction debris.)

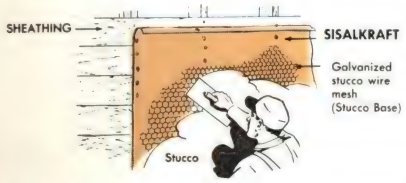
PROTECTING SHEATHING



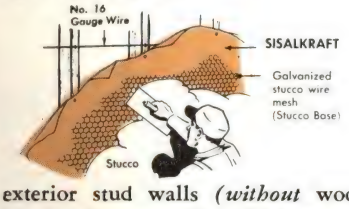


All exterior wall sheathing, wood or otherwise, shall be covered with one layer of Sisalkraft, applied horizontally, using large-headed nails, on weather laps of not less than 4″. Apply no more than will be covered that same day. The Sisalkraft shall be carried over the sills, heads and jambs of all openings and around all corners, for a distance of not less than 9″ each way. No shower-nailing shall be done, nor battens employed.

BACKING UP STUCCO



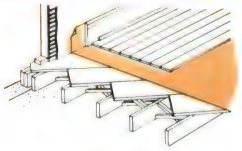
All solid-sheathed walls and other wood surfaces to be stuccoed shall be covered with Sisalkraft, applied horizontally, using large-headed nails on weather laps of not less than 4″. The Sisalkraft shall be carried over the sills, heads and jambs of all openings, and around all corners, for a distance of not less than 9″ each way. No shower-nailing shall be done.



All exterior stud walls (*without* wood sheathing) to be stuccoed, shall be covered with No. 16 gauge wire, stretched taut and secured in place, not over 6″ apart. Apply Sisalkraft as recommended. Over Sisalkraft apply stucco wire mesh with approved furring nails, placed on 6″ centers. Then apply stucco coat.

MOISTURE-PROOFING, AIR-PROOFING AND DUST-PROOFING FLOORS

Over all subflooring, Sisalkraft shall be applied in the widest widths practicable,



running at right angles to the direction of the finish strips, and shall be lapped not less than 4″. Sisalkraft shall be bent up the full height of the baseboards, and the base brought down over it, to provide a cold air stop.

PROTECTION OF FLOORING

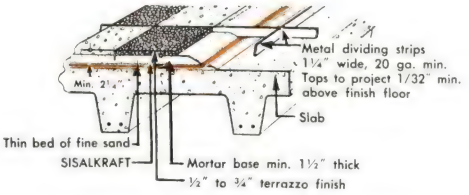


Over the surface of any finished floor, (wood, tile or cement), a layer of Sisalkraft shall be placed, with laps sealed, to keep floors in good condition until building is ready for occupancy.

VAPOR-BARRIER

On interior walls, Sisalkraft used as a vapor-barrier shall be applied vertically, directly over the studs, lapping on face of studs. *(Meets FHA Vapor-Barrier requirements, Class A, Federal Specifications UU-P-147a.)*

FOR TERRAZZO FLOORS — BOND BREAKER ON SAND CUSHION



To minimize the possibility of construction cracks, cover the hardened base slab with a thin layer of sand (about ¼″ thick). Over this layer of sand, a layer of Sisalkraft shall be applied, lapped 6″ at joints.

CURING TERRAZZO WORK

At least six days of curing is advisable before grinding the terrazzo surface. During this curing period, the terrazzo surface shall be covered with Sisalkraft, lapped at least 4″, and all laps sealed.

SISALKRAFT for protection of materials and equipment from rain and other bad weather conditions



Protecting cement | Protecting steel | Protecting stock piles | Temporary shelters | Protecting machinery

SISALATION WATERPROOF REENFORCED PROTECTIVE PAPERS

SISALKRAFT plus SISALATION for insulated dry walls

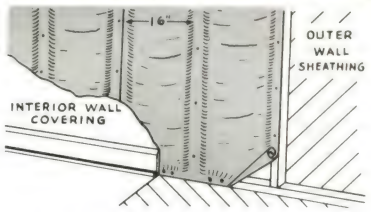
The use of SISALATION plus SISALKRAFT combines the advantages of insulation, vapor-barrier and weather-protection at lowest cost. Together, they help stop penetration of harmful moisture-vapor into walls from inside the home, while also stopping passage of moisture and wind from outside. *(Meets FHA Vapor-Barrier Requirements, Class A, Federal Specifications UU-P-147a.)*

In addition, SISALATION, bowed in between stud spaces, provides two insulating air pockets, plus its reflective insulating surfaces, to help keep homes warmer in winter and noticeably cooler in summer. Heavily reenforced by cross-laid fibres of steel-like strength, SISALATION and SISALKRAFT both remain permanently and effectively in place, for the life of the building. Here is dependable, quality construction with real economy! Application details and free samples on request.



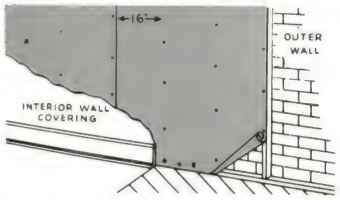
SISALATION REFLECTIVE INSULATION

INSULATION and VAPOR-BARRIER
(sidewalls — frame or brick veneer)



SISALATION Reflective Insulation (36″ wide) shall be applied vertically over the inside face of the studs (16″ centers). *Since the 36″ SISALATION provides excess material in width, it shall be carefully bowed in between stud spaces to provide air pockets for maximum insulating efficiency.* The SISALATION is to be lapped the full width of every other stud, and fastened to every stud with staples or flat-headed nails, spaced approximately 12″ apart. Care shall be taken to extend the SISALATION over the top and bottom plates.

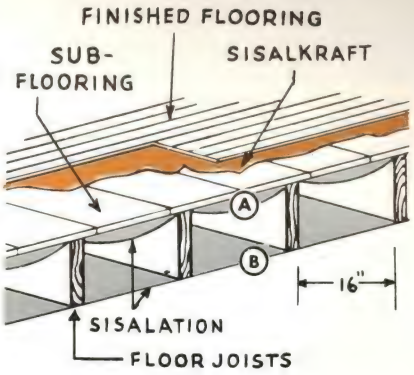
INSULATION and VAPOR-BARRIER
(sidewalls — masonry, brick, block, etc.)



SISALATION Reflective Insulation (48″ wide) shall be applied vertically over the inside face of the furring strips. Apply *flat* (not bowed-in), covering three spaces per each 48″ strip. Fasten to every strip with staples or flat-headed nails, spaced approximately 12″ apart. Care shall be taken to extend the SISALATION over the top and bottom plates.

(Note: SISALATION provides an ideal, permanent barrier to air infiltration.)

INSULATION and VAPOR-BARRIER
(under floors with crawl space)



Apply 36″ SISALATION *over* floor joists in new construction. (A) The excess 4″ shall be drapped between the joist space. In existing homes (B), SISALATION can be applied *flat, under* joists. This prevents air and moisture from penetrating from below plus the value of floor insulation. Ideal also for lining basement ceilings, finishing with wood strips at butt joints.

LINING UNFINISHED ATTICS



Staple or nail SISALATION in 48″ width *flat* to attic rafters. This will result in as much as 15 degrees lower temperatures in hot weather, keeping the whole house as well as the attic cooler. The house will cool faster at night, because SISALATION will not store up or absorb heat. SISALATION may also be applied over ceiling joists in attics with unfinished floors.

SISALKRAFT and SISALATION

Furnished in rolls, in practical widths for all requirements

SISALKRAFT: Rolls 36″ wide containing 225 sq. ft. or 500 sq. ft.
Rolls 48″ wide containing 666 sq. ft.
Rolls 60″ wide containing 1000 sq. ft. or 1500 sq. ft.
Rolls 72″ wide containing 1000 sq. ft. or 1800 sq. ft.
Rolls 84″ wide containing 1000 sq. ft. or 2100 sq. ft.
Rolls 96″ wide containing 1200 sq. ft. or 2400 sq. ft.

SISALKRAFT BLANKETS: Custom-made in widths varying from 8′6″ to 26′6″; lengths up to 100′. Write for detailed sizes and other data.

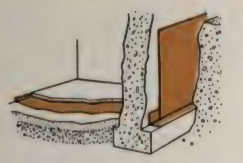
SISALATION: Rolls 36″ wide containing 225 sq. ft. and 500 sq. ft.
Rolls 48″ wide containing 666 sq. ft.

SISALKRAFT meets these required specifications in every detail:
BUILDING PAPER shall consist of two sheets of a 30-lb. No. 1 quality kraft, treated to resist fungus, mildew and dry rot, cemented together with asphalt, and shall be reenforced with unspun fibres completely embedded in the asphalt—a minimum of 5 reenforcements per inch in both directions. *SISALKRAFT conforms to Federal Specifications UU-P-147a, Type IV, Class A, B, and C; also conforms to Federal Specifications UU-P-264a for the Curing of Concrete.*

SEE NEXT PAGE FOR COPPER ARMORED SISALKRAFT SPECIFICATIONS and DATA

Specify COPPER ARMORED SISALKRAFT *for these uses:*

FOR MEMBRANE WATERPROOFING

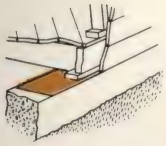


All basement footings, walls and floor slabs shall be waterproofed with a layer of COPPER ARMORED SISALKRAFT, using the widest practicable width, applied with a liberal coating of hot or cold mastic, or plastic cement.

The COPPER ARMORED SISALKRAFT shall be lapped at least 6″ at all joints, care being taken to mop both sides of each lap with the adhesive cement. The COPPER ARMORED SISALKRAFT shall be applied on the outer surfaces of the walls, horizontally, beginning not more than 6″ below ground level.

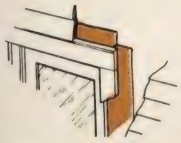
The COPPER ARMORED SISALKRAFT shall be applied on floor slabs to the rough structural floor just prior to the placing of the finished floor surface.

FOR FOUNDATION DAMPCOURSING



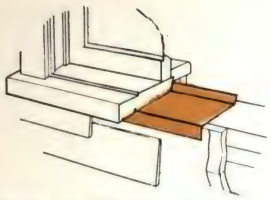
The top surfaces of all foundation walls shall be dampcoursed with a layer of COPPER ARMORED SISALKRAFT, applied in a continuous strip of a width the same as that of the foundation wall. Wherever joints in the COPPER ARMORED SISALKRAFT occur, it shall be lapped at least 4″ and tightly sealed with mastic.

FLASHING DOORS AND WINDOWS



In frame or veneer construction, all door and window frames shall be flashed with COPPER ARMORED SISALKRAFT. The copper shall be applied using 6″ strips, prior to the setting of the frames.

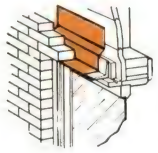
FOR SILL FLASHING



For Masonry or Veneer construction, all stone and brick sills shall be flashed with COPPER ARMORED SISALKRAFT, beginning 1″ from the outer face of the wall and extending back from the sill to the stool.

In frame construction, COPPER ARMORED SISALKRAFT shall be extended from turnup *back* of sill to at least 1″ over the second clapboard *below* the sill.

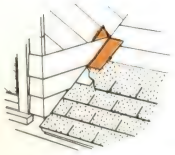
DOOR AND WINDOW HEADS (veneer and solid masonry):



All door and window heads in exterior walls shall be flashed with 2 oz. COPPER ARMORED SISALKRAFT. The copper shall be carried up at least 6″ on the sheathing; it shall extend at least 6″ beyond each jamb.

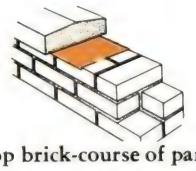
For Solid Masonry, the flashing shall be extended at least 12″ beyond each jamb, carried through the wall and turned up at least 6″ on the inside face of the wall, and bedded in mastic.

FLASHING ROOF AND SIDEWALL JUNCTURES



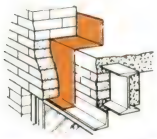
Sidewall and roof junctures shall be step-flashed with COPPER ARMORED SISALKRAFT between shingle courses; the copper to extend up at least 2″ on sidewall sheathing and at least 2″ out on shingles, and each succeeding flashing shall overlap by 2″ the flashing under the shingle below.

FLASHING PARAPET WALLS



Over the top brick-course of parapet walls, just previous to the laying of the stone coping, COPPER ARMORED SISALKRAFT shall be applied flat, in a strip wide enough to cover to within ½″ of the outer surface of the wall. Wherever the strips of COPPER ARMORED SISALKRAFT join, all joints shall be lapped at least 4″, and shall be tightly sealed with mastic.

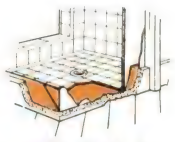
SPANDREL BEAM WATERPROOFING



All spandrel beams and all floor and roof arches resting on exterior walls shall be waterproofed with 2 oz. COPPER ARMORED SISALKRAFT. The copper membrane shall extend from within 1″ of the outer face of the wall at the bottom of the beam or arch. The copper shall extend through the wall and up on its inside face 6″. For beams over 15″, two pieces of COPPER ARMORED SISALKRAFT shall be used.

All joints in the COPPER ARMORED SISALKRAFT shall be lapped at least 4″ and tightly sealed with mastic. At all columns the COPPER ARMORED SISALKRAFT shall be turned up 6″. All horizontal masonry surfaces upon which the waterproofing is to be applied shall be free from loose materials and reasonably smooth.

WATERPROOF SHOWER STALLS



All shower stalls shall be waterproofed by the application of a layer of COPPER ARMORED SISALKRAFT over the rough structural floor. The copper shall be turned up on all walls not less than 6″ to form a pan. Wherever joints in the COPPER ARMORED SISALKRAFT occur or where the material is cut to allow for drains, laps shall be tightly sealed with mastic. (The 2-oz. weight of COPPER ARMORED SISALKRAFT is suggested for this use.)

COPPER ARMORED SISALKRAFT SIZES and WEIGHTS:

in rolls 120 feet long

*Weights	Widths
1 oz.	6″, 10″, 12″, 15″, 20″, 30″, 60″
2 oz.	4″, 10″, 12″, 15″, 20″, 30″, 60″
3 oz.	10″, 12″, 15″, 20″, 30″, 60″

*Weight of electro-deposit pure copper per square foot.

Copper Armored Sisalkraft is also available covered on *both* sides with heavy creped Kraft

SISALKRAFT WATERPROOF REENFORCED PROTECTIVE PAPERS

STOCKED BY LUMBER AND BUILDING SUPPLY DEALERS

AMERICAN SISALKRAFT CORPORATION

205 W. Wacker Dr., Chicago 6 • 101 Park Ave., New York 17 • 55 New Montgomery St., San Francisco 5

2c
GL

Glas-Kraft's BIG FOUR

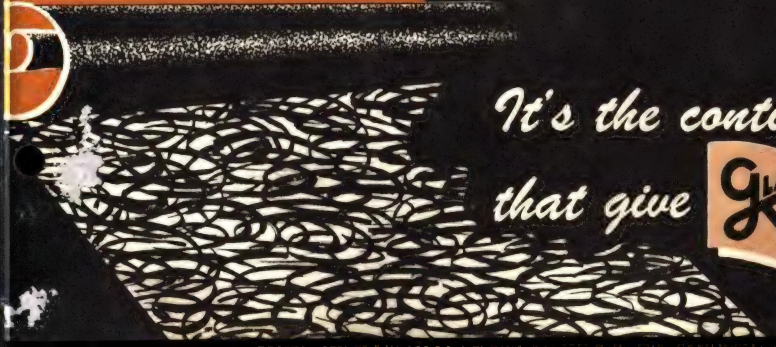
GIVE MORE PROTECTION

FOR MOISTURE-VAPOR BARRIER — **GRADE A** GLASKRAFT

FOR GROUND CONTACT MEMBRANE — **ROTBAR**

FOR REFLECTIVE INSULATION — **RAYBAR**

FOR ALL TYPES OF CONCEALED FLASHING — **KOPPER-KLAD**



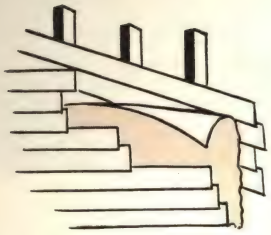
It's the continuous swirls of glass fibers that give GLAS KRAFT *products their superiority*

Glas-Kraft's BIG FOUR

GLAS-KRAFT GRADE A

CONSISTS OF

miles of continuous swirled glass fiber yarn completely embedded in a thick layer of special compounded asphalt. Bonded with two sheets of special Kraft paper which has been chemically treated to insure clean non-staining surfaces which prevent the asphalt from oxidizing and provide resistance to scuffing, dry rot, mildew and shrinkage.



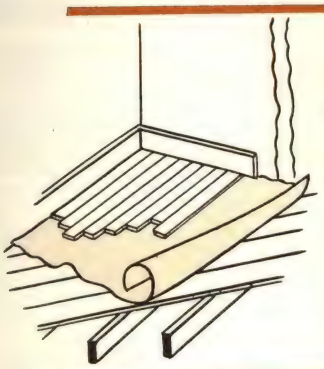
SHEATHING PROTECTION

Cover all exterior sheathing with **Glas-Kraft,** applied horizontally with laps of not less than 4". **Glas-Kraft** shall be carried over the sills, heads and jambs of all openings and around all corners for at least 9".



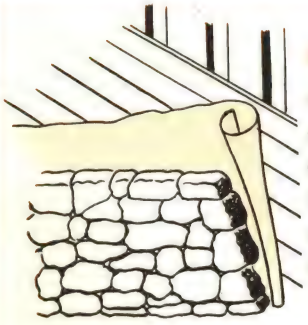
CURING CONCRETE

After the cement has been poured, floated and set, cure by covering it with **Glas-Kraft.** Lap joints about 5" and seal with a waterproof cement or tape. Leave the paper in place for a reasonable length of time to protect against damage. The use of **Glas-Kraft** assures a dense slab with dust-free, durable surface. Custom-made curing blankets are available.



FLOOR PROTECTION

Place **Glas-Kraft** over all sub-flooring in the widest practicable widths. Run the paper at right angles to the direction of the finished flooring lapping **Glas-Kraft** at least 4". Provide air and moisture stop by bending the paper up the full height behind the base boards.

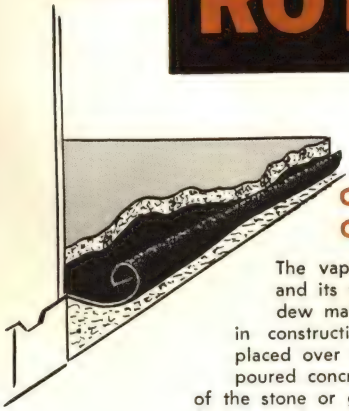


MASONRY WALLS

For dry, moisture-free stone veneer type houses, always apply **Glas-Kraft** Grade "A" to protect the sheathing. Grade "A" is highly effective as a moisture vapor barrier to combat the porosity of all masonry materials.

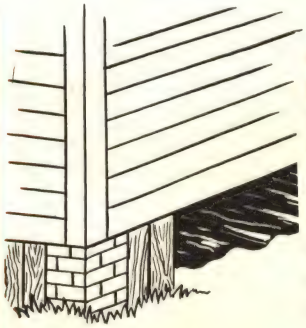
GLAS-KRAFT ROTBAR

is made of two plies of heavy Kraft paper chemically treated to resist fungus. It, like Glas-Kraft Grade "A", has continuous swirls of glass fibers completely embedded in special asphalt . . . BUT it is specifically processed to meet all the requirements of FHA for ground contact membrane control under slab and crawl space. **Rotbar** also has great resistance to puncture and tear.



CONCRETE SLAB CONSTRUCTION

The vapor barrier properties of **ROTBAR** and its resistance to rot, fungus and mildew makes it a superior product for use in constructing basementless houses. When placed over the subfill it prevents the newly poured concrete from entering into the voids of the stone or gravel. It also prevents moisture from coming up through the subfill into the slab. Use the widest practicable widths lapped at least 6" or custom-made blankets. Excavated basement floors, too, need **ROTBAR** for similar reasons.



CRAWL SPACE CONSTRUCTION

For basementless houses with crawl space under first floor **ROTBAR** is definitely a "must". Laid on the ground it is one of the finest membrane vapor barrier you can buy and will last the life of the house. Added protective value can be gained by using **ROTBAR** on the underside of floor timbers.

TYPICAL USES AND SPECIFICATIONS

GLAS-KRAFT

RAYBAR

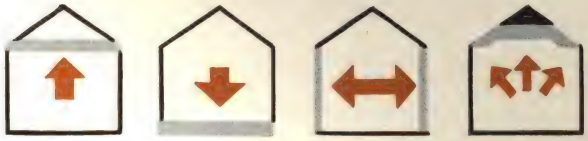
FOR REFLECTIVE INSULATION AND MOISTURE-VAPOR BARRIER

Is basically Glas-Kraft Grade "A" coated on one side or two sides with pure aluminum inseparably bonded to the Glas-Kraft thus producing a hard-surfaced continuous aluminum film with no voids, ruptures, or openings. **RAYBAR** is highly reflective, moisture resistant, windproof, dustproof, non-absorbent, durable and tough.

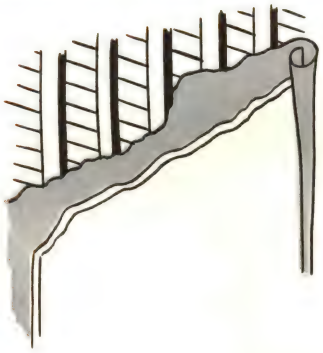


ATTIC LINING

To insulate attics apply **RAYBAR**, usually 48" wide, vertically along the underside of the roof rafters. No bowing-in is necessary if there is no additional interior finish.

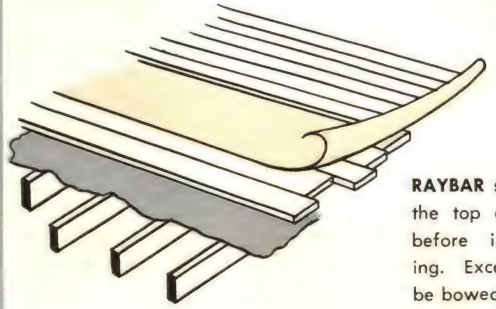


RAYBAR PREVENTS HEAT LOSS AT THESE VITAL AREAS



SIDE WALLS

To insulate frame or brick veneer sidewalls use 36" **RAYBAR** applied vertically over the inside face of the studs, usually 16" centers. The excess material should be bowed into space between studs. Extend **RAYBAR** over the plate and sill to provide a continuous vapor barrier. Adjoining rolls should be lapped at least 2" at a stud.



NEW FLOORS

RAYBAR shall be applied to the top of the floor joists before installing subflooring. Excess **RAYBAR** should be bowed into the space between the joists at least 1" to provide air space on both sides.

SPECIFICATIONS:

GRADE A GLAS-KRAFT

complies with Federal Specification UU-P-147-A, Type IV, Classes A, B and C and UU-P-264A — acceptable for mortgage insurance by F.H.A. when used for vapor barrier or concrete cure.

ROTBAR

complies with Federal Specification UU-P-147A, Type IV, Classes A, B and C and UU-P-264-A — acceptable for mortgage insurance by the F.H.A. when used as moisture membrane in contact with soil under slab or crawl space.

RAYBAR

complies with Federal Specification UU-P-147A, Type IV, Classes A, B and C—acceptable for mortgage insurance by the F.H.A. when used as vapor barrier reflective insulation.

KOPPER-KLAD

complies with moisture vapor barrier requirements of Federal Specification UU-P-147A, Type IV, Class A, either 1 oz., 2 oz. or 3 oz. grades.

GLAS-KRAFT'S

New Improved

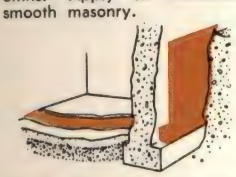
KOPPER-KLAD

IS THE PREFERRED MATERIAL FOR EVERY TYPE OF CONCEALED FLASHING

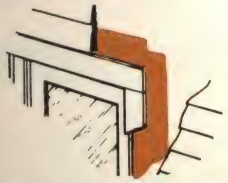
1. A new economical product at a fraction of the cost of heavy sheet copper.
2. Endorsed by architects and builders. Kopper-Klad meets all federal and local specifications for concealed flashings of electro sheet copper.
3. Non-deteriorating Kopper-Klad concealed flashing exceeds most other types of multi-ply lamination in extreme flexibility because of the continuous swirls of glass fiber yarn used in its manufacture. The flexibility of Kopper-Klad eliminates danger of kinking, cracking or tearing when being folded or formed. "Kopper-Klad" is one layer of thin sheet copper—1, 2 or 3 oz. bonded to a layer of crinkled specification kraft paper by a waterproof all-weather laminant in which is embedded swirled strands of continuous glass fibers. Under heat and pressure this lamination becomes a bond of such permanence that it is highly resistant to tear, rupture, or burst. These illustrations are of typical applications in heavy and residential construction.



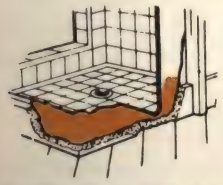
SPANDREL BEAM WATERPROOFING
Use 2 oz. KOPPER KLAD for spandrel beams and floor and roof arches resting on exterior walls. Extend from 1" of the outer surface of wall at bottom, carry through wall and up 6" on inside surface. Beams over 15" need two pieces KOPPER KLAD. Lap joints 4" sealed with mastic. Turn KOPPER KLAD up 6" at all columns. Apply on reasonably smooth masonry.



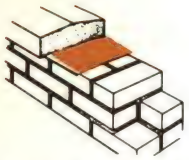
MEMBRANE WATERPROOFING
For basement footings, walls and floor slabs use layer of KOPPER KLAD. Apply widest pieces possible using hot or cold mastic or rubber cement. Run horizontally, lap 6" and begin 6" below ground level. On floor slabs use KOPPER KLAD over rough structural floor just prior to placing finished surface.



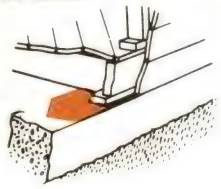
FLASHING DOORS AND WINDOWS
Use KOPPER KLAD in 6" strips prior to setting of frames in frame or veneer construction.



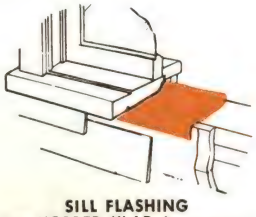
WATERPROOF SHOWER STALLS
Use 2 oz. KOPPER KLAD over rough structural floor turned up on walls 6" forming pan. Seal all laps tightly with mastic.



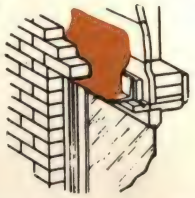
FLASHING PARAPET WALLS
Use continuous strip of KOPPER KLAD cut to cover to within ½" of outer wall surface. Lap 4" tightly sealed with mastic.



FOUNDATION DAMPCOURSING
For foundation walls use continuous strip of KOPPER KLAD cut to width of wall. Lap 4", seal tightly with mastic.



SILL FLASHING
Use KOPPER KLAD in masonry or veneer construction beginning 1" from outer face of wall. Extend back from sill to stool. In frame construction use KOPPER KLAD extending from turnback of sill to 1" over second clapboard below sill.



DOOR AND WINDOW HEADS
Flash with 2 oz. KOPPER KLAD carried up 6" on sheathing and 6" below each jamb. Extend KOPPER KLAD flashing for solid masonry 12" beyond each jamb, carry through wall and turn up 6" on inside face of wall. Bed in mastic.



GLAS-KRAFT, INC. • LONSDALE, RHODE ISLAND

insulation, wallboard

section 3

waterproofing, masonry treatments a

thermal insulation b

lath, plaster, wallboard d

caulking

CALBAR

REGISTERED U.S. PAT. OFF.

3a
Ca

compound

for sealing all types of construction

against weather, moisture, dust,

insects and heat loss

CALBAR PAINT AND VARNISH CO.

CALBAR

REGISTERED U.S PAT OFF.

CAULK-O-SEAL®

elasticized caulking compound

26 Colors THAT MATCH OR HARMONIZE

Specially colored caulking compounds have been requested of Calbar for many years for certain decorative applications to colored panels, stonework, tiles, etc. With the increased construction activity after World War II, this specialized output assumed an important part of the total Calbar production.

Roofing and siding manufacturers, architects, builders and owners showed increased interest in a suitable caulking compound requiring no painting, matching construction when applied. From hundreds of samples of manufacturers' colors, 26 were selected as standard to match or harmonize with shingles, roofing and siding.

Caulk-O-Seal is elasticized, non-staining and non-sagging . . . all tinting colors are permanent . . . to assure lasting satisfaction from the caulking job.

#100	PASTEL IVORY	#107	BLACK	#114	CHOCOLATE BROWN	#121	NATURAL
#101	PASTEL GREEN	#108	DARK BLUE	#115	DARK BROWN	#122	LIMESTONE
#102	TAN	#109	LIGHT GREEN	#116	YELLOW	#123	SILVER GRAY
#103	BUFF	#110	ALUMINUM	#117	PALE RED	#124	BLUE WHITE
#104	MEDIUM GRAY	#111	MEDIUM GREEN	#118	RED	#125	BRILLIANT WHITE
#105	BLUE GRAY	#112	DARK GREEN	#119	REDWOOD	#126	STANDARD WHITE
#106	SLATE GRAY	#113	LIGHT BROWN	#120	MAROON		

Write for any actual color samples you'd like to test.

SAVES FUEL • IMPROVES COMFORT • PROTECTS THE STRUCTURE

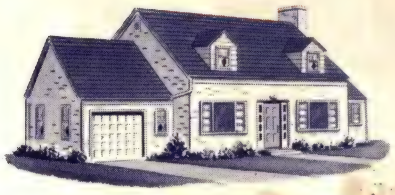
Fuel and heat saving are important for economy's sake and for personal comfort. A home, apartment house, office, factory — any building not tightly sealed at every point is a fuel waster, because cold air coming in must be heated to replace the warm air lost through open cracks. Cold air and deterioration (dust and dirt and decay) can be sealed out, simply, by caulking with Caulk-O-Seal.

Caulk-O-Seal has been expressly compounded to provide a plastic, rubber-like caulking material that completely seals cracks and openings around doors, windows and flashings — at a multitude of construction joints.

Thirty-four years of formulating, testing and producing thousands of special-purpose caulking compounds enabled Calbar to develop this fully elasticized material. Super-plastic, 100% non-staining, 100% non-oil exudent — life giving oils sealed in — Caulk-O-Seal can not dry out, crack or crumble. It adheres to any building material surface.

Caulk-O-Seal stretches and shrinks to allow the building to contract and expand without breaking its seals. Caulk-O-Seal is elasticized; constant vibration has no effect on it. Waterproof, it cannot deteriorate. If necessary it can be painted immediately . . . will not bleed through paint after the surface hide forms. Most production requirements are for Gun consistency, for use with a Calbar pressure gun, but Caulk-O-Seal is also made in Knife consistency for application with putty knife or caulking tool.

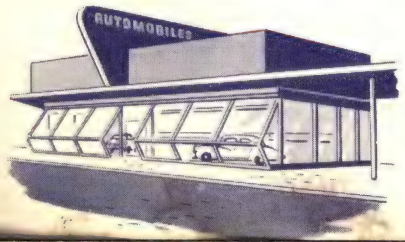
FOR RESIDENCES



FOR COMMERCIAL BUILDINGS



FOR STORES



meets the requirements of the ASBESTOS-CEMENT PRODUCTS ASSN. and FEDERAL SPECIFICATIONS TT-C-598



United States Testing Company, Inc.
HOBOKEN, N. J.
TEST NUMBER E-2706
May 29, 1951
REPORT OF TEST
Tests made for: Calbar Paint and Varnish Co. 2012-20 N. Martha Street Philadelphia 25, Pa.
Material tested: One quart Sample of Caulking Compound, Calbar, Limestone, Caulk-O-Seal, Gun Grade, Orange Label.
METHOD OF TEST:
As described in Federal Specification TT-C-598, April 25, 1951, for compounds, caulking, plastic, for masonry and other structures.
RESULTS OF TESTS:

	Found	Required
Shrinkage, percent by volume	7.63	20 maximum
Bond, Area of Separation, pct.	5.0	10 maximum
Tenacity	Satisfactory	No breaks or cracks after folding 6 times
Rate of Hardening, pct.	23.5	40 maximum
Oil Retention, Area of Stain on Limestone, Inches	1/32	1/16 maximum
Slump: 24 hrs. at 70°F, 24 hrs. at 120°F, ins.	None 1/32	3/16 maximum
Cracking	None	None

REMARKS: Meets specification requirements.
United States Testing Company, Inc.
By J. R. Carroll, Engr. Dept. Div.

tes Testing Company, Inc.
HOBOKEN, N. J.
TEST NUMBER E-2863-1
June 14, 1951
REPORT OF TEST
ulk Co.
Street
Pa.
ound as received in one-quart
ked in "Results".
ched in "Specifications for Caulking Compounds Cement Siding Shingles Adopted by the Technical Asbestos-Cement Products Association on October 27,
Calbar Orange Label Brilliant White Caulk-O-Seal

	Found	Required
	4.06	20 Maximum
	4.57	13 Maximum
	Satisfactory	No Breaks or Cracks After Folding 6 times
Staining, in	None	1/32 Maximum
Adhesion	Satisfactory	Rupture within Volume of Material
Skinning	Satisfactory	Surface Tack Free within 4 days.
Slump, in	0	3/16 Maximum

REMARKS: Meets specification requirements.
United States Testing Company, Inc.
By J. R. Carroll, Engr. Dept. Div.

METHOD OF TEST:

FEDERAL SPECIFICATION TT-C-598

RESULTS OF TESTS:

	FOUND	REQUIRED
Shrinkage, percent by volume	7.63	20 maximum
Bond, Area of Separation, pct.	5.0	10 maximum
Tenacity	Satisfactory	No breaks or cracks after folding 6 times
Rate of Hardening, pct.	23.5	40 maximum
Oil Retention, Area of Stain on Limestone, inches	1/32	1/16 maximum
Slump: 24 hrs. at 70°F 24 hrs. at 120°F, ins.	None 1/32	3/16 maximum
Cracking	None	None

REMARKS: Meets specification requirements.

ASBESTOS-CEMENT PRODUCTS ASSOCIATION SPECIFICATION

RESULTS OF TESTS:

	Calbar Orange Label Brilliant White Caulk-O-Seal FOUND	REQUIRED
Shrinkage, pct. by volume	4.06	20 maximum
Volatile, pct. by weight	4.57	13 maximum
Aging	Satisfactory	No breaks or cracks after folding 6 times
Staining, in	None	1/32 maximum
Adhesion	Satisfactory	Rupture within volume of material
Skinning	Satisfactory	Surface tack free within 4 days
Slump, in	0	3/16 maximum

REMARKS: Meets specification requirements.

CALBAR REGISTERED U.S. PAT. OFF.

*** Caulk-O-Seal elasticized caulking compound not only meets the requirements of Federal Specification TT-C-598, and Asbestos-Cement Products Assn. but is far superior.**

FOR ROOFING AND SIDING

To protect functional and decorative roofing and siding from moisture, wind and dirt, Caulk-O-Seal should be applied to all termination points. For instance, when panels have been fitted snugly around a window frame, a bead of Caulk-O-Seal will seal the small crack between the siding and the frame. Particular care should be taken under windows, as moisture penetrating this spot will destroy both the sill and all construction beneath the frame. The same care should be taken at door openings, on inside corners, on gable ends, wherever roofing or siding butts parts of the original structure, and where two panels meet without the protection of regular shiplap joints.

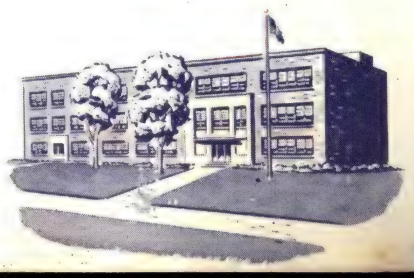
At outside corners where corner trim is used, a bead of Caulk-O-Seal is run down each side of the trim, the trim pressed firmly in place and nailed. When applying butt shingles requiring a corner trim, the broken ends of the panels are carefully buttered with Caulk-O-Seal before the trim is set in place.

Shiplap joints between courses and panels are not to be caulked. It has been found better to permit a dry joint so the wall can breathe slightly.

FOR OFFICE BUILDINGS



FOR SCHOOLS



FOR APARTMENTS



CALBAR® CAULK-O-SEAL® ELASTICIZED CAULKING COMPOUND

CAULKING TIPS

As is true in the application of roofing and siding, preparation of the surface is a key to good caulking procedure. The surfaces must be clean and dry—free of dust, grease, loose mortar or paint scales.

Though not necessary, it is good practice to prime all porous surfaces such as wood, brick, stone, stucco or concrete with Calbar Caulk-Prime. Priming will fill the pores of the surface, prevent moisture from seeping in behind the caulking, and act as a binder between the compound and the surface. If the surfaces are not primed, the oil may be sucked out of the compound into the pores of the material it is pressed against.

If the crack is deeper than 3/4 inch, it should be first filled with oakum tamped in firmly to within 1/2 inch of the surface. On porous stones, some companies prefer caulking cotton to oakum; they feel oils in the oakum stain the stone. One pound of caulking cotton will cover 10 feet in a 1/2 inch rabbet.

If the gun grade is being used, select the proper tip. Put the nozzle in the opening, hold the gun at an angle, and force the caulking deeply into the crevice. Let the material come out smoothly, slowly and in sufficient quantity to fill the crack and leave a heavy filet of not less than 3/8 inch face as a maximum protection against breaking and pulling away. When desired, the surface can be smoothed flush with a caulking tool or molders stick. Follow the same procedure outlined, when using the knife grade.

RETARDS HEAT LOSS

On the windy side of a house, as much cold air blows through cracks around door and window frames as through a broken window. And just as much pre-heated air pours out on the leeward side. Leaving these cracks open, uncaulked, is just wasteful.

CONTROLS DRAFTS AND VENTILATION

Whether you're trying to seal off drafts for comfort or to assure adequate control of ventilation (air replacement or odor or gas removal), you cannot approach ideal air control or exchange conditions until all cracks are sealed. Without caulking You're wasting comfort, fuel or ventilator power . . . or all three.

INCREASES BUILDING LIFE

Beams, braces, fittings and fastenings . . . wood or metal . . . are easy prey to moisture, insects and fumes. Most evident example is a wooden porch sagging from damp, dry rot and termite damage to supporting timbers. Caulking porch walls, floor and at the foundation line would prevent this . . . inexpensively.

WHERE TO BUY CALBAR PRODUCTS

Calbar Caulk-O-Seal, Guns, Nozzles and other products are sold through the regular Building Supply distribution channels: Building Supply Houses, Lumber Yards, Hardware Store, Hardware and Paint Stores, and Trade Distributors. Sold in every state.

OTHER CALBAR PRODUCTS

CALCODA COLORLESS MASONRY COATING • HOUSE AND BUILDING PAINTS • PLASTER BOND • SHINGLE STAIN • CONCRETE AND STUCCO PRESERVATIVE • INDUSTRIAL AND PRODUCTION COATINGS • VARNISHES • ENAMELS • MASON-SEAL HEAVY COAT MASONRY COATING • ALUMINUM PAINTS • FLOOR ENAMELS • ROOF PAINTS • FLATS.

CALBAR PAINT and VARNISH CO.

2612-26 N. MARTHA STREET PHILADELPHIA 25, PA., U.S.A.

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NOVASCO® PRODUCTS

NOVA INSULATED SIDEWALLS

NOVA PROCESSED SHAKES • NOVA ROOF SHINGLES

NOVA GLASS-LOUVERED JALOUSIES

YEAR-ROUND PROTECTION IN EVERY CLIMATE

NOVAFOLD DOORS

SOLID-CORE PLASTIC DOORS and ROOM DIVIDERS
BAMBOO DOORS, ROOM DIVIDERS, WINDOW DRAPES

NOVAPROOFING

FOR ALL TYPES OF MASONRY, STUCCO, PLASTER
"wherever you want to keep water in or out"

A.I.A. File No. 7-A-2

NOVA SALES Co.
TRENTON 3, N. J.

A WHOLLY-OWNED
SUBSIDIARY OF
HOMASOTE COMPANY

NOVA insulated SIDEWALLS

Sheathing, shingling and insulating in one operation
Major savings in time and labor • Finest cedar shingles
W-i-d-e exposures • D-e-e-p shadow lines

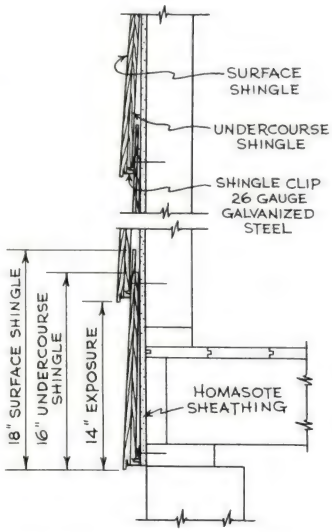
At last . . . a truly scientific method has been developed whereby sidewalls can be sheathed, shingled and insulated *in one operation.* By this method, you have the rich architectural effect of extra wide exposures at a remarkably low cost. Nova Insulated Sidewalls have beautiful 14" exposures and ¾" deep shadow lines.

There are no exposed nails to rust or stain the shingles. The shingle cannot split or curl. The method saves 33% of the cost of applying the regular double-course shingles.

Nova Insulated Sidewalls are built with only four major materials: Homasote Sheathing; 26-gauge galvanized steel Nova Shingle Clips (in 8′ lengths); inexpensive under-course shingles; #1 Novagrade* Processed Shakes (in Natural and 10 standard colors).

SPECIFICATIONS: The entire wall surface shall be sheathed with weatherproof Homasote Insulating-Building Board — either 15/32" or 21/32" — available in sizes up to 8′ x 14′. Where boards meet, allow ¼" between boards. (Using Homasote Sheathing, you gain important insulating and sound-deadening values — the building gains in structural strength. Homasote eliminates the need for corner bracing.) Place 8′ shingle clip at the bottom of wall along previously snapped chalk line and nail at each stud with 5d galvanized nails. Position under-course shingle on clip (as illustrated at left) and staple at top with one staple. Next, slide each surface shake or shingle down the face of the under-shingle until the kerf in the butt of the shake or shingle engages the clip. Staple each surface shake or shingle at top with one staple. After the full course is completed, repeat the operation, laying the other course 14" to the weather and nailing the new clip through the top of the preceding course. Only 1½ lbs. of nails are required per square. (Under window sills, use a cove molding.)

Nova Insulated Sidewalls are eligible for FHA Insured Mortgage Loans.



TYPICAL SIDEWALL DETAIL

FOR MODERNIZATION OF EXISTING STRUCTURES — re-siding can be accomplished with Nova Shingles and Nova Clips. New beauty and new value are added to the structure. (For re-siding, the under-course is omitted. Otherwise, same procedure as above.)

*The term *Novagrade* denotes an entirely new set of standards for grading shakes above and beyond the range of grades formerly applied. Thus, in Nova Processed Shakes (#1 Novagrade), you have shakes made to higher standards than you have ever known before.

Nova Processed Shakes

PROCESSED FROM #1 Novagrade kiln-dried Cedar — 18" Perfections — perfectly grooved on the newest and finest type of groover ever developed. The shakes are colored with a revolutionary, new, *vitalized* shingle paint — formulated to assure uniformity, regardless of the moisture content or variation in the color of the cedar. Each shake is individually pre-conditioned before reaching the special pressure system of paint application, and is then brushed and smoothed out with Nylon.

Nova Roof Shingles —

Nova Roof Shingles — *meeting all standard specifications* — are of the finest manufacture obtainable.



NOVA glass-louvered JALOUSIES

Year-round protection in every climate



These are weather-tight, glass-louvered jalousies for installation on any type of building — *in any climate*. The Nova Jalousie combines maximum visibility, ventilation up to 100% and complete weather protection. Vinyl weather-stripping at head and sill — and interlocking operator bars — offer a superior seal against wind and cold. The louver construction permits ventilation with full protection against rain. Screen and storm sash are readily interchanged.

The Nova Jalousie is designed for application on new or existing construction with cost and labor at a minimum. Shipped KD; only eight screws are needed for assembly. Mounting flush with the window frame, special construction eliminates the need for a protruding drip cap on this unit.

Glass Louvers 7/32″ thick; 4″ deep. Clear glass supplied unless obscure is specified (at the same price). Tinted, heat-absorbing SOLEX (clear) or AKLO (obscure) glass is optional at extra cost. Patented, stainless steel wedge permits speedy glazing on the job without bending glass clip.

Worm Gear Operator mounted on the right side unless otherwise specified. Responds silently to finger control . . . locks in any position. Heights over 60⅞″ have two operators.

Sizes: widths — 17″ to 41″ in 4″ increments; heights — 21″ to 97⅛″ in 3⅝″ increments. Stock widths may be reduced by a simple sawing operation.

Jalousie Door Inserts. A Nova Jalousie set into a door offers an additional source of ventilation — even through a locked door. Interchangeable screen and storm sash eliminate the need for a secondary door. All inserts have 16 louvers — are sold complete with screen and glass. Operator is 40″ to 45″ from bottom of door unless otherwise specified. SIZES: widths — 20″ for a door 2′6″ wide; 22″ for a door 2′8″; 26″ for a door 3′ wide. Height 60⅞″ for all widths.

Specifications: Nova Jalousies shall be installed according to directions furnished by Nova Sales Co.



NOVAFOLD DOORS

Solid-core plastic doors and room dividers

Features you expect in the finest door or room divider are found here at half the cost. 4″ leaves in individual pockets assure solid-core privacy — with accordion-folding to 16% of extended width in a 4½″ stack that fits flush with the wall. Installation is very simple in new or existing construction. No furring, trim or roughing. Linkage chain assures even pleating when unit is drawn across the opening. In six colors; eight stock sizes adaptable to shorter openings; paired for wider.

Specifications: All Novafold Plastic Doors shall be installed according to directions furnished by Nova Sales Co.



Bamboo doors, room dividers, window drapes

Top quality imported inner-core bamboo — mildew-and warp-proofed — processed and assembled by American methods with



special American hardware. Fixing the enameled steel track to the top of the opening completes installation. Nylon slides and seine cording assure long life, continued smooth operation. Sizes up to 16′ wide; 12′ high. Colors: Natural and 19; matched colors to order. Each unit folds to 10% of its width; costs far less than materials usually used for doors or room dividers.

Specifications: All Novafold Bamboo Doors and Drapes shall be installed according to directions furnished by Nova Sales Co.

NOVAPROOFING.

—wherever you want to keep water in or out

There are no middle-of-the-road conditions with water. You either have it, or you don't. But if you have a water problem, there is no cheap way of getting rid of it. In other words, there is only one right way — and that is to follow a reputable manufacturer's recommendations *absolutely*, and buy the finest materials possible to get the right results.

According to independent laboratory tests, Nova products take first place for performance and permanence. Each has been designed to do a specific type of job, under specific conditions, and to do that job satisfactorily. For example, Novamix Integral waterproofing, when used in mass concrete, produces an entirely different type of concrete that is easier and faster to place, has a better finished surface, is stronger and no water will penetrate by capillary attraction.

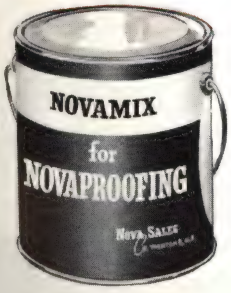
Novacrete, our masonry paint, has Novamix in it which makes the difference. This assures you of a coating that will withstand the elements for many years. The same type of quality is built into Novafill, Novaprime and Novalastic.

But above all, the conquering of water is a skilled science. Not only is it necessary to have the finest products available, but it is necessary to have years of experience and research. If you have this combination, and Nova does, you can keep water in or out.



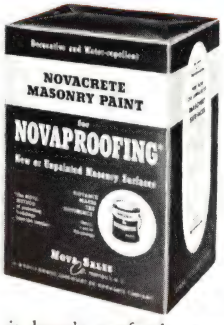
We have the products and the know-how to help you, *"wherever you want to keep water in or out."* As a service to Architects — never before available — we offer a series of nine Specification Data Sheets covering all important masonry uses. To Builders — a series of 19 Service Bulletins, the know-how of Novaproofing.

NOVAMIX



For mass concrete, pargeting, stucco, slush coat, cement grout. Thoroughly tested and proved on every type of job. Helps concrete and mortar to become more moisture-resistant — by controlling the rate of curing. Makes the outer surfaces of the mass impervious to moisture; the water within the mass then vaporizes more slowly. Novamix develops a far higher percentage of the cement's potentialities—through lubrication and dispersion—thereby increasing the density and durability; simultaneously, shrinkage is reduced. Accelerates initial and final set—speeds up finishing—lowers cost. Prevents honeycombing and segregation of aggregates. Protects against effects of freezing and thawing. Resistant to mild acids, oils, lactics, urea, alkali, blood, sugar, salt, etc.

NOVACRETE



Possesses unexcelled water-resistance and long-wearing qualities. Quickly and economically preserves and beautifies stucco, cinder and concrete blocks and all masonry surfaces. Will not flake, blister or peel off. Protects against water, seepage, dampness, humidity and fumes. Unlike oil paints, Novacrete is unaffected by the chemical elements present in masonry. Can be applied directly to new masonry walls even before dry. The "Micro-Milled" powder (an exclusive Nova development) is mixed with water, according to simple instructions, and applied to any porous masonry; it bonds perfectly, penetrates and closes each microscopic pore and crack, thereby becoming an integral part of the original surface. Clear sparkling colors that bring freshness and charm to any outside or inside walls, basements, foundations, etc. plus complete water-repellency.

NOVAFILL

Tightens up porous mortar joints and porous masonry by penetrating to a depth of 1½" or more. Develops *within the masonry* a water-tight surface (providing the masonry is otherwise sound). Acts as a water-repellent, sealing all hairline or seasoning cracks, solidifying the entire surface by Novaproof-sealing both the old porous surface and the new work at the same time. Contains no petroleum wax or paraffin to cause unsightly discoloration on the face of the structure.

NOVALASTIC

A flexible joint filler, designed for use as a relieving joint in brickwork, coping stone, etc. Especially important if there is anticipated movement of the units by either expansion or contraction. Remains plastic, is unaffected by water, acids, fumes, or atmospheric changes. Made of the finest gums that polymerize without shrinkage, thereby creating a water-repellent elastic joint.

NOVAPRIME

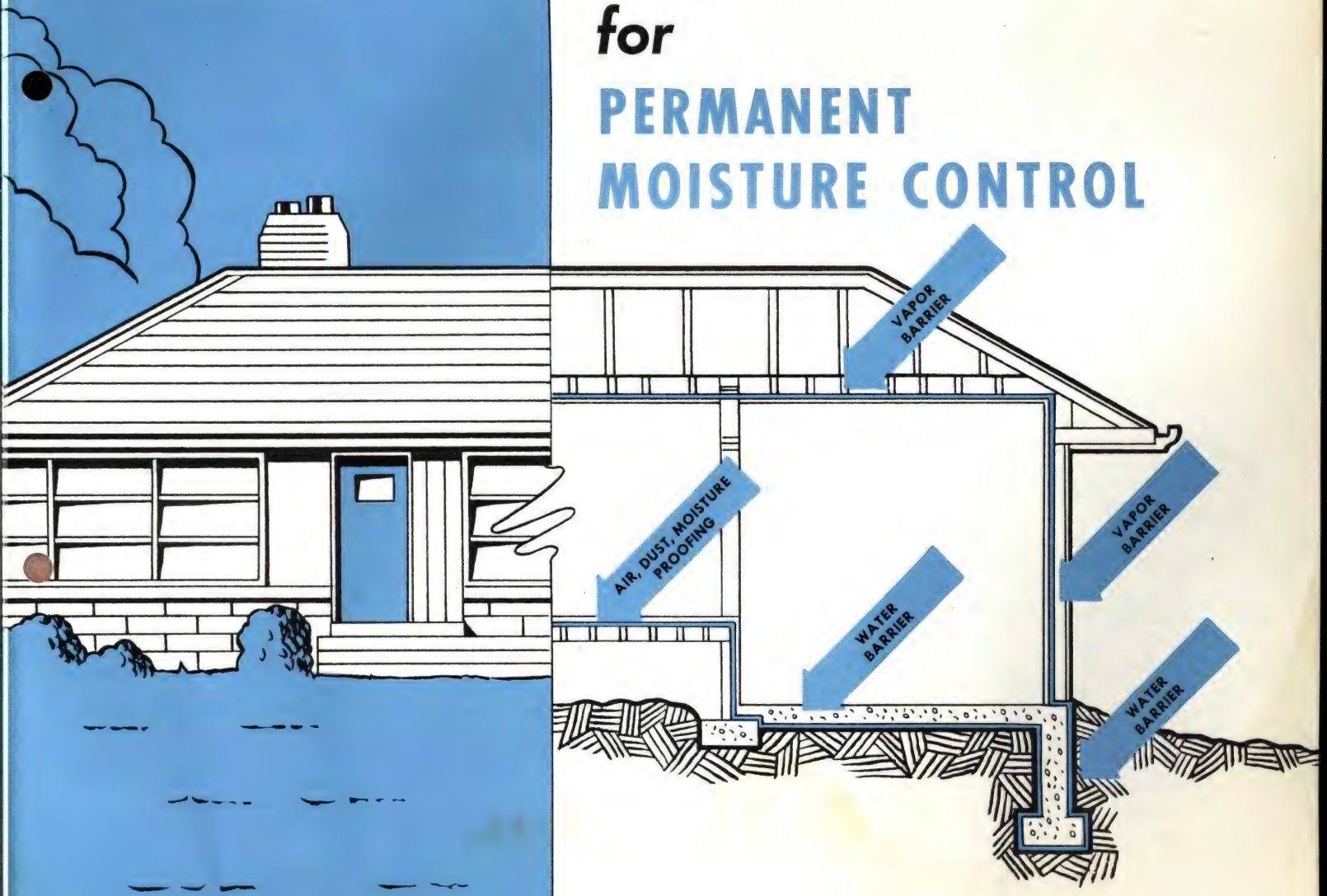
To be used in conjunction with Novalastic. Its function is to penetrate and waterproof the surfaces of brick, stone and other masonry. It is applied only to a dry surface. When used in open mortar joints, it provides a tacky bond for the Novalastic joint filler, giving complete protection against leakage and preventing the masonry from drawing out the essential gums and oils in the elastic joint filler. Assures a monolithic bond between the Novalastic and the masonry.

LITHO IN U. S. A.

VisQueen

T.M.

FILM *for* PERMANENT MOISTURE CONTROL



THE VISKING CORPORATION
PLASTICS DIVISION
TERRE HAUTE INDIANA

VisQueen

A PERMANENT VAPOR BARRIER

Condensation control in building construction is an important part of design and construction. Difficulties such as paint peeling, wood decay result from poor condensation control. The result of poor, or no condensation control is high maintenance cost and owner dissatisfaction.

Poor moisture vapor control evidences itself visibly most commonly by paint peeling off exterior siding. Excess moisture absorbs extractives from the wood resulting in stains on the siding surface. Stains are a prelude to paint blistering and peeling and eventual decay of the wood and loss of insulative value of the insulation which has become moisture soaked.

The only positive preventive and control of condensation problems is an adequate permanent moisture vapor barrier. Vapor barriers are no better than their quality and thoroughness of installation.

VISQUEEN film is a permanent moisture vapor barrier. Being pure, virgin polyethylene film it is flexible, strong, puncture and tear resistant. It does not age or become brittle and break or pinhole. VISQUEEN is light weight and pound for pound with any other low priced moisture vapor barrier costs less to install. One thousand square feet of VISQUEEN film for walls weighs less than 10 pounds. It will stay in place for the life of the building without deteriorating.

VisQueen Fulfills Requirements

Because VISQUEEN is a pure plastic—virgin polyethylene film—it is a superior moisture vapor barrier. The Housing & Home Finance Agency, based on studies of the Forest Products Laboratory, has defined a good moisture vapor barrier as follows, "A good moisture vapor barrier should permit not more than 1 grain of water vapor to pass through an area 1 foot square in 1 hour when the vapor pressure difference is calculated on the basis of 1 inch of mercury when tested by a dry method." VISQUEEN film meets these requirements with a 900% margin according to tests conducted at the University of Minnesota by Frank B. Rowley* in which VISQUEEN film permitted only 0.10 grains moisture /sq. ft./ in Hg vapor pressure difference. Another requirement set forth says "It should have sufficient mechanical strength to permit handling without damage. It should also retain its vapor resistance qualities for the life of the building." VISQUEEN meets or betters these requirements and adds these—low temperature flexibility, light weight for ease of placement, can be delivered in rolls of up to 16 foot widths in a single continuous roll which means no seams to rupture, no piecing together of narrow strips.

**Full test results available on request.*



Wide VISQUEEN film is laid on layer of sand with six inch laps. Reinforcing mesh is put in place over film. Light weight VISQUEEN is easy to handle—reduces labor costs.

VisQueen CHARACTERISTICS and ADVANTAGES

Permanent Protection—VISQUEEN film does not deteriorate with age, get brittle or crack. It is pure, virgin polyethylene so there is no plasticizer to leach out. VISQUEEN film gives permanent protection.

Will Not Flash or Sustain Combustion—When flame is applied the film just melts slowly. There are no additives to VISQUEEN film. It is pure, odorless and non-toxic—contains nothing that will flash.

Light Weight—Low Installation Cost—VISQUEEN film provides 30,000 square inches to one pound of .001″ thickness. Its light weight reduces labor cost. Up to 16′ seamless one piece widths are handled with ease. Application to side walls, forms and under slabs is quick and efficient. VISQUEEN film has strength without weight or bulk.

Won't Crack, Break or Shatter—VISQUEEN film is soft and flexible yet puncture and tear resistant because it is inherently tough. It stays tough and flexible, does not pinhole when folded or flexed. If punctured VISQUEEN film will not run—it can take rough handling.

Unaffected By Temperature or Humidity—VISQUEEN film can be put in place summer or winter. It remains flexible down to the minus 70°s F., which makes handling easy when temperatures are high or low. Humidity has no effect on VISQUEEN film as it will not absorb moisture. It is unaffected by acids, alkalis and caustics because it is inert. Provides good weather protection for machinery, materials.

Dust Proofing—Air Resisting—VISQUEEN not only provides a moisture vapor and water barrier but also makes walls air resistant. When used over sub-flooring VISQUEEN film makes floors air and dust proof.

Ideal Curing Cover—Because of the low MVT of VISQUEEN film it makes an ideal cover for curing concrete. When used in forms it is held in place by the concrete and provides complete water proofing when forms are removed. Forms need no varnishing or greasing. Under slabs VISQUEEN film stops cement water solution loss into the fill and over slabs prevents flaws that result from uneven curing.

Weather Protection—When VISQUEEN film is used in side walls openings are covered protecting building interior from the elements. Being transparent the film allows light in while protecting plaster, etc.

plastic film VAPOR BARRIER



VISQUEEN applied on inside of exterior foundation wall form. It is anchored under or lapped at top of footing. Joint of footing and wall should be caulked. VISQUEEN is stretched tightly, full wall length, and anchored at corners by toe nailing 2 x 4 studs which are removed after a foot of concrete is poured.



VISQUEEN film is applied to studding by stapling. If narrow widths are used i. e. for vertical application, it should be lapped the full width of the stud on alternate studs. Ceiling and floor laps should be six inches. Film should be sealed around junction boxes, pipes, outlets, etc. in the walls.



VISQUEEN film is inert so radiant heat pipes and other pipes or materials will not effect it nor will it have a deteriorating effect on anything in contact with it. VISQUEEN will not effect the efficiency of the heating system.

APPLICATION

1 **Slabs**—VisQueen film is simply laid over a layer of sand which protects it from being punctured by sharp objects. A lap of six inches should be allowed and the top layer of the lap seam should point in the direction in which the concrete is spread.

2 **Side Walls**—VisQueen film may be applied in either of two methods. Sheeting 33½ inches wide may be applied vertically to the 2″ x 4″ studding on 16″ centers with a full lap on alternate studs. Or, VisQueen film sheeting (up to 16′ widths) may be applied horizontally. The film should be stapled to the studding.

Foundation Walls—Application of VisQueen film can be made by one of these methods:

(**A**) After walls have been poured and forms removed the VisQueen film should be positioned against the outside of the walls before back filling. (**B**) VisQueen film may be applied on the inside of forms having no internal bracing. It should be positioned so it will be on the outside of the wall. This will permit early removal of forms while providing a slow cure of the concrete. (**C**) VisQueen film may be used as a form liner and will be held around the walls after removal of the forms. It is important that the VisQueen film be put in position in such a manner that it will not be punctured. When used in the forms VisQueen film eliminates the need for greasing or shellacking and the waterproofing of the walls after removal of the forms. VisQueen film provides a permanent moisture vapor and water barrier.

3 **Ceilings**—VisQueen film should be applied to the warm side of the ceiling joists by stapling to the joists lengthwise with laps of at least the full width of the joists. A full six inch overlap onto the walls should be allowed.

4 **Floors**—For moisture, air and dust proofing of floors, VisQueen film should be applied over all sub-flooring in as full widths as practical. The film should be lapped up 6″ on the side walls.

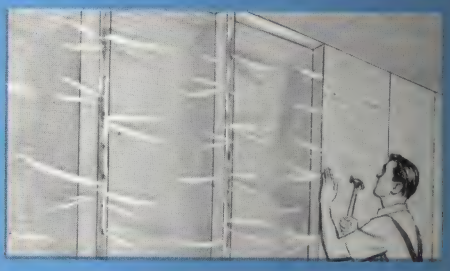
SIZES AND THICKNESSES AVAILABLE

VISQUEEN film is available in easy to handle seamless sheeting up to 16 foot widths in thickness from 2 mil (.002″) to 20 mil (.020″). VISQUEEN film is the only pure polyethylene film made in seamless sheeting of such widths. Standard colors are also available and special colors and thicknesses are available on special order.

1



2



3



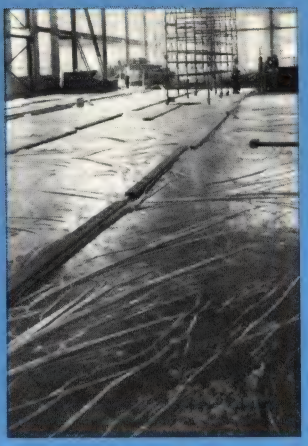
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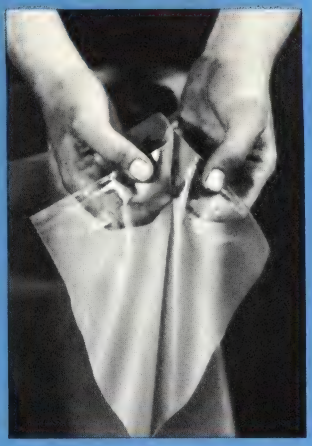


THE VISKING CORPORATION
plastics division
TERRE HAUTE, INDIANA









VISQUEEN film provides waterproofing and moisture vapor protection for all buildings. It is put in position under the reinforcing mesh, laid over a layer of sand to protect it from punctures. Joints should be lapped 6 inches and the concrete spread in the direction of the lap. No special handling is required nor any additional waterproofing. For curing, a thin layer of water is spread over the slab and the VISQUEEN film laid over the water. No further watering is necessary. The VISQUEEN may be used over and over—it will not rot.

VISQUEEN film is a pure plastic—has no added plasticizers therefore will not block or stick together. It is easily handled because the wide widths are center folded and it is lightweight. The material is easily slit with a knife or razor blade.

TEST RESULTS

MOISTURE VAPOR TRANSMISSION RATE

Thickness (in.)	Grams
.0013	1.17
.002	.55
.0025	.40
.003	.35
.0035	.325
.004	.30
.0085	.14

Measured in grams/100 sq. in./24 hrs. at 90% R.H. at 100° F.

The moisture vapor transmission increases about 60% for every 10° F. rise in temperature.

DIRECTIONAL PROPERTIES OF VISQUEEN FILM

	Deg. F.	Longitudinal Direction	Transverse Direction
Tensile strength, lb. per square in. ..... at	77.0	2,482	1,597
	32.0	2,987	2,050
	—0.4	3,428	2,524
Elongation, percent stretch ..... at	77.0	228	184
	32.0	100	53
	—0.4	71	42
Tear strength, g. per mil thickness ..... at	77.0	181	123
	32.0	44	291
	—0.4	28	262
Impact puncture resistance, in oz. per in. of tear at	77.0	90	50
	—0.4	61	53
Flexure	—0.4	Satisfactory	Satisfactory

Average thickness .00207 in.

USE SPECIFICATIONS

FOR VISQUEEN VAPOR BARRIER AND WATERPROOFING FILM

Vapor barrier shall be a lapped (and joint sealed) layer of VisQueen film, (which meets the FHA requirements and Fed. Spec. UUP-147, and which is of uniform thickness throughout, free of pinholes, nozzle scars and other blemishes), and applied in accordance with the manufacturers instructions and the following use specifications.

Exterior Walls And Ceilings—Walls and ceilings exposed to unheated areas and unventilated areas shall be vapor-proofed with VisQueen of 2 mil (.002″) thickness to prevent the penetration of moisture vapor.

The VisQueen vapor barrier shall be applied as near as possible to the warm side of the construction.

All joints between sheets of VisQueen shall occur over solid and continuous backing and shall be lapped a minimum of 3 inches. Laps onto ceiling and floor shall be 6 inches.

Attachment shall be with staples, with ¼″ to ¾″ leg length and applied with a Duo Fast, or similar gun or compression staple tacker, spaced not more than 6 inches o.c. There shall be no stapling or attachment on intermediate studs or joists except as where they may be necessary to keep the material in place so as not to interfere with other operations.

Proper caution shall be exercised during construction after application of VisQueen vapor barrier to prevent puncture or other damage to the VisQueen.

Wood Floors—Application of VisQueen over sub-floors shall be accomplished using widest practical widths of 2 mil (.002″) thickness VisQueen laid directly onto the sub-floor. Finish flooring shall be applied in the conventional manner, over the vapor barrier.

Concrete Floors—VisQueen vapor barrier of 4 mil (.004″) thickness, of any standard width, shall be applied over a sub-grade which has been smoothed by any suitable method which will prevent protrusions that may cause damage or rupture of the VisQueen. The VisQueen shall be lapped not less than six inches with the top lap placed in the direction of the spreading of the concrete. If below-slab insulation is used, it shall be applied over the VisQueen, prior to pouring the concrete. Laps on adjoining wall surfaces should be sealed in a suitable manner.

Mechanical Properties of VISQUEEN

In stiffness VISQUEEN film is intermediate between the rigid and non-rigid plastics. It is quite flexible but not limp or rubbery.

VISQUEEN film has excellent tear strength. When punctured it will not shatter, split or run at either low or high temperatures.

VISQUEEN film remains flexible at low temperatures. Because it does VISQUEEN film will not "pinhole" when folded or creased nor does it weaken on the fold or crease.

VISQUEEN film will not absorb moisture, is mold resistant, will not rot or mildew. When in place under slabs, around foundations or in the walls it will protect for the life of the building.

IMPORTANT: Be certain that VISQUEEN film is the moisture vapor barrier you specify. VISQUEEN is all polyethylene but not all polyethylene is VISQUEEN. Only VISQUEEN comes in wide widths, only VISQUEEN is produced by process of U. S. Patents No. 2461975 and 2632206. Only VISQUEEN has the benefits of research and technical experience of The Visking Corporation, pioneers in the development of polyethylene film.

THE VISKING CORPORATION Plastics Division

P. O. BOX 1410 — TERRE HAUTE • INDIANA

Printed in U.S.A.

S75M—9-

Armstrong

BUILDING PRODUCTS

Temlok sheathing 2
Temlok roof deck 4
Temlok shake-backer, shingle-backer 6
Temlok insulation board 8
Temlok plank 10
Temlok tile 12
Cushiontone 14
Temlok lath 16
Cements 17
M-67 Monowall 18
Insulating wool 20
Hardboards 22

Armstrong TEMLOK SHEATHING
WITH RAIN-SHIELD FINISH



description

Armstrong Temlok® Sheathing is an asphalt-impregnated fiberboard coated on one side with a water-repellent Rain-Shield* finish. This finish keeps the exposed sheathing dry during construction yet permits the walls of the finished house to "breathe," and allow harmful moisture to escape. Additional protection against water absorption is provided by the asphalt impregnation of each individual fiber, keeping Temlok Sheathing dry and efficient.

uses

Wall sheathing over frame construction.
Floor insulation of basementless houses—(a) underside of joists in crawl spaces; and (b) insulation between walls and concrete floors.
Farm building insulation.
Not recommended for roof sheathing unless furring strips are used.

Thickness	Size	Edges	Sq. Ft. Per Bdl.
½"	2' x 8'	Long Edges V-Beveled	160
	4' x 8'	Square	192
	4' x 9'	Square	216
25/32"	2' x 8'	Long Edges Shiplapped	96
	4' x 8'	Square	128
	4' x 9'	Square	144

* Trade-mark

advantages

WATER RESISTANT. Temlok Sheathing's Rain-Shield finish provides a surface barrier to driven rain. Asphalt impregnation coats each sheathing fiber with asphalt, insures internal moisture resistance.

VAPOR PERMEABLE. Rain-Shield finish and asphalt impregnation prevent wind infiltration, yet permit moisture vapor to escape to the outside.

BRACING STRENGTH. Stronger than horizontal wood sheathing. Approximately equal bracing strength to more costly diagonal wood sheathing. Both ½" and 25/32" thicknesses meet FHA requirements.

INSULATION VALUE. When used as a replacement for wood sheathing, Temlok Sheathing reduces heat loss through walls by about 30% (for 25/32" thickness) and by about 20% (for ½" thickness).

LOW LABOR COSTS. Reduces labor by about 30%, as compared with horizontal wood sheathing labor costs; by about 50%, as compared with diagonal wood sheathing labor costs. Large, lightweight units of Temlok Sheathing go up fast, with minimum cutting and fitting necessary.

LITTLE WASTE. 1 to 5% maximum waste. 1000 sq. ft. covers practically 1000 sq. ft.

how to install

application

2′ x 8′ size (shiplapped long edges)—Apply Temlok Sheathing at right angles to studs spaced 12″ or 16″ on centers. Center end joints on framing members, allowing ⅛″ between square ends. Bring shiplapped long edges to moderately close fit. Headers are not required. Cut sheathing to fit snugly around all breaks and openings. Flash at window and door heads and around all openings with metal flashings or building paper to prevent moisture penetration through cracks.

4′ widths (25/32″ and ½″ thick)—Apply Temlok Sheathing with long edges parallel to studs 12″ or 16″ on centers. Fit end joints on headers between framing members. Allow ⅛″ between all end joints with ample bearing for nailing on all edges. All 4′ wide square-edge sheathing has printed markings which indicate location of studs on 16″ centers for guidance in nailing. Never force sheathing in place. Fit sheathing snugly around all breaks and openings and provide flashing as described above.

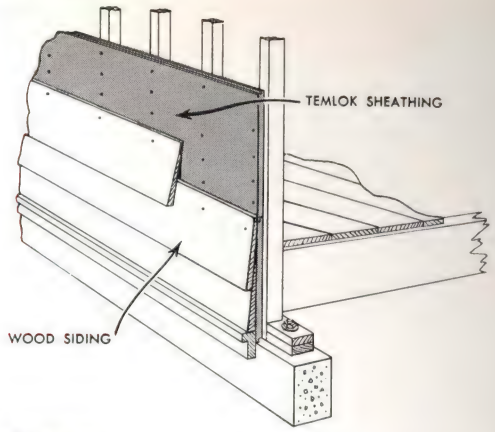
nailing

For 25/32″ thickness, use galvanized 2″ roofing nails with ⅜″ heads or 8d common nails. For ½″ thickness, use 1½″ galvanized roofing nails or 6d common nails. With 4′ wide sheathing, nail first to intermediate framing members, with nails on 6″ centers and finish with nails on 3″ centers along all edges. With 2′ x 8′ sheathing, nail first to intermediate framing members and finally on all edges with nails on 4½″ centers. Building paper is not needed except behind stucco, unless required by local building codes and regulations.



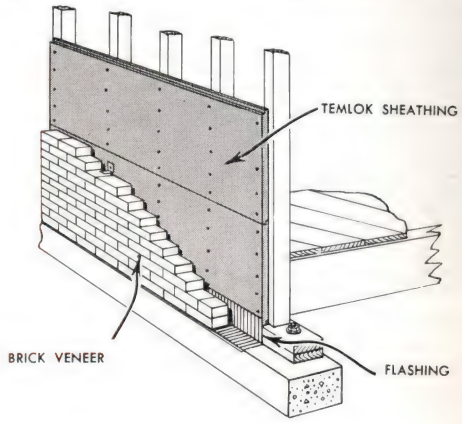
Temlok strengthens construction, goes up quickly and easily, and provides good insulation. Wood siding, brick, stone, or any other type of exterior finish can be used with this insulating sheathing.

exterior finishes*



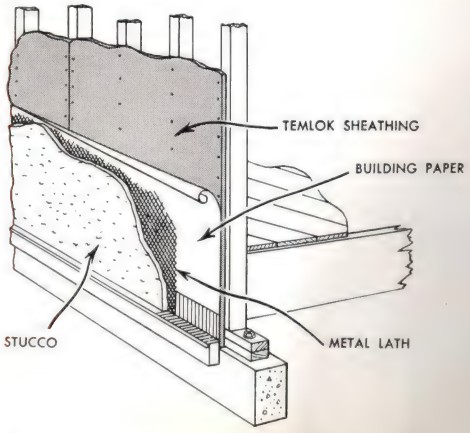
wood siding

Apply all types of wood siding directly over Armstrong Temlok Sheathing. Butt all siding joints directly over studs. Nail through the siding and Temlok Sheathing into studs.



masonry veneer

Nail proper masonry ties and shelf angles through Temlok Sheathing into studs. Lay up brick or stone in the usual manner with ½″ air space between it and Temlok Sheathing.

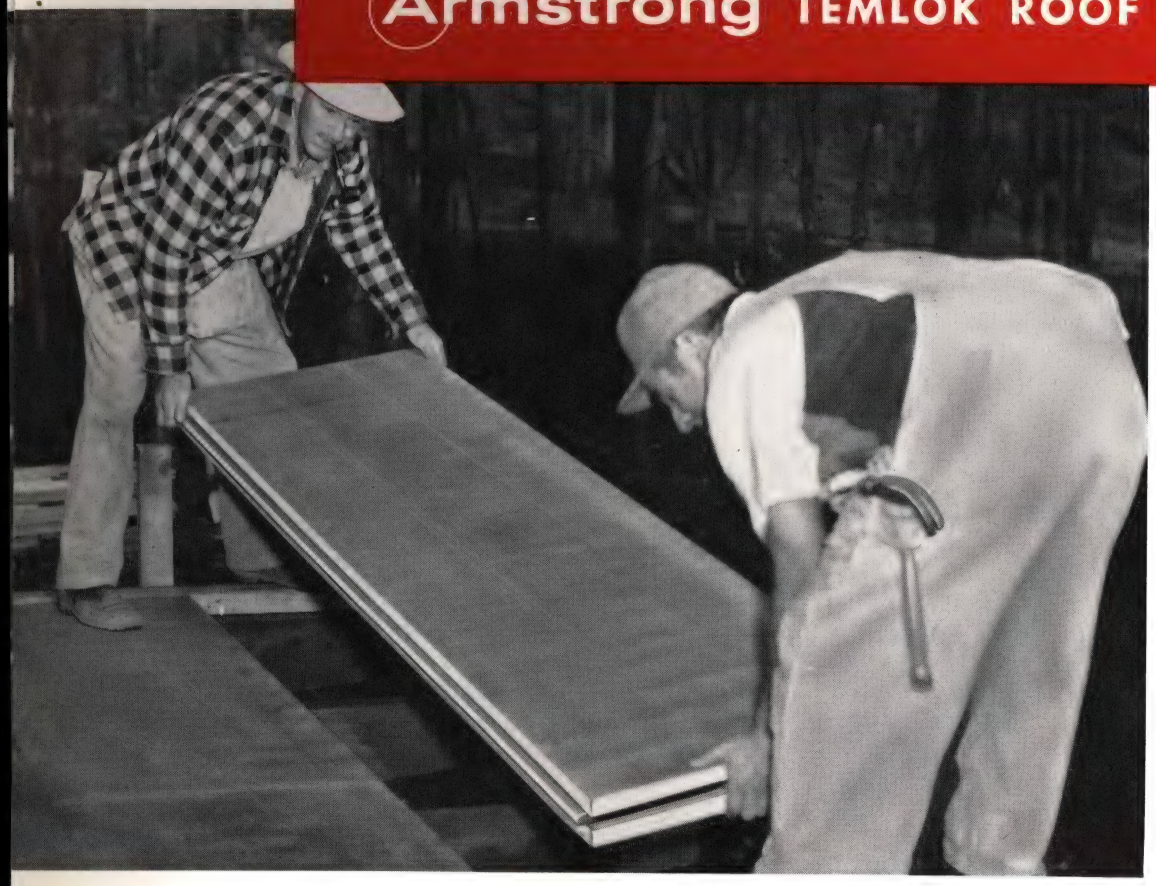


stucco

Do not apply stucco directly to Temlok Sheathing. Apply self-furring stucco bases over sheathing by nailing or stapling through sheathing into studs. Apply non-furring stucco bases over 1″ x 2″ wood furring strips. Apply a layer of building paper to Temlok Sheathing before applying furring strips.

* For wood shakes and asbestos shingles, see data sheet for Armstrong Temlok Shingle-Backer and Temlok Shake-Backer.

Armstrong TEMLOK ROOF DECK



description

Armstrong Temlok® Roof Deck is an insulating fiberboard product that provides roof deck, insulation, vapor barrier, and interior ceiling finish in one material. Temlok Roof Deck is made up of multiple layers of ½″ asphalt-impregnated Temlok Insulation Board, bonded to a ½″ face of plain Temlok Insulation Board. The boards are laminated under controlled pressures with an adhesive resistant to heat and water vapor to thicknesses of 1½″, 2″ or 3″. The wood fibers are chemically treated to provide resistance to mold, rot, and termites. Standard size is 2′ x 8′.

Armstrong Temlok Roof Deck is furnished with two coats of light ivory paint applied to the surface that is exposed to the building interior. Long edges are beveled. The tongue and groove at both long and short edges should be sealed with a nonstaining caulking compound. The application is simple and fast and results in a vapor-resistant, draft-tight ceiling with high insulating value.

uses

Applied to flat, pitched, or mono-sloped roofs and covered with conventional types of roofing.

Thickness	Size	Edges	Sq. Ft. Per Bdl.
1½″	2′ x 8′	Tongue and groove	32
2″	2′ x 8′	Tongue and groove	32
3″	2′ x 8′	Tongue and groove	32

advantages

FAST, ECONOMICAL CONSTRUCTION. Application of roof deck, insulation, vapor barrier and interior finish all in one operation saves time, labor, and money.

HIGH INSULATION VALUE. Installed air to air "U" value including built-up roof is .18 for 1½″ Temlok Roof Deck, .15 for 2″ Roof Deck and .10 for 3″.

ATTRACTIVE INTERIOR FINISH. Factory-applied light ivory finish is clean and attractive. High light reflection makes room bright and cheerful.

QUIETS NOISE. Temlok Roof Deck muffles sound and absorbs vibration, makes rooms quieter.

PROVIDES VAPOR BARRIER. Vapor-laden warm air cannot penetrate the body of Armstrong Temlok Roof Deck. The possibility of dangerous vapor condensation inside Temlok Roof Deck is eliminated by the vapor-resistant adhesive used to laminate the boards.

LIGHT WEIGHT. Easy to handle on the job. Armstrong Temlok Roof Deck reduces roof loads.

HIGH STRENGTH. Durable, sturdy material adds strength and rigidity to the roof structure.

EASILY REPAINTED. Temlok Roof Deck can be repainted in any desired color, using brush, spray gun, or roll applicator.

how to install

general—To allow Temlok Roof Deck to adjust to atmospheric conditions at construction site, packages must be opened and pieces separated. Keep roof deck dry and protected from damage during application.

If possible, cutting should be done with a power saw from the face side to avoid marring the finished ceiling surface. A fine-toothed saw should be used for handsaw cutting. To provide adequate bearing for wood deck slabs at end joints, framing should be at least 3″ wide. When 1½″ roof deck is used, framing should be spaced 24″ on center. For 2″ and 3″ roof slab, 32″ and 48″ on center framing should be used respectively.

nailing

Use large headed galvanized nails long enough to pass through the thickness of roof deck being applied and to penetrate the roof rafters to a depth of at least 1½″. (10d nails for 1½″ roof slab—16d nails for 2″ roof slab—30d nails for 3″ roof slab.)

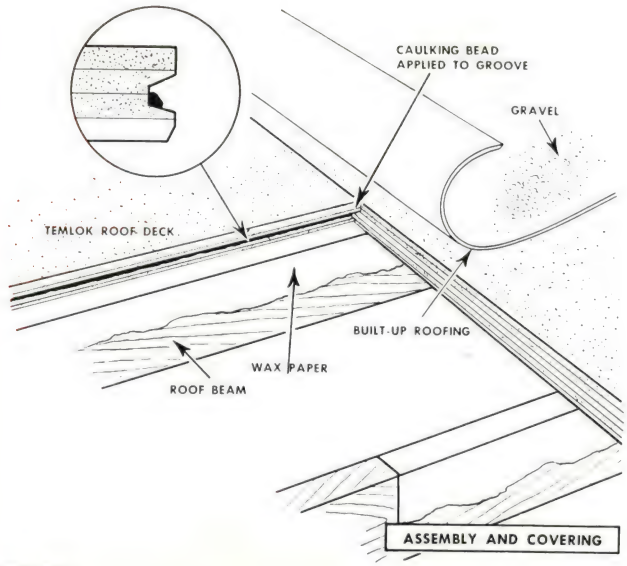
To insure protection of interior finish during application, tops of rafters should be wiped clean. If rafters are stained before Temlok Roof Deck is applied, do not stain top surface. If desired, wax paper can be used on top of the rafters to prevent damage to the interior surface of the Roof Deck during application. The wax paper also serves as masking tape for the ceiling's protection if rafters are stained or painted after Temlok Roof Deck has been applied.

Starting at the roof's outside edge apply roof deck across the roof rafters, with the tongue edges exposed. Before installation of the roof deck, apply a continuous bead of caulking compound within each groove edge, exercising care that interior finish is not soiled. Bring the tongue-and-groove edges into moderate contact. Nails should be driven through the face of the roof deck so that the heads are flush with the surface. Do not countersink nail heads. Space nails 4″ to 6″ apart and keep ¾″ to 1″ from edges of roof deck. Nail to ridge pole on pitched roofs and to edge framing on flat roofs, as well as to rafters or beams. Alternate courses of roof deck should be staggered. Do not damage the roof by dropping heavy objects on it during application.

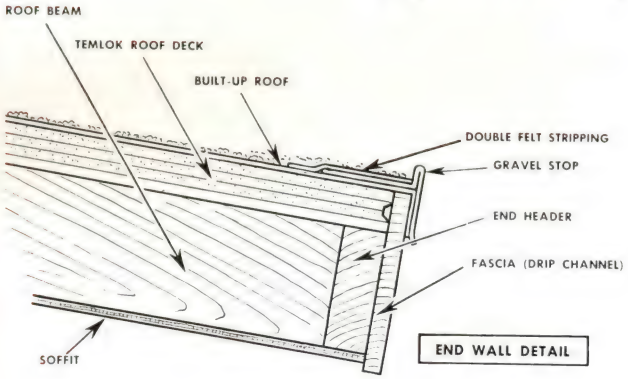
application of roofing

Flat or moderately pitched roofs usually are covered with built-up or composition roll roofing, applied according to the manufacturers' specifications. Pitched roofs may be covered with rigid shingles, slate, or ceramic tile by nailing wood strips to underlying beams or rafters. When roofing is applied, flash projecting vents, stacks, chimneys, etc., according to standard methods. Waterproof exposed edges, enclose with wood soffit and fascia to which the gravel stop is fastened to complete this seal.

NOTE: Armstrong Temlok Roof Deck should be covered with finish roofing the same day it is applied.



ASSEMBLY AND COVERING



END WALL DETAIL



The light ivory finish of Temlok Roof Deck combines with stained roof beams to give a smart appearance to this contemporary home. The interior surface can be painted any color if desired.

Armstrong TEMLOK SHAKE-BACKER TEMLOK SHINGLE-BACKER



description

Armstrong Temlok Shake-Backer and Shingle-Backer are made of asphalt-impregnated pine fibers, formed into boards, and compressed to a special high density. Like Temlok Sheathing, Temlok Shake-Backer and Shingle-Backer have great structural strength and offer efficient insulation. They are resistant to moisture. The high-grade asphalt forms a protective film around each fiber. In addition to waterproofing, the asphalt acts as a powerful adhesive, tying the fibers together. While they keep dampness out, Temlok Shake-Backer and Shingle-Backer permit the walls to "breathe" from within, allowing moisture vapor to escape through the construction.

Armstrong Temlok Shake-Backer and Shingle-Backer are square-edged. They are 3/8" thick.

uses

ARMSTRONG TEMLOK SHAKE-BACKER is made in two sizes for use with 16" and 18" wood shake exterior construction to add insulation and provide deep, well-defined shadow lines under each shake course.

ARMSTRONG TEMLOK SHINGLE-BACKER is used with asbestos cement siding shingles over 25/32" Temlok Sheathing or wood sheathing. It adds extra insulation and, with regular wood plaster lath used as nailing strips, provides a deep, pleasing shadow line effect.

advantages of Shake-Backer

SPEEDS INSTALLATION. It's easy to handle on the job and much lighter than an undercourse of wood shakes.

EXTRA STRENGTH AND INSULATION. When installed in combination with Armstrong Temlok Sheathing, it adds insulation and strength to the construction.

ADDS BEAUTY. It creates deep shadows that enhance the appearance of the exterior shake wall.

advantages of Shingle-Backer

EXTRA STRENGTH AND INSULATION. Used with 25/32" Temlok Sheathing or with wood sheathing in new construction, it adds extra strength and insulation value.

ADDS BEAUTY. Shingle-Backer adds a pleasing deep shadow line effect to asbestos cement shingle construction.

CUSHIONS SHINGLES AGAINST BREAKAGE. Provides firm backing that guards asbestos shingles against impact damage.

Product	Size	Sq. Ft. Per Bdl.
3/8" Shake-Backer	15½" x 48" 16½" x 48"	112½ 113⅔
3/8" Shingle-Backer	11¾" x 48"	109⅔

how to install

Temlok Shake-Backer

general—The maximum recommended exposure for a No. 1 16″ exposed shake is 12″. The 13½″-wide Shake-Backer should be used with this length. The maximum exposure for a No. 1 18″ exposed shake is 14″, and the 15½″ Shake-Backer should be used.

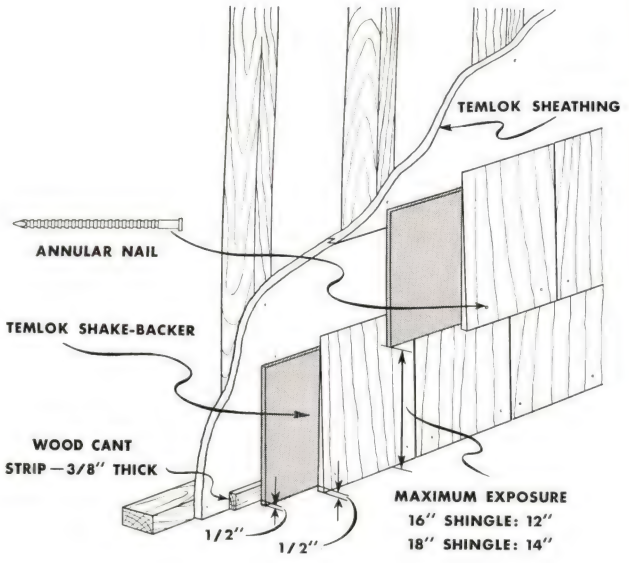
nailing over temlok sheathing

Apply Shake-Backer with end joints centered on studs. Nail the bottom edge through the Shake-Backer and Sheathing into the stud with an 8d coated box nail.

Nail the exposed shakes with 6d (2″) small-headed annular ring galvanized nails. Position nails approximately 1½″ from the butt of the shakes, and ¾″ from edges so that they penetrate the nailing strip in the first course of shakes and the lapped area of Shake-Backer and shakes in the next course. Use two nails for shakes 6″ or less in width. Place a third nail in the center for shakes over 6″.

nailing over wood sheathing

Apply the Shake-Backer with three 3d galvanized shingle nails spaced along the upper edge. Install the exposed shakes as outlined above, using small-headed 5d galvanized double coursing shingle nails.



application

Leave ⅛″ between Shake-Backer end joints. Butt Shake-Backer against casing members of openings and other fixed points. Use flashing around openings and at corners.

Apply a wood cant strip approximately ⅜″ thick for the bottom course of shakes. Apply the first course of Shake-Backer, extending lower edge ½″ below cant strip.

Apply first course of exposed shakes with the butts extending ½″ below the lower edge of the Shake-Backer. Shake joints should not fall over Shake-Backer joints.

Temlok Shingle-Backer

general—The maximum recommended exposure for a 24″ wide x 12″ deep asbestos cement siding shingle is 11″. The 11¾″ deep Shingle-Backer is used.

nailing over temlok sheathing

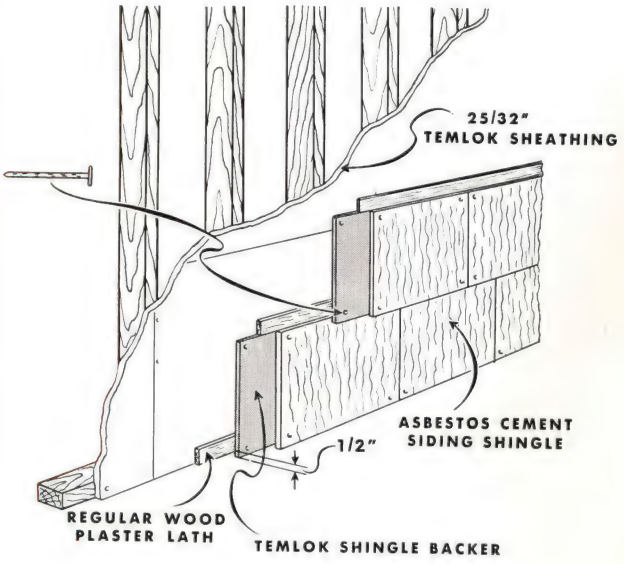
Apply Shingle-Backer with end joints centered on studs after regular wood plaster lath has been nailed flush with the top of the previous course. Nail Shingle-Backer over lath with 8d coated box nails, allowing ¾″ overlap.

nailing over wood siding

Apply wood plaster lath as a nailing strip for the original course. Balance of the application may be with or without plaster lath and is similar to application over Temlok Sheathing outlined above. If plaster lath is omitted, 13½″ Temlok Shake-Backer with 11″ shingle exposure will provide additional support for the asbestos shingles.

application

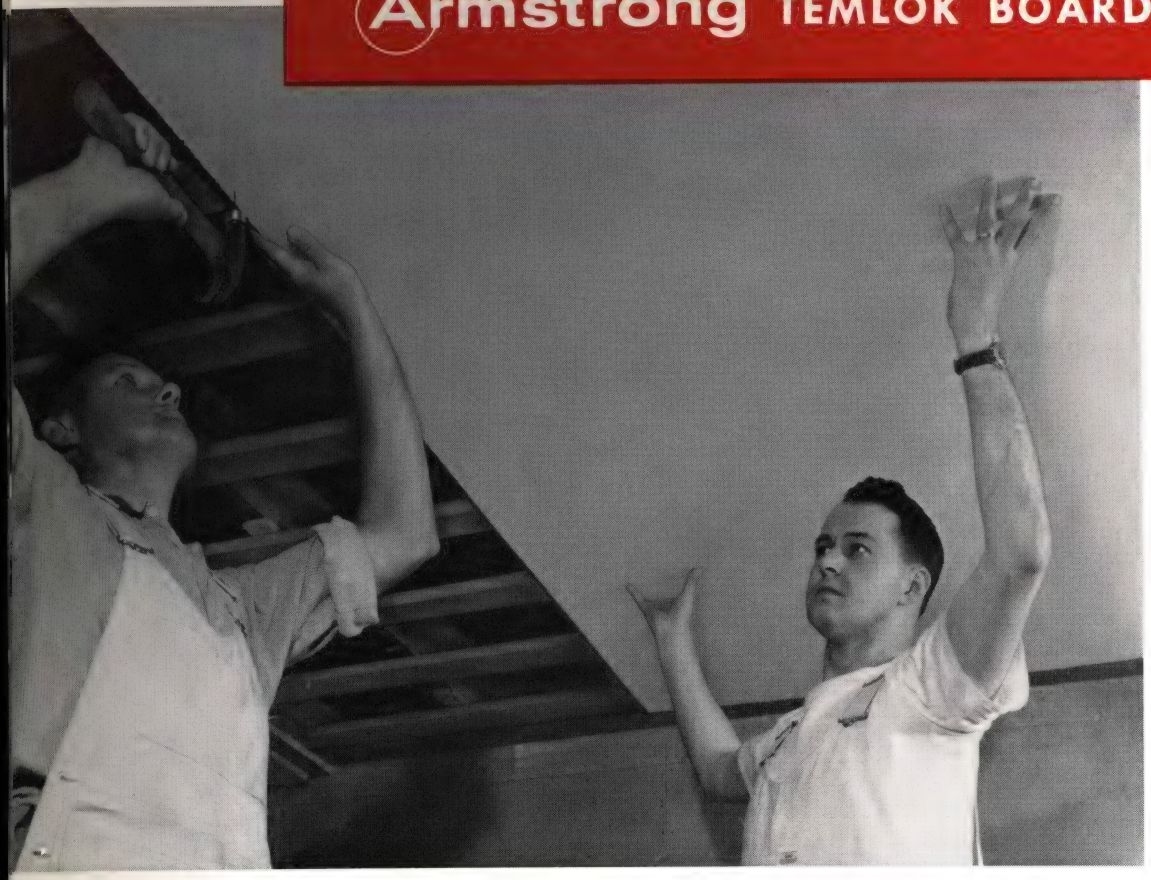
Leave ⅛″ between pieces of Shingle-Backer at the end joints. Apply Shingle-Backer with moderate contact against casing members of openings and other fixed points. Flashing should be used around all openings and at all corners. Before starting application, apply the first course



of wood plaster lath so that the first course of shingles will overlap the foundation by ½″. In most cases this is done by laying the lath flush with the bottom of the plate. Apply asbestos shingles flush with the upper edge of the Shingle-Backer with 1½″ grooved coated or rustproof nails. Stagger joints in the Shingle-Backer, Sheathing, and shingles. Use felt strips behind vertical joints in the shingles.

The first course should be leveled, and every third course checked for alignment. Caulk joints around openings. Apply 12″ wide strip of No. 15 felt at corners.

Armstrong TEMLOK BOARD



description

Armstrong Temlok Board is a fiberboard interior finish material with a great many building and remodeling uses. It is available in large, square-edged units 4 feet wide and 6 to 12 feet long. Temlok Board is decorative, structurally strong, economical to install, and high in insulating efficiency. It is often used in combination with other forms of Temlok—Tile, Plank, and Fiberboard Moldings.

types

Temlok Insulation Board is available in a thickness of ½" with a two-coat light ivory paint finish. Temlok Wallboard, lower in cost than Insulation Board, comes in the ⅜" thickness with a textured light ivory paint finish.

uses

For walls, ceilings, and partitions in new construction and remodeling—in residences and all types of commercial and institutional interiors.

For economical remodeling of residential basements, attics, and porches—providing attractive extra living and recreational space with built-in insulation.

For floor insulation.

For structural insulation of farm buildings.

advantages

ECONOMICAL DRY-WALL CONSTRUCTION—builds, decorates, and insulates in one operation.

HIGH INSULATING EFFICIENCY. The low-density fiber composition of Temlok Board gives it exceptional resistance to the passage of heat.

HIGH STRENGTH. A special forming process gives Temlok high, uniform bracing strength. Fibers of controlled lengths are tightly interlaced throughout the board.

FAST APPLICATION. Big board sizes allow single piece coverage from floor to ceiling. Boards are easy to cut and handle on the job. May be nailed directly over studding or to any solid, level surface.

QUIETER CONSTRUCTION. Temlok Board provides valuable sound deadening.

ATTRACTIVE APPEARANCE. The paint coating covers the surface. Light ivory color provides a pleasing, warm appearance. Surface can be painted in other colors, if desired.

Product	Lengths	Pcs. Per Bdl.
½" Insulation Board	6, 7, 8, 9, 10, 12 ft.	6
⅜" Wallboard	6, 7, 8, 9, 10 ft.	8

how to install

general—Do not start application of Temlok Board until all plastering work is completed and the building is reasonably dry. To cut material, place it finished side up and use a sharp handsaw having 12 or 14 points to the inch. For added accuracy, scribe first with a sharp knife.

nailing application

Use well-seasoned, straight furring strips, 1″ x 3″ or 1″ x 4″, spaced 12″ or 16″ on centers to receive Temlok Board. In frame construction, boards can be applied directly to joists or studs not over 16″ on centers if members are seasoned, true, and well braced. Furring strips are recommended, however, because they permit leveling with shims, and provide additional bracing strength to framing.

Masonry walls above grade and concrete or plaster ceilings must be covered with suitable wood furring.

All concrete or masonry walls below grade must be double furred to provide adequate cross ventilation behind the Temlok. Small vents in the Temlok should be provided 8′ to 12′ apart near the ceiling and the floor.

Facenail boards on 6″ centers to intermediate strips or members with common or box nails about 1″ longer than the thickness of the Temlok. For neatest results, the use of zinc or cadmium plated nails is recommended. Then nail around edges of boards, spacing nails every 4″ about ⅜″ from edges. Space boards ⅛″ apart on all sides to allow for seasonal expansion and contraction. Temlok Boards are cut to minus tolerance for proper spacing.

cement application

Facenailing must be used on ceilings, but on walls, boards may be supported by Armstrong Acoustic Cement on intermediate furring strips or members to avoid visible nailheads. For application of cement, follow directions on labels of cement cans.

If cement is applied directly to strips or wood members, cover them completely with adhesive, about ¼″ thick. Then prime with cement the areas on the boards which will contact the cement-coated wood members. Nail around board edges as described in nailing application.

If application is being made to a plaster wall above grade, use spot method of application, being careful to prime wall surface, too. Plaster must be sound, free of old paint, wallpaper, or dust, and be reasonably true.

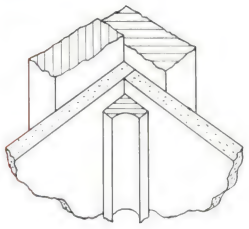
finishing

Joints between the Temlok Boards may be covered by using decorative wood moldings or battens. Edges of boards may also be hand-beveled for an attractive joint treatment. (See JOINT TREATMENTS at right.)

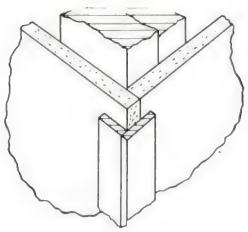
repainting

When desired, Temlok Board may be repainted with cold water, dry casein, rubber latex, or flat oleoresinous paints. Enamels or glossy oil paints are not recommended, unless the surface of the board is especially prepared with a good wallboard primer and sealer. Lacquers should not be used.

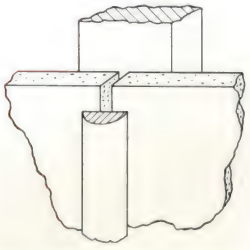
joint treatments



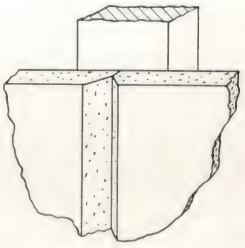
Inside corners—Armstrong Fiberboard Moldings may be used for finishing.



Battens of many types finish off the corners in a neat and attractive manner.



Straight joints – use half round or flat molding.



Hand-beveling provides an attractive edge joint.



Attractive attic or basement rooms can be built quickly and easily with big sheets of Temlok Insulation Board on walls and ceilings. The smooth, white painted surface needs no further finishing.

Armstrong TEMLOK PLANK



description

Armstrong Temlok Plank is an interior finish material for walls. It is a strong fiberboard product made of tightly knit pine fibers. In addition to providing strength, these fibers make Armstrong Temlok Plank an efficient insulating material. It is smoothly finished at the factory, but can be repainted to suit any decorating scheme. Because of its light weight and special Lok-Bevel Joint, Temlok Plank can be installed quickly and at low cost. When used in combination with Armstrong Temlok Tile, it can turn basements or attics into comfortable extra rooms.

Temlok Plank has a unique paint finish which produces random shades of tan on the surface, called "Suntan Blend."

uses

As interior finish walls in both new and remodeled homes.

Also can be used in modernization of commercial and institutional buildings.

Product	Size	Sq. Ft. Per Bdl.
½" Temlok Plank	8′ x 8″	64
	8′ x 12″	96
	8′ x 16″	128
	12′ x 8″	96
	12′ x 12″	144
	12′ x 16″	192

advantages

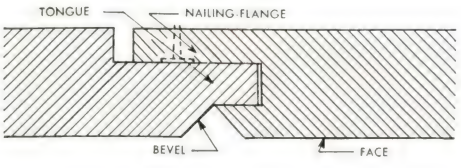
THREE MATERIALS IN ONE. Armstrong Temlok Plank builds, decorates, and insulates all in one operation.

SOFT SHADES. Random packaged "Suntan Blend" shades give an interesting color tone to walls. Factory-applied paint finish provides an attractive texture.

CONCEALED JOINTS. Long edges have the special Lok-Bevel Joint, which conceals nails or staples and insures a strong, level wall.

QUIETS NOISE. In addition to its insulating qualities, it helps to deaden sound within a room.

FAST INSTALLATION. Easy to cut and handle.



Lok-Bevel Joint hides nail heads and staples. The right side is first nailed or stapled in place, then the other unit is moved into position, bringing the two beveled edges neatly together.

how to install

general—24 hours before installation, remove material from cartons in the room where it is to be installed. This allows it to adjust to temperature and humidity conditions. Do not apply Armstrong Temlok Plank until all plastering is complete and the building is reasonably dry. Each carton contains a variety of Suntan Blend shades which will blend pleasingly. For best appearance, work out of several cartons, using several widths. Always cut with finished side up, using a sharp 12- or 14-point handsaw. For accurate cuts, scribe with sharp knife before sawing. Do not apply directly to framing. Use furring strips if area is not covered with lath or plaster. In below grade level installations, surfaces must be cross-furred to provide adequate ventilation behind Temlok Plank. Vent grills should be provided, 8 to 10 feet apart.

layout

Lay out each wall space so that plank widths repeat attractively, if using more than one width of plank. Locate plank joints so end planks on the same wall are approximately the same width and join with adjacent end planks on next wall, one overlapping the other. Cut plank to fit ¼″ from ceiling and floor. From the male tongue side, cut first plank to proper width, staple or nail the nailing edge, and face nail the cut edge. Then, moving right down the wall, fasten at each furring strip. Cut nailing strip edge from last plank at corner and face nail or use adhesive. Continue in this manner around room to starting point.

nailing or stapling

Furring strips should be 1″ x 3″ or 1″ x 4″, surfaced on two sides, and nailed to studs or joists, which should not be over 24″ apart. Shim out from studs where necessary to insure a level surface. Space strips on 12″ centers to receive plank.

Solid wood surfaces must be smooth, level, and solidly nailed. Boards should not be wider than 6″. New lumber must be thoroughly seasoned. Uneven masonry surfaces must be stripped with wood furring before nailing or stapling plank. Use 1⅛″, 3-penny box nails with 7/32″ head, or 1⅛″ blued plasterboard nails with 5/16″ head or staples with ½″ legs.

Apply Temlok Plank as indicated under "layout." Use one nail or staple at each furring strip intersection.

cement application

First, remove wallpaper or paint from wall. If old plaster is porous or dusty, prime with wall size. New plaster must be thoroughly dry. White coat should not be used. Brown coat should be true and reasonably smooth. Gypsum lath ⅜″ thick is satisfactory backing for adhesive application. Nail lath to supports which should not be over 16″ apart. Brush dust from lath.

Concrete above grade is a satisfactory base if smooth, level, and thoroughly dry. Over uneven masonry surfaces, install furring and apply gypsum lath before erecting planks with adhesive. Adhesive application permits plank to be started either in the corner of the room or in the center of the wall.

Apply Plank with Armstrong Acoustic Cement. Apply cement in spots to back of Plank, then slide it back and forth about one inch to spread cement. On long units, best results are obtained if two men exert pressure simultaneously. Priming the surface with a skim coat of cement will also improve bond. Keep cement about one inch from edges of Plank and not more than 10 inches apart in any direction. Use about four spots per square foot—the spots being approximately two inches in diameter and ¼″ to ⅜″ thick. Use a wide blade putty knife or trowel to spread the cement.

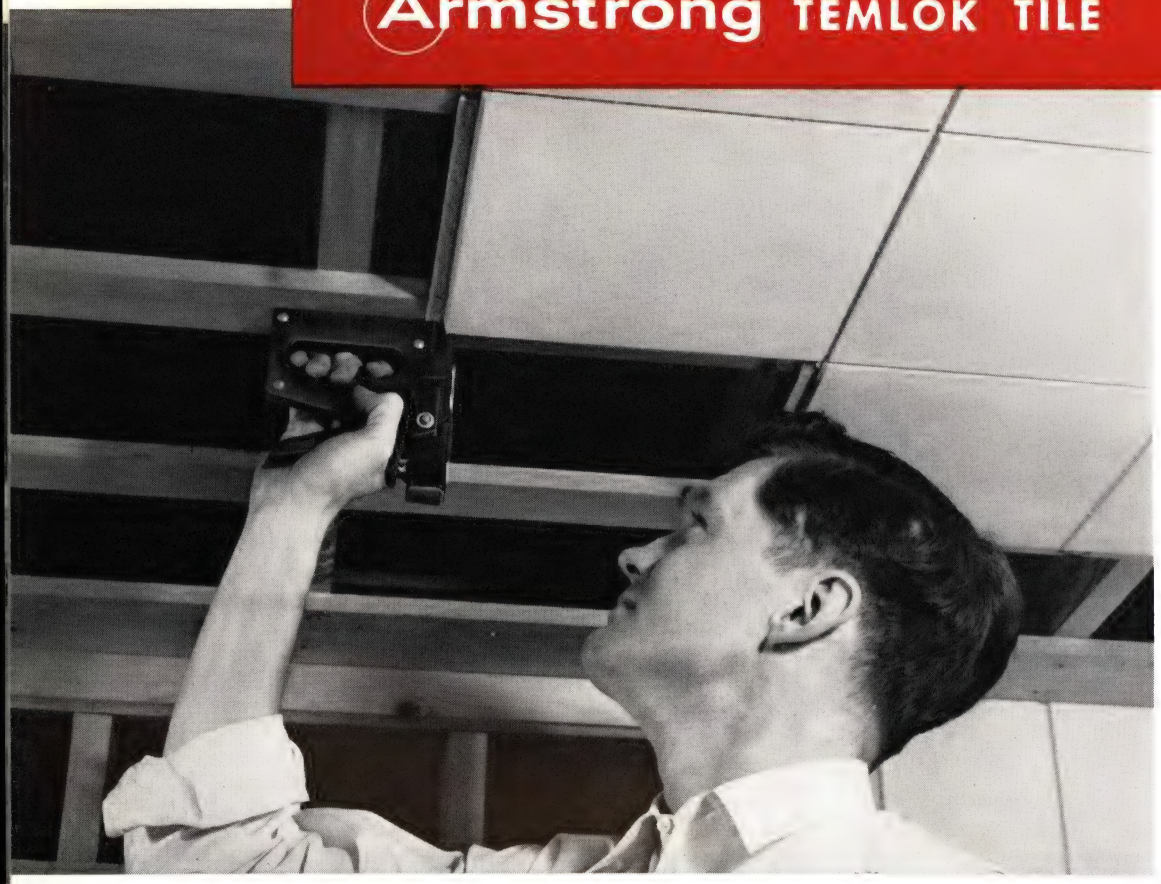
finishing

For trim, use standard wood moldings at inside or outside corners. If small surface cuts or scuffs occur, match Temlok Plank color with chalk or apply matching cold water paint (oil emulsion type) lightly. To clean Plank, use art gum eraser, wallpaper cleaner, or dry rubber sponge. If Armstrong Temlok Plank is to be painted, first coat the surface with wall size or wall filler.



The random effect of wood-like shadings provides attractive background for decorating effects when Temlok Plank is used in new construction or home remodeling.

Armstrong TEMLOK TILE



description

There are two types of Armstrong Temlok Tile. One is a plain surfaced, decorative fiberboard interior finish. The other is the same product, perforated to provide extra noise-quieting properties. Both types are made from tough pine fibers and have beveled edges and the special Lok-Bevel Joint that conceals nail heads and staples. Two coats of paint are applied at the factory, ironed on to give the tiles a smooth, easy-to-maintain finish with high light-reflection value. Temlok Tile is often used in combination with other Temlok Interior Finish materials.

Plain tiles are made in square and rectangular shapes in either Snow White or Light Ivory colors. Perforated Temlok Tile is made in 12″ x 12″ (Snow White) and 16″ x 16″ (Light Ivory) squares, perforated in a 12″ square pattern in both cases to add sound-deadening qualities to the material.

uses

As economical finish for walls and ceilings, in new construction and remodeling—in all types of interiors.

Size	Pcs. Per Bdl.	Sq. Ft. Per Bdl.
12″ x 12″ x ½″*	64	64
12″ x 24″ x ½″ (plain or center scored)	32	64
16″ x 16″ x ½″*	36	64
16″ x 32″ x ½″ (plain surface only)	18	64

* Also Perforated Temlok Tile

advantages

ECONOMICAL DRY-WALL CONSTRUCTION. Builds, decorates, and insulates in one operation.

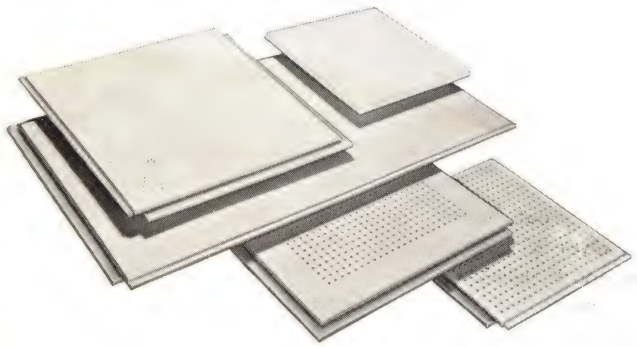
FACTORY-PAINTED. Provides attractive interior finish without decorating expense.

EASY TO APPLY. Light-weight tiles with Lok-Bevel Joint can be installed rapidly.

HELPS TO DEADEN SOUND. Perforated Temlok Tile is specially designed to absorb noise.

EASILY MAINTAINED. Dust and dirt do not readily cling to the smooth, ironed-on, two-coat paint finish of this tile. Can be repainted when desired.

ATTRACTIVE APPEARANCE. Bevels on Temlok Tile are light in color and do not show up as dark lines when the material is installed.



how to install

Do not apply Temlok Tile until all plastering is completed and building is reasonably dry. Cut material with finished side up. Mix tile from several cartons for better blending of finishes. Perfect color-matching with fiberboard tile cannot be guaranteed.

Three recommended installation methods.

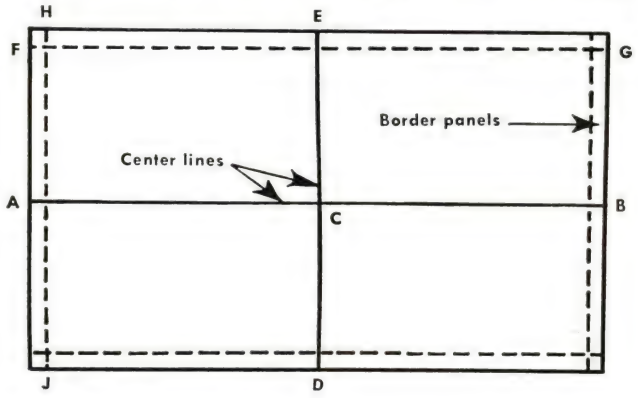
a. On plaster or gypsum lath with Armstrong Acoustic Cement.

b. On solid wood with cement and staples (or nails).

c. On furring strips 12″ on centers for 12″ tile and 16″ on centers for 16″ tile; with staples or nails.

layout

(See diagram below)—Mark center of end walls at (A) and (B). Stretch line or snap a chalk line from (A) to (B) for center line. Measure center of this line at (C) and mark cross center line (D-E) at right angles. Measure from center lines to ends of room (F-G) and (H-J) to locate edge of last full tile. Install field tiles, beginning at one corner of room.



stapling or nailing

Furring strips should be 1″ x 3″ or 1″ x 4″, surfaced two sides, straight and nailed at right angles to studs or joists which are not over 24″ on center. Shim where necessary. Space strips 12″ on centers for 12″ tiles and 8″ or 16″ on centers for 16″ tiles. (8″ spacing is preferable.)

Use staples with ½″ legs; or use 1¼″, 3-penny box nails with $\frac{7}{32}$″ heads; or 1⅛″ blued plaster board nails with $\frac{5}{16}$″ head. Use 4 staples or nails in 12″ x 12″ or 16″ x 16″ tiles and 6 staples or nails in 16″ x 32″ tiles. Apply 16″ x 32″ tiles with long side on furring strips. Solid wood surfaces should be smooth, level, and solidly nailed, with boards not wider than 6″.

Uneven masonry surfaces must be stripped with wood furring before applying tiles.

cement application

Over plaster. Remove paper or paint. If porous or dusty, plaster should be primed with wall size. New plaster must be thoroughly dry. White coat should not be used, and brown coat should be true and reasonably smooth.

Over ⅜″ gypsum lath. Lath must be free of dust. Lath supports should not be over 16″ on centers.

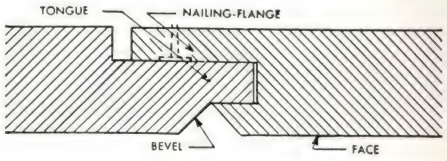
Over uneven masonry surfaces. Install furring and apply gypsum lath before erecting tiles with cement.

Over concrete above grade. Concrete must be smooth, level, and thoroughly dry. Clean old concrete with 10% zinc sulphate solution to neutralize alkali.

Erect tiles with Armstrong Acoustic Cement. (Coverage: 60 sq. ft. per gallon.) Apply cement to back of tiles in spots about 2″ in diameter near each corner of tile. Apply spots no more than 10″ apart on larger units. To position tile, slide tile back and forth about 1″ under pressure to spread cement and insure a good bond. Do not apply cement in cold, unheated areas.

finishing

For trim, use Armstrong Fiberboard Moldings or wood moldings between ceiling and wall and on inside corners. If surface scuffs occur, match Temlok finish with chalk or apply cold water paint (oil emulsion type).



lok-bevel joint

The Lok-Bevel Joint speeds application of Temlok Tile and conceals nailheads or staples from view. The unit at the right is first nailed or stapled to the furring with grooved side on left. The tongue of the succeeding unit, at left, is then slipped into place, bringing the two beveled edges of the tiles together.



Square or rectangular tiles of Temlok Tile have beveled edges and Lok-Bevel Joint that conceals nail heads and staples. The ceiling is clean, attractive, and muffles noise.

Armstrong CUSHIONTONE



description

Armstrong Cushiontone® is a low-density acoustical material made from pine fibers. It is available in two types. Straight Row Cushiontone is perforated with 529 holes per square foot. Perforations are 3/16" in diameter and are arranged in regular rows. Full Random Cushiontone, the other type, has 3/16" and 1/4" perforations scattered at random over the face of the tile. Both materials are finished with a two-coat washable paint. Perforations at corners and midway along sides of units are shallow drilled for extra nail holding strength.

uses

For low-cost sound conditioning of stores, shops, offices, restaurants, recreation centers, institutions, and private homes. Cushiontone's sound-absorbing efficiency varies with its thickness. Choice of thickness depends on the type of area and the degree of the noise problem. 1/2" absorbs up to 60% of the sound striking its surface; 3/4", up to 75%; and 1", as much as 85%.

Size	Thickness	Pcs. Per Bdl.
12" x 12"	1/2"	60
12" x 12"	3/4"	40
12" x 12"	1"	30

advantages

NOISE-QUIETING EFFICIENCY. Cushiontone provides the quiet atmosphere so necessary for comfort and concentration. Ends fatigue and strain due to noise.

LOW COST. Cushiontone is low in initial cost and can be installed economically.

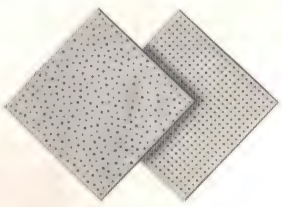
ATTRACTIVE APPEARANCE. Both the surface and beveled edges of Cushiontone are finished with two coats of washable white paint. The prime coat is ironed on for extra smoothness. The choice of either regular or Full Random pattern allows a number of ceiling design effects.

LIGHT REFLECTION. The white surface gives high light reflection value (78%), without glare.

REPAINTABILITY. Repainting will not affect Cushiontone's sound-absorbing efficiency. Test samples have been repainted as many as 22 times without loss of efficiency.

INSULATION VALUE. Being a low-density fiberboard material, Cushiontone acts as an efficient barrier to the passage of heat.

Full Random Design



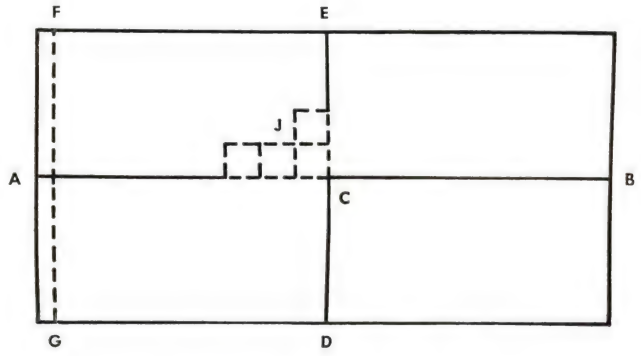
Straight Row Design

how to install

general—Do not apply Armstrong Cushiontone until all plastering is completed and building is dry. Work from several cartons at a time to allow for any slight color variations which may occur among tiles. Cut Cushiontone with finish side up. Do not apply directly to framing. Use furring strips if area is not covered with gypsum lath, plaster, wood, or concrete. Over solid wood or furring, use nails or screws. Over plaster, gypsum lath, or suitable concrete surfaces, use Armstrong Acoustic Cement.

layout

Mark center of end walls at (A) and (B). Stretch a line or snap chalk line on the ceiling between (A) and (B) for center line. Measure center of this line at (C) and mark cross center line (D-E) at right angles. Measure from center lines to ends at sides of room to locate edge of last full units (F-G). If border units are less than 6″ wide, move center line 6″. Start application at juncture of center lines (J) and work toward walls.



nail or screw application

Use flat head or collar nails with head ⅛″ to 5/32″ in diameter. Nails should be at least ½″ longer than thickness of Cushiontone. In screw application, use No. 3 screws, ⅛″ longer than the thickness of the Cushiontone. A special tool, Armstrong Acoustic Screw Jig, speeds installation by the screw method. Use four nails or screws in each 12″ x 12″ unit. Space furring strips 12″ on centers over studs or joists not over 24″ on centers. Shim where necessary. To prevent "breathing", apply building paper over furring before installing Cushiontone.

Cushiontone may be nailed or screwed to a solid wood base that is smooth, level, and solidly nailed. Boards should be well seasoned and not wider than 6″.



Cushiontone has short-drilled holes at each corner and at the center of each edge (see diagram). Use short holes midway along edge when units are cut to less than full size for borders or other fitting.

cement application

Use Armstrong Acoustic Cement. Apply spots of cement to back of Cushiontone unit with a putty knife. Keep cement about 1 inch from edges. Use 4 cement spots per square foot, approximately 2″ in diameter and ¼″ to ⅜″ thick. When installing, slide unit back and forth about one inch under pressure to spread and bond cement.

Bases. New plaster must be thoroughly dry. The white coat should not be used and brown coat should be true and reasonably smooth. Old plaster, if porous or dusty, should be primed with Armstrong Wall Size. Wallpaper or similar material must be removed.

Gypsum lath ⅜″ thick is satisfactory for cement application. Nail lath to supports on 16″ centers.

Concrete above grade must be smooth, level, and thoroughly dry. Clean concrete with 10% zinc sulphate solution to neutralize alkali.

Uneven masonry surfaces must be stripped with wood furring before applying Cushiontone. Over furring, apply gypsum lath before installing the Cushiontone.

finishing

For trim, use wood moldings. If small surface scuffs occur, use Armstrong Cushiontone Touch-Up Chalk.

Armstrong Acoustic Cement

Waterproof adhesive for general application of Cushiontone, other acoustical materials, and other fiberboard products. One-gallon coverage: approximately 60 sq. ft.



fiberboard molding

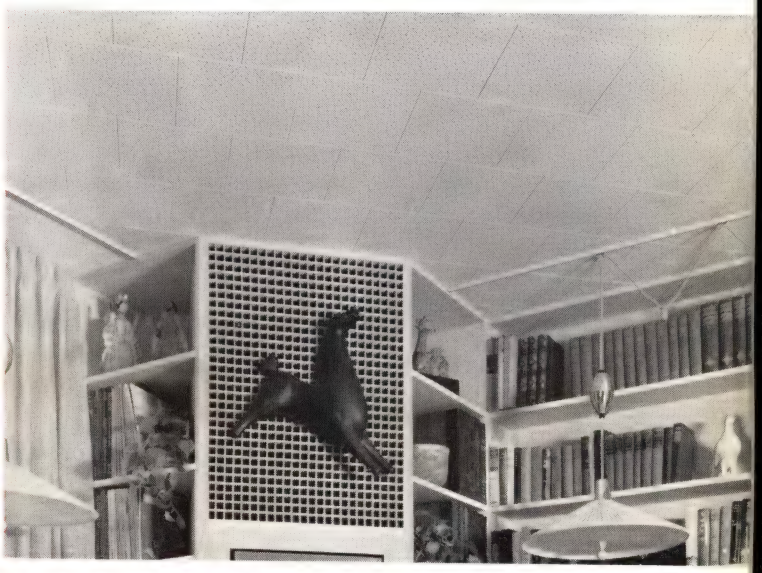
Type A—1½″ corner molding.



fiberboard molding

Type B—¾″ cove molding.





Noise-quieting ceilings of Armstrong Cushiontone are easy to install in old and new homes. The Random design used in this den makes the ceiling attractive as well as functional.

Armstrong TEMLOK LATH



description

Armstrong Temlok Lath is an insulating plaster base manufactured from strong pine fibers. The 18″ x 48″ units of Temlok Lath are shiplapped on both long edges and scoop-beveled around all four surface edges.

advantages

HIGH INSULATION VALUE. When used instead of ordinary plaster bases, Temlok Lath reduces heat loss through exterior masonry walls by 20 to 40%; through exterior frame walls by 10 to 25%.

EXCEPTIONAL PLASTER BOND. Bonding qualities are more than double the requirements of Federal Specifications. More than 1200 lbs. pressure is required to break the bond of 1 sq. ft. of plaster from Temlok Lath.

QUIETER CONSTRUCTION. Helps to reduce sound transmission through walls and ceilings.

QUICK TO INSTALL. Easy to cut and handle on the job. Weighs only 744 lbs. per 1000 square ft.

EXTRA BRACING STRENGTH. The long pine fibers in Temlok Lath give it valuable strength, adding rigidity and holding power to walls on which it is installed.

CORRECT MOISTURE CONTENT. Temlok Lath is carefully sized and put through automatic moisture-restoration equipment to insure a normal moisture content when used. This keeps plaster from drying too fast.

Product	Size	Sq. Ft. Per Bdl.
½″ Temlok Lath	18″ x 48″	90

how to install

application

Apply Temlok Lath with long edges at right angles to studding, ceiling joists, or rafters set 12″ or 16″ on centers. Center all end joints on the framing and stagger joints of each course. Fit shiplapped long edges and short butt edges to moderate contact. A vapor-barrier paper is recommended behind Temlok Lath in frame construction, unless a blanket-type insulation is used which has an acceptable vapor barrier. Apply this paper carefully to face of studs or joists and see that all joints are well lapped and stapled.

When applying Temlok Lath over concrete or masonry surface, erect 1″ x 2″ furring strips for a nailing base. Space furring 16″ on centers. Shim to level plane before applying Temlok.

nailing

Nail ½″ Temlok Lath with five nails at each support. Use long, special plaster board blued nails 1⅛″ long, with 5/16″ head. Nail first to intermediate framing members and then nail ends.

plastering

Reinforce plaster at all interior corners, both wall and ceiling and also where frame and masonry walls meet, with metal lath. Reinforce all exterior corners with metal corner beads.

Temlok Lath should not be wet down either before application to framing members or before applying plaster.

Only a quick-setting gypsum and sand plaster should be used.

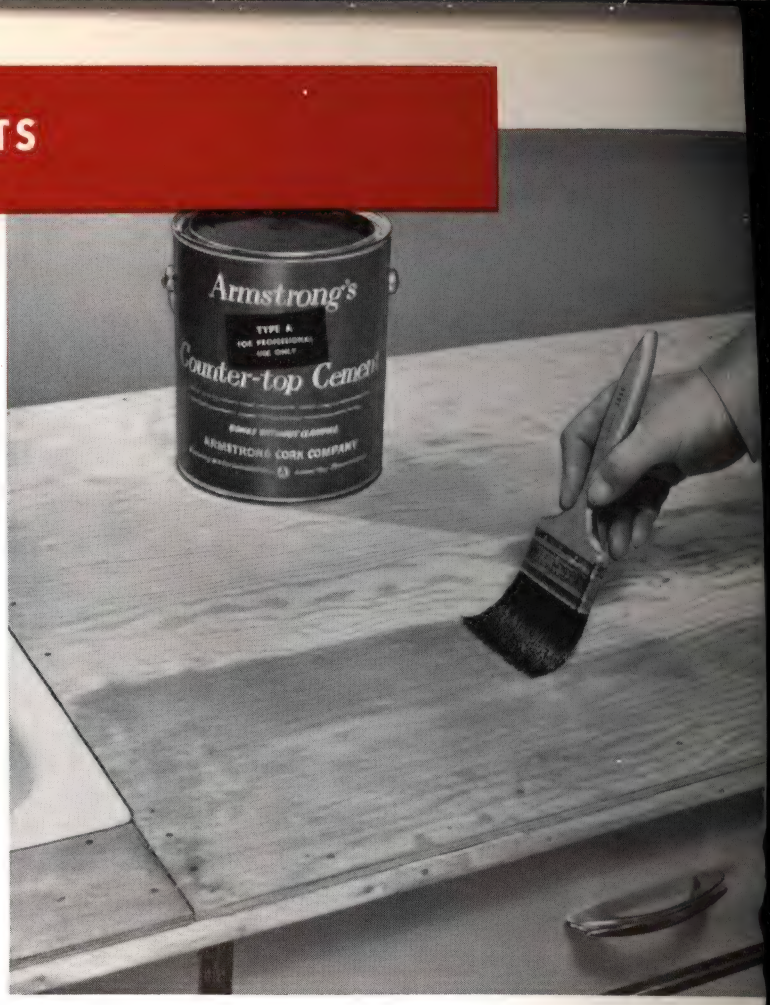
Do not use lime plaster or mix lime with gypsum plaster in scratch or brown coat. Do not use lightweight aggregate plaster.

First coat or scratch and brown coat together must never be less than ⅜″ thick and must be thoroughly dry before applying the finish coat. The finish coat thickness should be approximately ⅛″. In all cases a minimum of ½″ plaster is required.

Apply the plaster directly to Temlok; force plaster well into board joints. Darby strokes must be in the direction of joists and studs, being careful always to span two joists or studs with rod or darby.

Always follow plaster maker's specifications when applying plaster.

Armstrong CEMENTS



Counter-top Cement

Armstrong Counter-top Cements are newly developed, multi-purpose adhesives with exceptionally strong bonding qualities. Made in two types (Type A, liquid and Type B, paste). Armstrong Counter-top Cements are available in pint, quart, 1-gallon, and 5-gallon containers.

uses

Armstrong Type A and Type B Counter-top Cements were developed primarily for application of plastic laminates to plywood, plaster, metal, masonry, and composition surfaces. However, the high bonding strength required for these jobs makes the cements outstanding for many other uses. They include the following:

Type A

For bonding leather goods (shoes, belts, sports equipment, luggage), canvas (awnings, tents, tarpaulins), rubber (stair treads, shoe soles, gaskets), metal (weatherstrips, toys, metal foil), fabrics (burlap, window shades, oil cloth). For bonding asbestos and cork.

Armstrong Type A Counter-top Cement is simple and fast to apply. Use a large paint brush to spread the cement onto the surface of the base and the back of the laminate. Because this cement bonds instantly upon contact, the laminate must be positioned accurately before assembly. Pressure applied first with the hands, then with a rubber roller, assures a permanent grip.

Type B

For bonding objects to walls (signs, displays, mirrors, small kitchen and bathroom accessories), building materials (wallboard, resilient floors, ceramic and metal tile). For bonding rough or porous surfaces (sponge rubber, brick, stone, plaster, asbestos).

Type B cement is applied to only one work surface with a notched trowel. After the cement sets for 15 to 20 minutes the parts can be assembled. The laminate can be slid back and forth in moves of ¼" or so while it is being pressed into exact position. After the sheet is firmly pressed in place with hands and rubber roller it is permanently bonded.

advantages

REQUIRE NO CLAMPING—When applying plastic laminates with Counter-top Cements there's no need for clamps or presses. All the pressure necessary can be applied with a hand roller or rubber mallet.

FAST APPLICATION—No overnight curing or other delays are required. As soon as parts are assembled, job is done.

DURABILITY—These cements have the heat resistance needed for counter and sink tops and similar applications. They also resist soaps, detergents, oil, water, gasoline, and alcohol. Age does not weaken the adhesive bond.

REQUIRE FEW TOOLS—Ordinary tools are adequate for the application of plastic laminates with Armstrong Counter-top Cements. A notched trowel for the application of the adhesive is included with the purchase of pint, quart, and gallon units.

Acoustic Cement

For installing Armstrong Cushiontone, Armstrong Temlok Interior Finishes (Tiles, Planks, Boards), and other similar types of structural insulation board products. The cement may be used on plaster, concrete, wood, gypsum board or lath, and other surfaces that are free from dust, dirt, grease, and water paint. May be used over paints and varnishes after testing for solvent action. Average covering capacity is 60 feet per gallon. 1-gallon and 5-gallon containers.

Panelboard Cement

For installing Armstrong Monowall, and other predecorated panelboards, hardboards, plywood, gypsum, and other type building boards. This cement may be used over old or new plaster, wood, gypsum lath and board, wallboard, hardboard, plywood, or finished concrete. The base should be smooth and free of dirt and dust before cement is applied. Coverage is 50 feet per gallon. Available in quart, 1-gallon, 3½-gallon, and 5-gallon containers.

Armstrong M-67 MONOWALL



description

Armstrong Monowall® is a colorful wall and ceiling material made on a base of tempered hardboard. It has an exclusive M-67® plastic finish in a full range of up-to-date decorator colors. This lustrous modern finish gives Monowall high gloss, glass-like smoothness for easy cleaning, and durability for years of extra wear. Severe laboratory tests prove its exceptional resistance to fading, rough treatment, and to stains from household solvents, greases, and alkalis. Panels of Armstrong M-67 Monowall are 5/32" thick, 4' wide, and up to 12' long. Monowall's smartly styled colors are clear and cheerful, and will not chip, fade, crack, or peel.

uses

For remodeling or new building in kitchens, bathrooms, laundries, and recreation rooms. Ideal for many commercial interiors, requiring smooth, easy-to-clean walls and ceilings. May be used in combination tub-shower installations when joints are properly waterproofed.

Monowall is not recommended for enclosed stall-type showers or where water may stand around the material and attack the wall to which Monowall is applied. Monowall is often used to make cabinets, door facings, and other furniture; do not use for tops of tables, counters, or bars.

advantages

LONG-LASTING BEAUTY. Beautiful new plastic finish will last many years longer than ordinary paints, enamels, and lacquers.

FAST APPLICATION. Large-size panels go up fast, with few joints. Easy to cut and handle on the job.

SAVES MONEY. Eliminates the need for costly plastering and periodic painting or papering.

Type — **Colors and Pattern Numbers**

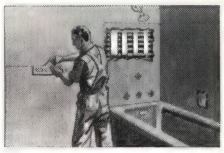
(FIELD COLOR)	PORCELAIN WHITE			CARDINAL RED	EBONY BLACK	BURGUNDY ROSE	COLONIAL IVORY	CASCADE GREEN	WEDG-WOOD BLUE	PRIMROSE YELLOW	CAMEO PEACH	DAWN GRAY
(LINE COLOR)	BLACK	GRAY	RED			GRAY	GRAY	WHITE	WHITE	WHITE	WHITE	WHITE
TILE-DESIGNS (4" squares)	100	110	120	—	—	130	140	150	160	170	180	190
STREAMLINE-DESIGNS (lines 8" apart)	200	210	220	—	—	230	240	250	260	270	280	290
PLAIN COLORS (no lines)	300	—	—	310	320	330	340	350	360	370	380	390

how to install

1. Prepare wall surfaces. Remove wallpaper or loose paint and rinse wall clean. Plaster must be thoroughly dry. Loose plaster areas should be chipped away and furred out flush with wall surface with a wood or gypsum lath patch.



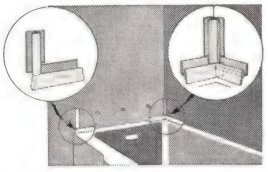
2. Find the lowest point on the floor, using a carpenter's level. Measure up to height of panel to be used and then, before Monowall panels are cut, strike a level line around the room at this point. Allow for width of base molding to be used.



3. Scribe Monowall to allow for wall irregularities. Set scriber ⅜″ wider than these irregularities require, to make room for the channels. Keep panel parallel with level line on wall while scribing. Cut Monowall with finish up.



4. Position channels. Insets at right show how channels are cut for a tight fit in the tub area. Waterproof all channels exposed to water with Armstrong TF-10 Filler. Also waterproof around soap dish and water pipes.



5. Apply Armstrong Panelboard Cement to Monowall. Use Monowall scrap, with notches ¼″ deep, 5/16″ wide, and ⅜″ apart cut into it. Prime all surfaces to receive Monowall with a skim coat of cement to insure a bond.



6. In bathrooms, start with wall over tub. Do not fit Monowall tightly in channels. Leave ⅛″ space on each side. Use onset fixtures if possible, nailing or screwing them in studs or solid wood base. Waterproof as necessary.



sundries

Armstrong Panelboard Cement—A waterproof cement used to install Armstrong Monowall. Covers approximately 50 square feet per gallon. Spread with notched trowel or scraper.

Armstrong Channels and Moldings

Metal Channels in Aluminum Alloy (A series) or Stainless Steel (E series)

A-40 or E-50 Inside corner
A-41 or E-51 Outside corner
A-42 or E-52 Tub Channel
A-43 or E-53 Edging
A-44 or E-54 Connector

Hardboard Moldings for trim; high gloss black finish.

H-30 Cap 1¾″
H-31 Base 3¼″
H-34 Mullion 1¼″

Monowall Nails—Heat treated, needle point nails.

TF-10 Tub Channel Filler (Waterproof)—For use with metal channels in tub-shower area.

F-20 Nail Hole Filler—Covers nailheads in moldings or score lines of Monowall.

F-40 Regular Filler—For pointing small openings between Monowall and window or door frames, or where accurate fit is not possible.

T-50 Touch-Up (Liquid)—For small nicks or scratches.

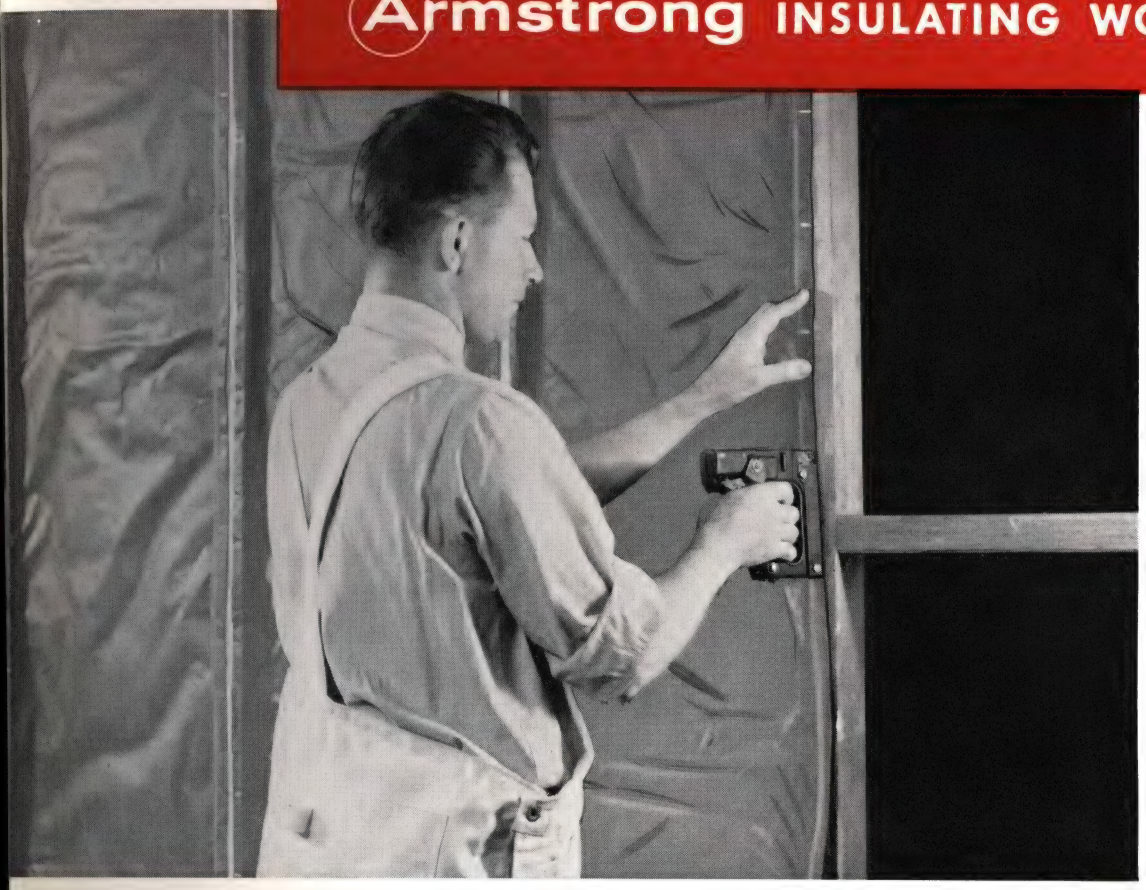
Tub Alcove Unit

Factory-cut to fit the standard five-foot bathtub recess, the Monowall Tub Alcove Unit is easily installed. It comes complete with pre-cut metal moldings.



Bright, colorful walls of Armstrong Monowall bring a crisp, fresh look to kitchens and bathrooms. The plastic surface of Monowall is easily cleaned, and so tough it never needs refinishing.

Armstrong INSULATING WOOL



description

Armstrong Insulating Wool is a highly efficient insulation made of Fiberglas*—millions of tiny, inorganic glass fibers formed into a soft mat. It is durable, extremely low in thermal conductivity, fireproof, and highly resistant to moisture. The lightweight, springy glass fibers will not settle or pack down. They will not decay, rot, or deteriorate. The high insulating efficiency of Armstrong Insulating Wool means greater fuel savings—more comfort in summer and winter.

type of insulating wool

AB Paper-Enclosed Batts and Roll Blankets – having heavy vapor barrier paper on "warm" side of the insulation and a lighter, perforated breather paper on the "cold" side. The two types of paper meet at the sides to form an efficient flange for easy nailing or stapling. Paper should be stapled to top and bottom plate as well as to studs or rafters.

C Utility Batts – low-density glass fiber batt without paper covering or backing.

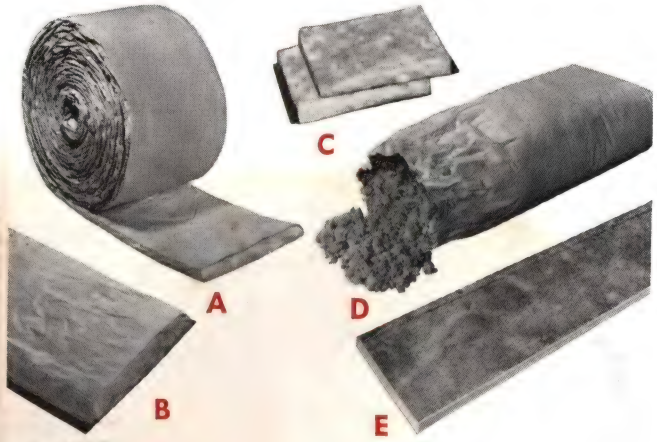
D Pouring Wool – glass fibers processed into small pellets for pouring or hand-packing in areas too small for batt or blanket use.

E Perimeter Insulation – a semi-rigid insulation for use along edge of concrete floor slabs in basementless buildings.

insulating efficiency

The first inch of insulation produces greatest heat savings. However, in most geographical areas, heavier thicknesses are justified by additional savings in fuel. The data below give approximate savings through wall sections.

Type of Construction	% Reduction in Heat Loss		
	1½" Thickness	2" Thickness	3" Thickness
Wood Siding	52	58	68
Brick Veneer	58	64	72
Masonry	59	66	75



* ® OCFCorp.

how to install

attics

When using Utility Batts or Pouring Wool between attic floor joists, apply separate vapor barrier paper first, nearest heated side. Apply Enclosed Batts or Blankets with heavy vapor barrier paper downward.





ceilings

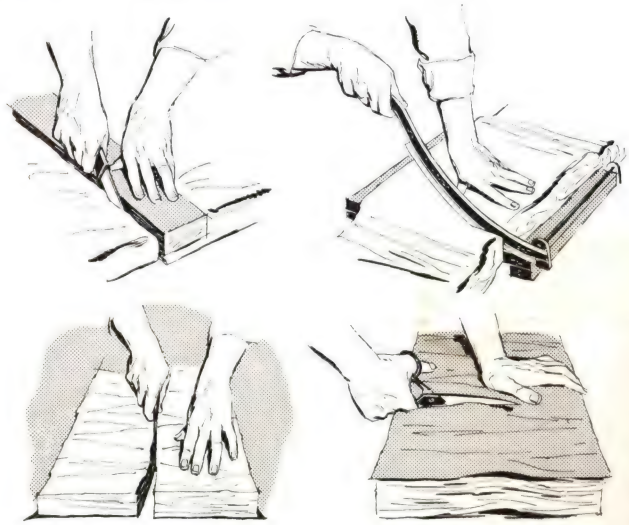
Roll and Batt Blankets are best for ceiling application. Insulation should be fitted around obstructions, and vapor barrier left intact and tightly fitted around all openings.





cutting

Roll or Batt Blankets can be cut prior to application with a knife or a paper cutter. Narrow widths can be cut with a knife, as shown at upper left. During application, ordinary large shears may be used.

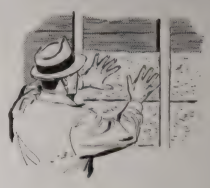


walls

Begin application of Roll Blankets at the top of the wall space. Start at bottom for Batt Blankets and Utility Batts. A separate vapor barrier paper must be applied over Utility Batts after they have been installed.







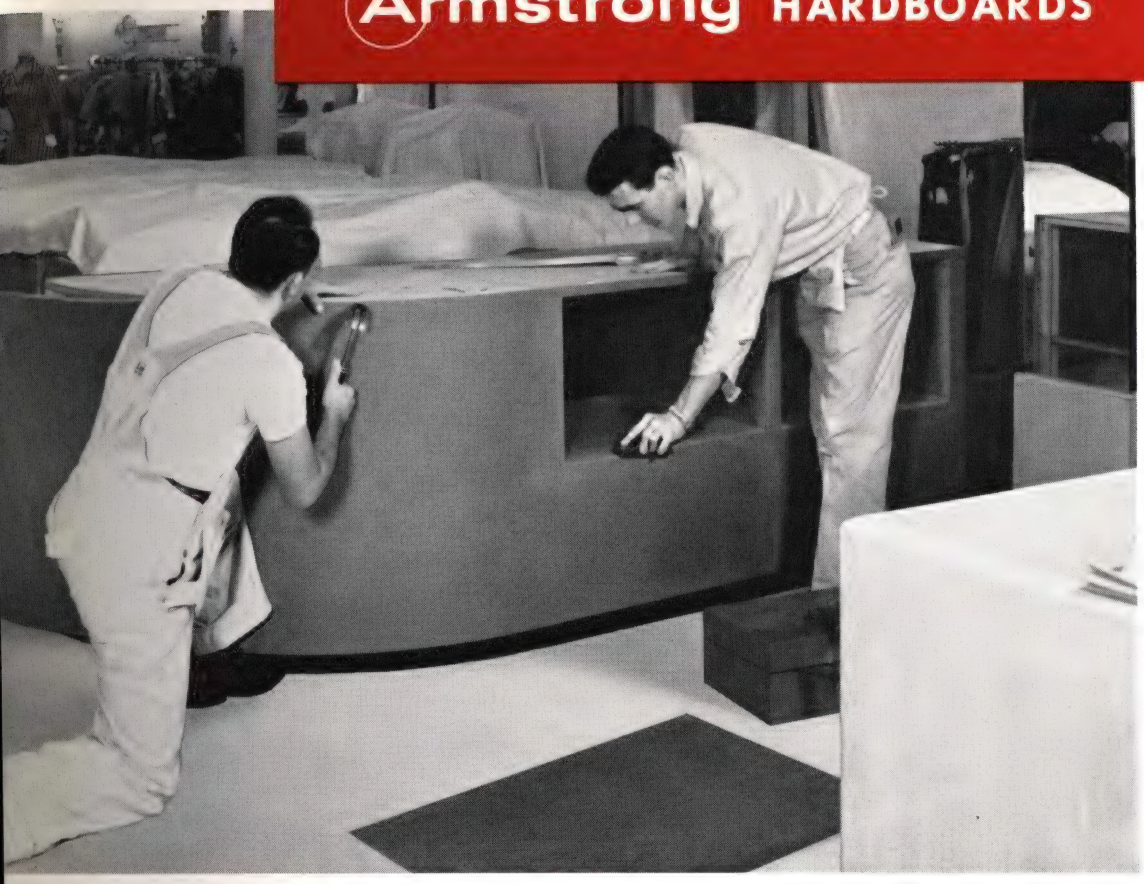
Insulating Wool

Description		Approx. Thickness	Approx. Length	Sq. Ft. Per Pkg.
Enclosed Roll Blankets	15" Wide	Thick (3") Medium (2") Mat-Thick (1½")	40' 60' 80'	50 75 100
	19" Wide	Thick (3") Medium (2") Mat-Thick (1½")	31' 7" 47' 5" 63' 2"	50 75 100
	23" Wide	Thick (3") Medium (2") Mat-Thick (1½")	39' 1" 52' 1" 65' 3"	75 100 125
Enclosed Batts	15" x 24"	Thick (3") Medium (2") Mat-Thick (1½")	24" 24" 24"	40 60 100
	15" x 48"	Thick (3") Medium (2") Mat-Thick (1½")	48" 48" 48"	40 60 100
	15" x 8'	Thick (3") Medium (2")	8' 8'	40 60
	23" x 36"	Thick (3") Medium (2")	36" 36"	29 46
Utility Batts	15" x 11"	Thick (4")	11"	30
Plain Batts	15" x 48"	Medium (2")	48"	60
Pouring Wool		Bulk Form (Coverage 25 sq. ft. 4" thick)		

Perimeter Insulation

Description	Size	Thickness
Type PF-615 Plain	12" x 48" 18" x 48"	¾", 1" 1½", 2"
Type PF-615 (Paper Faced)	12" x 48" 18" x 48"	¾", 1" 1½", 2"
Type PF-619 (Paper Faced)	20" x 48"	1", 1½" 2"
Type AE-6	4", 6", 8", 12", 18", and 24" x 36"	1", 1½" 2"

Armstrong HARDBOARDS



description

Armstrong Hardboards are dense panels of compressed wood fibers. They are grainless and will not crack or splinter and are easy to cut and shape with ordinary tools. Their hard, smooth surface is highly moisture resistant and has a grain and knot-free texture that can be used with no finishing. Boards are 4′ wide and come in many lengths.

types

Temwood (Untempered)—a general purpose hardboard, denser than most woods, recommended for built-in cabinet work and other interior uses.

Tempered Temwood—a very dense hardboard specially processed for extra strength, hardness, and moisture resistance. May be used for exterior application in thicknesses of ¼″ and greater.

S-2-S Tempered Temwood—basically the same as Tempered Temwood, except that both sides are smooth finished.

Temboard—least dense of the hardboards. Used primarily as an inexpensive wallboard for wainscots and partitions.

Temboard Underlayment—used as a base for linoleum, asphalt tile, and other resilient floors.

Blocked Tempered Temwood—hardboard with score lines impressed on the face in a 4″ square tile pattern.

Patterned Tempered Temwood—has a simulated Spanish-grain leather effect embossed into the face.

Black Tempered Temwood—the same product as Tempered Temwood, in a black dyed color.

Tempered Temwood Siding—for use as exterior siding. Long, uniform lengths without defects.

Ridged Tempered Temwood—made with a striated surface in board, siding, and shingle forms.

Primed Tempered Temwood—factory primed in a neutral gray color, ready for painting with finish coat.

Lamboard—made up of sheets of Temboard laminated at the factory to ½″ and ¾″ thicknesses.

finishing

Armstrong Hardboards may be finished with stain, oil or water paints, lacquer, enamel, or wax.

For a flat finish, not meant to be washable, use ordinary water paints directly over the natural hardboard finish.

Oil or varnish paints should not be applied until the surface of the hardboard has been suitably primed. Prime with thin varnish or shellac solution, an enamel undercoater, or white shellac first coater.

Before applying lacquer or enamel finishes, prime hardboard with a pigmented sealing lacquer or white shellac. When dry, this primer should be sanded smooth. Coatings of lacquer or enamel may then be applied.

Armstrong Hardboards are readily adaptable to all kinds of practical and decorative uses. They can be sawed, punched, drilled, die-cut, milled, and planed.

Uses	1/8"-3/16"-1/4" temwood (untempered)	3/16"-1/4" temboard	temboard underlayment	1/8"-3/16"-1/4"-5/16" tempered temwood	1/8" blocked tempered temwood	1/8" patterned tempered temwood	1/8"-1/4" tempered temwood** (perforated)	1/4" ridged tempered temwood
cabinet doors	●			●		●	●	●
ceilings, indoor	●	●		●				●
ceilings, outdoor				● (1/4")				●
counter fronts	●			●	●	●	●	●
counter or table tops	●			●				
displays	●	●		●	●	●	●	●
doors	●			●		●		●
drawer bottoms	●	●		●				
flooring underlayment			●					
furniture	●			●		●	●	●
mirror backs	●	●		●				
shelf backing	●	●		●			●	
shelves	●			●				
shutters				● (1/4")				
siding, exterior				● *				● †
signs, outdoor				● (1/4")				
walls, exterior				● (1/4")				●
walls, interior	●	●		●	●	●	●	●
work bench top	●			●				

* Pre-cut to siding dimensions 1/4" and 5/16" thick. ** Perforated temwood (untempered) and patterned tempered temwood also available.
† Pre-cut to siding dimensions.

Product	Thickness
Temwood (Untempered)	1/8" 3/16" 1/4"
Tempered Temwood	1/8" 3/16" 1/4" 5/16"
S-2-S Temwood	1/8" 3/16"
S-2-S Tempered Temwood	1/8" 3/16" 1/4"
Blocked Tempered Temwood (4" x 4" Squares Only)	1/8"
Temboard Temboard (underlayment)	3/16" 1/4"
Patterned Tempered Temwood	1/8"
Black Tempered Temwood	1/8" 1/4"

Product	Thickness
Tempered Temwood Siding	1/4" 5/16"
Temwood (perforated) Tempered Temwood (perforated) Black Tempered Temwood (perforated)	1/8" 1/4"
S-2-S Tempered Temwood (perforated) Patterned Tempered Temwood (perforated)	1/8"
Ridged Tempered Temwood (also siding and shingles)	1/4"
Lamboard	1/2" 3/4"
Primed Tempered Temwood	1/8" 3/16" 1/4"
Primed Temwood	1/8"
Primed Temboard	1/4"

Armstrong OFFICES

Albany
Atlanta
Baltimore
Birmingham
Boston
Buffalo
Charlotte
Chicago
Cincinnati
Cleveland
Columbus
Dallas
Denver
Detroit
Hartford
Houston
Indianapolis
Jacksonville
Kansas City
Los Angeles
Louisville
Memphis
Milwaukee
Minneapolis
Nashville
New Orleans
New York
Philadelphia
Pittsburgh
Portland
Richmond
St. Louis
San Francisco
Seattle
Washington, D. C.

OTHER Armstrong MATERIALS

Resilient Floors
Linoleum
Asphalt Tile
Linotile®
Linoleum Tile
Rubber Tile
Cork Tile
Plastic Corlon®
Custom Corlon Tile
Excelon® Tile

Walls and Ceilings
M-67® Monowall®
Temlok® Tile and Planks
Perforated Temlok Tile
Linowall®
Corkwall

Acoustical Materials
Cushiontone®
Arrestone®
Corkoustic®
Minatone®
Travertone†
Perforated Asbestos Board

Insulations

Low Temperature
Corkboard
Cork Covering
Fiberglas*
Temlok

Heat
Magnesia
Air Cell
Armabestos†
High Temperature
Other Heat Insulations

Insulating Refractories
Insulating Fire Brick
Refractory Cements

Roof Insulations
Corkboard
Temlok
Asphalt-Impregnated Temlok

Building Insulations
Armstrong Insulating Wool
Temlok Sheathing
Temlok Lath
Temlok Roof Deck
Temlok Interior Finish
Temlok Insulation Board

* T.M. Reg. U.S. Pat. Off., OCFCorp.
† Trade-Mark

RI-S-55 M

Printed in United States of America

Armstrong CORK COMPANY LANCASTER, PENNSYLVANIA

Barrett®

INSULATING BOARD PRODUCTS



- Roof Insulation
- Asphalt Coated Insulating Sheathing
- Scored Insulating Tile
- Insulating Plank Design Board
- Scored Insulating Plank
- Insulating Building Board
- Insulating Utility Board

FOR FARM • HOME • BUSINESS • INDUSTRY

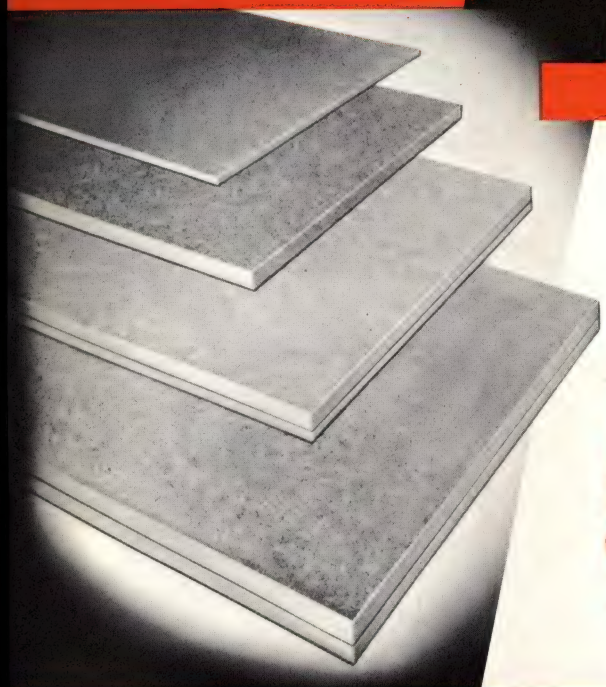
Barrett

INSULATING BOARD PRODUCTS

Barrett Insulation Board is a durable insulating and structural material of the highest quality — capable of withstanding severe service and weather conditions.

Precision-manufactured by the most modern methods and machinery, it possesses exceptional strength and insulating properties as well as a fine, smooth texture and a high degree of uniformity.

Produced under close laboratory control and a careful inspection system, Barrett Insulation Board meets all requirements of the lumber and building trades, and matches, in quality and dependability, other building and roofing products made famous by Barrett since 1854.



ROOF INSULATION



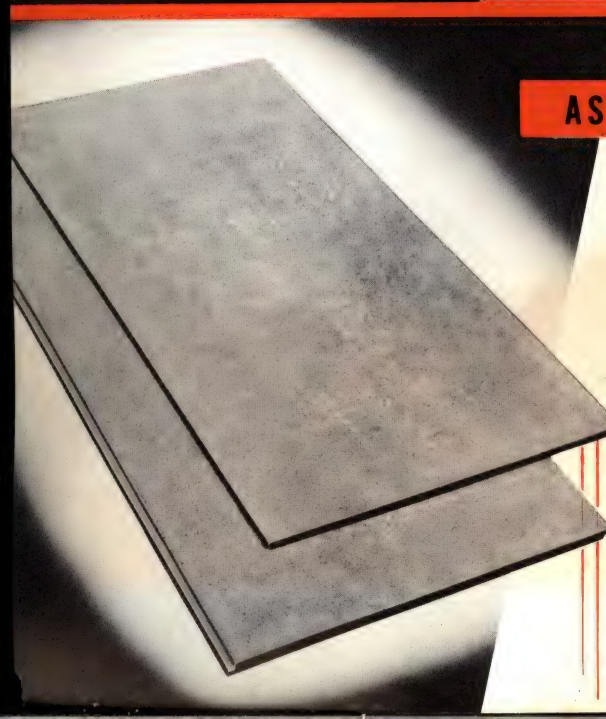
Barrett Roof Insulation is light in weight, easy to handle, quick to apply, with consequent saving in time and labor costs. Low pitch absorption results in increased insulating efficiency. For still greater moisture resistance, Barrett Roof Insulation is available asphalt coated or asphalt impregnated, as well as with plain finish. Thicknesses over 1″ are laminated. Asphalt impregnated board available in 1″ and 2″ thicknesses only.

Standard Sizes	Thickness	Packaging
24″ x 50″	½″*	14 pcs. per bundle
24″ x 50″	1″*	7 pcs. per bundle
24″ x 50″	1½″	5 pcs. per bundle
24″ x 50″	2″	4 pcs. per bundle

*SOLID BOARD — not laminated.

Barrett Roof Insulation meets Federal Specifications LLL-F-321b, Class C, Commercial Standard CS42-49 and A. S. T. M. Specification C208-46T.

THERMAL CONDUCTIVITY in B.T.U. per hour per square foot and temperature gradient of 1 degree F. per inch thickness is 0.335.



ASPHALT COATED INSULATING SHEATHING



Under wood siding, wood shingle, brick veneer, stucco finish and other types of siding, Barrett Asphalt Coated Insulating Sheathing provides insulating protection against heat, moisture and cold. It also adds important structural strength and eliminates need for building paper which is commonly used over wood sheathing. The ease with which it can be cut, handled and put up results in important savings in time and labor.

Standard Sizes	Thickness	Packaged	Thickness	Packaged
4′ x 6′	25/32″	4 pcs. per bundle	16/32″	6 pcs. per bundle
4′ x 7′	25/32″	4 pcs. per bundle	16/32″	6 pcs. per bundle
4′ x 8′	25/32″	4 pcs. per bundle	16/32″	6 pcs. per bundle
4′ x 9′	25/32″	4 pcs. per bundle	16/32″	6 pcs. per bundle
4′ x 10′	25/32″	4 pcs. per bundle	16/32″	6 pcs. per bundle
2′ x 8′*	25/32″	6 pcs. per bundle		

*Shiplapped on long edges in 25/32″ thickness.

SCORED INSULATING PLANK

Choose Barrett Scored Insulating Plank for economy, insulation, reduction of noise and attractive appearance. These planks are easily applied over old plastered walls and masonry, as well as in new structures. Shiplap and beveled edges assure perfect fit. All nailing is concealed in a special nailing groove. Factory-painted ivory coating may be repainted on the job to match special color schemes.

Size	Thickness	Packaged
8″ x 7′	½″	10 pcs. per carton
8″ x 8′	½″	10 pcs. per carton
8″ x 9′	½″	10 pcs. per carton
12″ x 7′	½″	10 pcs. per carton
12″ x 8′	½″	10 pcs. per carton
12″ x 9′	½″	10 pcs. per carton



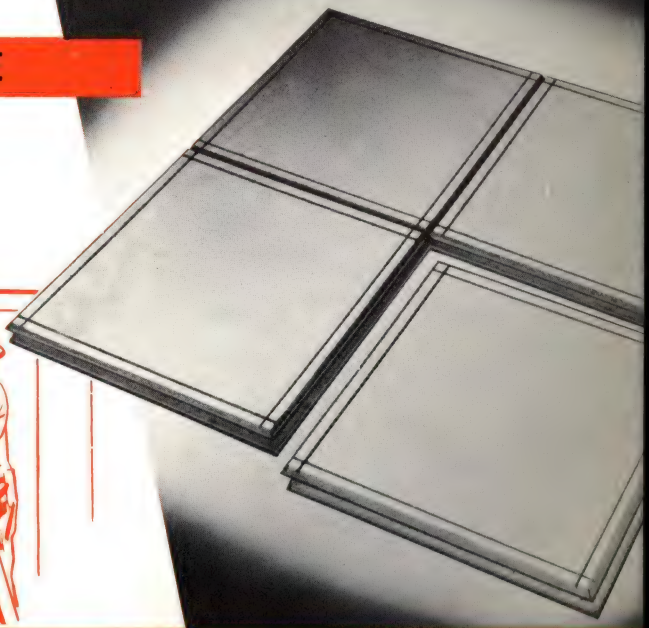


SCORED INSULATING TILE

For insulating, noise-quieting and general attractiveness as well as economy, Barrett Scored Insulating Tile offers many advantages. In new home construction, it completely eliminates the costly expense of a "finishing" coat of plaster. When applied over the plaster in an old or remodeled home, it produces an attractive "new look" at a fraction of the cost of new plaster. Factory-painted ivory finish may be used as is, or repainted to blend with special color schemes.

Size	Thickness	Packaged
12″ x 12″	½″	25 pcs. per carton
16″ x 16″	½″	25 pcs. per carton
16″ x 32″	½″	12 pcs. per carton



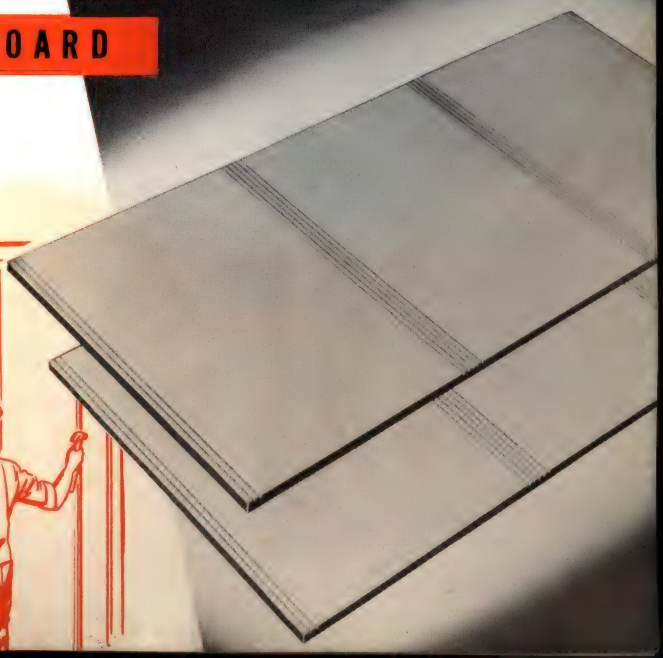


INSULATING PLANK DESIGN BOARD

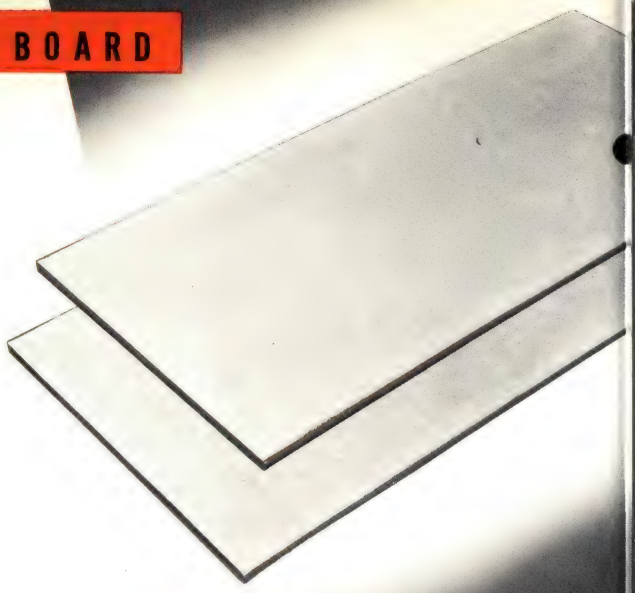
Barrett Insulating Plank Design Board is specially constructed for easy, satisfactory installation. A set of five grooves corresponds with standard studding on 16″ centers so nails are inconspicuous and moulding or batten strips unnecessary. In living rooms, bedrooms, dens, stores, offices and other commercial buildings, it creates a neat, modern effect. Ivory finished on one side, it may be used as it is, or repainted with a good water-thinned paint to conform to special decorative schemes.

Size	Thickness	Packaged
4′ x 6′	½″	6 pcs. per bundle
4′ x 7′	½″	6 pcs. per bundle
4′ x 8′	½″	6 pcs. per bundle
4′ x 9′	½″	6 pcs. per bundle
4′ x 10′	½″	6 pcs. per bundle





INSULATING BUILDING BOARD



Greater economy of construction is possible with Barrett Insulating Building Board. This tough fibre board not only adds structural strength to the building, but provides effective insulation against blistering heat and winter cold. The result is a saving in fuel costs, as well as greater comfort. In commercial, camp and temporary buildings, Barrett Insulating Building Board does a highly effective job at low cost. Available with natural or ivory finish.

Size	Thickness	Packaged
4′ x 6′	½″	6 pcs. per bundle
4′ x 7′	½″	6 pcs. per bundle
4′ x 8′	½″	6 pcs. per bundle
4′ x 9′	½″	6 pcs. per bundle
4′ x 10′	½″	6 pcs. per bundle

INSULATING UTILITY BOARD

This tough fibre board is a first-rate material for constructing partitions, covering old interior walls, finishing basements, and for all kinds of wallboard uses. Adds structural strength to the building — makes a strong, permanent wall. Easy to install. Available with plain or ivory finish. May be used as is or repainted with a good water-thinned paint.

Size	Thickness	Packaged
4′ x 6′	⅜″	8 pcs. per bundle
4′ x 7′	⅜″	8 pcs. per bundle
4′ x 8′	⅜″	8 pcs. per bundle
4′ x 9′	⅜″	8 pcs. per bundle
4′ x 10′	⅜″	8 pcs. per bundle



Barrett®

BARRETT DIVISION

ALLIED CHEMICAL & DYE CORPORATION

40 RECTOR STREET, NEW YORK 6, NEW YORK

205 WEST WACKER DRIVE, CHICAGO 6, ILLINOIS

BARRETT BUILDING PRODUCTS

Asphalt Shingles • Mineral and Smooth Surfaced Roll Roofings • Roll Sidings • Insulated Asphalt Siding • Asbestos-Cement Roofing and Siding Shingles • Sheathings and Building Papers • Tarred and Asphalt Felts • Saturated Asbestos Felts • Roofing Pitch • Roofing Asphalt • Waterproofing Fabric and Fabric Tape • Flashing Blocks and Forms • Roof Vent and Drain Connections • Damp-proofing and Plaster Bond Coatings • Roof Cements and Coatings • Protective Paints and Coatings • Wood Preservatives • Rock Wool Insulation • Fibreboard Insulation, Sheathing, Plank and Tile

BIRD K-33 ROOF INSULATION



Ridgeway Shopping Center
Stamford, Connecticut



Milford High School
Milford, Connecticut



Westport Shopping Center
Westport, Connecticut



Stratford High School Gymnasium
Stratford, Connecticut



Bird Roof Insulation is produced in the Phillipsdale, Rhode Island plant of

BIRD & SON, inc.
Established 1795

AVAILABLE IN
EASTERN U. S. ONLY

K-33

BIRD ROOF INSULATION

MAXIMUM INSULATION AT NO PREMIUM COST FOR THE BUILT-UP ROOF

Bird Roof Insulation is a specially treated wood fiber rigid insulation, available in boards ½", 1", 1½", and 2" thick. Lengths and widths are the same in each thickness: 24" x 48". The thermal conductivity, ("K" factor), is 0.33*. Bird Roof Insulation meets requirements of Federal Specification LLL-F-321b (Class C). It also meets the specifications for Commercial Standard (CS42-49) of the United States Dept. of Commerce and of A.S.T.M. Spec. C208-46T.

The surface of the board provides a strong, ready bond with either coal tar pitch or asphalt mopping compound.

* This K value figure of 0.33 has been verified by an independent research laboratory (name on request). Full report on next page.



MOISTURE RESISTANCE EQUAL TO ASPHALT COATED ROOF INSULATION

Bird Roof Insulation is protected against sudden rainstorms or continued dampness and humidity. Bird Roof Insulation is wood fiber board with all of the advantages of asphalt-coated insulation board yet without the premium price. The boards are integrally treated with sizing material, a treatment that preserves the natural finish and makes the boards water-resistant without reducing the insulation efficiency. Tests show that Bird Roof Insulation, with its special treatment, has a water resistance equal to that of the more expensive asphalt-coated or impregnated boards.

U. S. TESTING COMPANY, INC.

TESTS WATER-RESISTANCE QUALITIES

Here are the results...

of a standard water absorption test run by the U.S. Testing Company. Roof insulation samples tested included two coated boards and two uncoated boards. The second sample, #1152-1 was Bird Roof Insulation. The first is a competitive uncoated board; the third and fourth are competitive coated boards.

United States Testing Company, Inc.
ESSELEN RESEARCH DIVISION
857 BOYLSTON ST., BOSTON 16, MASS.
TELEPHONE COMMONWEALTH 6-3200

REPORT OF TEST

TEST NUMB 2241 ORIGINAL

Test made for: Mr. A. Herbert Chamberlain, Bird & Son, Rumford, Rhode Island

24 March 1952

Material tested: Four samples roof insulation, 1152-3, 1152-1, 1126-3, and 1152-4, for water absorption according to Federal Specification LLL-F-321b and with additional weighings after 4 and 24 hours as requested in your letter of 12 March 1952.

TEST RESULTS:

Water Absorption (% by volume based on original volume)

SAMPLE	2 hours	4 hours	24 hours
1152-3	4.4	5.5	11.0
1152-1	2.7	3.3	7.1
1126-3	2.5	3.2	8.2
1152-4	2.3	3.1	7.2

RSI;mar

Supervised by Robert S. Ives

CAUTION—The use of this report, complete or in part, or the name of the United States Testing Company, Inc. for publicity, must receive the written approval of the company. Report applies only to sample tested and cannot be considered indicative of the general production of the product or products tested.

United States Testing Company, Inc.
By Katherine A. Kingston
Katherine A. Kingston

THERMAL CONDUCTIVITY TEST

An independent research laboratory (name on request) tested the thermal conductivity of Bird Roof Insulation, conforming to Federal Specifications LLL-F-321-b. "K" value: 0.33.

Bird & Son, Inc.
Phillipsdale, R. I.

Gentlemen:

Your order No. 33391

The thermal conductivity determinations on samples of your Roof Insulation have been completed.

These samples were dried by you and then dried to constant weight here before placing them in the tester

Bulk density	14.9 lbs. ft.$^{-3}$	
Thickness under test,	0.97 inches.	
Temp. warmer surface, °F	96.	
Temp. cooler surface, °F	70.	127.
Mean Temperature, °F	83.	75.
"K" value	0.336	101.
		0.344

The "K" value is expressed in Btu,hr^{-1} ft^{-2} inch, °F^{-1}

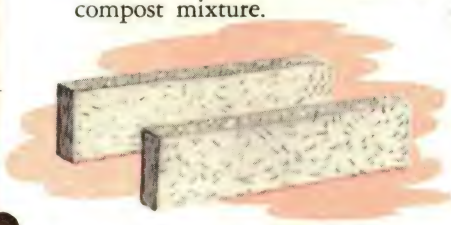
These tests were made on a guarded hot plate and conformed to Federal Specifications LLL-F-321-b.

Extrapolating from the above tests, the "K" value at 75°F. mean temperature was found to be 0.333.

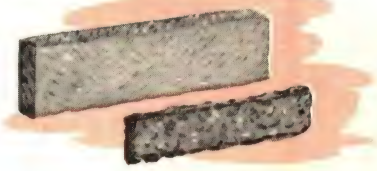
SOIL BURIAL TEST proving Bird Roof Insulation with its additional fungicide treatment is highly resistant to destructive insects and fungi.

To demonstrate the importance of the special Dow Penta* fungicide treatment given Bird Roof Insulation Board, control tests are regularly conducted by Bird Laboratories. Samples of treated and untreated board are buried in a highly activated compost mixture.

*A product of Dow Chemical Company



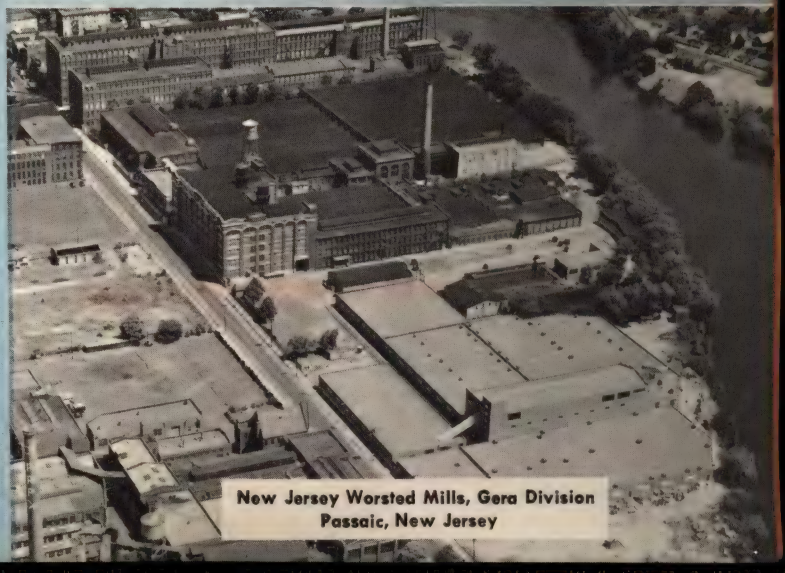
Samples looked identical the day they were buried.



Bird Roof Insulation was unharmed after 15 weeks. Untreated board lost ⅓ of its weight and volume.



Typical Application Scene



New Jersey Worsted Mills, Gera Division
Passaic, New Jersey

SPECIFICATIONS

FOR APPLYING BIRD ROOF INSULATION OVER FLAT ROOF DECKS UNDER BUILT-UP ROOFING

GENERAL

Although Bird Roof Insulation is protected by a complete paper wrap and is specially treated to withstand dampness and the effects of a flash rain storm, every effort should be made to keep it dry before, during and after application. Only as much insulation board as can be properly covered with finished roofing the same day shall be applied. At the end of each day's work, insulation board exposed edges should be covered with roofing felt and mopped down with bitumen for overnight protection.

Insulation boards shall be laid in parallel courses with end joints of each course breaking with those of adjoining courses. Adjoining edges of boards shall be brought to a moderate contact without being forced into place.

Where the roof meets vertical surfaces, such as parapets, penthouses, etc., boards shall be cut in a neat, workmanlike manner to insure proper contact without forcing. Cant strips shall be provided wherever roof surfaces meet vertical surfaces. These cant strips shall be set on top of roof insulation and securely fastened in place.

Where two layers of insulation are specified, the boards of the second layer shall be laid parallel with those of the first layer. Second layer joints shall break with those of the first layer.

WHEN TO USE VAPOR BARRIERS

Vapor barriers shall be applied beneath the insulation on all heated buildings north of the Ohio River or where the average January weather is below 35°, and on all buildings in which excessive moisture conditions prevail.

WATER CUT-OFFS

The roof insulation shall be isolated in areas no larger than 30 feet square over the entire roof. At the first full insulation board joint back from parapet walls or boarders, 8-10 inch cut-off strips of saturated roofing felt shall be used as follows: Mop half of the strip to the roof in hot bitumen, fold the remainder of the strip over the insulation, and mop it in hot bitumen to the top surface.

WOOD ROOF DECKS

The entire roof deck shall be free from all dirt and other loose material. All loose planks shall be nailed, decks shall be sound, smooth and free from large knot-holes, cracks, etc., and adequate drainage shall be provided.

Where coal tar pitch is used, the roof deck shall be covered with properly sized sheathing paper to prevent bitumen from dripping through the deck between the roof boards. Sheathing paper shall be lapped 2 inches smoothed and tacked along the exposed edges.

Where vapor barriers are required lay two plies of #15 Saturated Roofing Felt, over the wood roof deck or sheathing paper, lapping each sheet 19″, nail the back edge of each sheet with tin capped galvanized barbed roofing nails spaced 12″ on center. Laps shall be mopped with hot bitumen.

The roof insulation should be laid at right angles to the roof deck boards. The insulation may be applied to the wood roof deck either by nailing as in "A" below or where a vapor barrier is required by mopping as in "B" below.

A. APPLICATION BY NAILING INSULATION

— In nailing, select nails sufficiently long to penetrate into the roof deck at least ¾″. Space nails 12″ apart. Each board shall be secured in place by nailing on each edge and staggered along the longitudinal center line. Drive nails below the surface of the roof insulation.

B. APPLICATION BY MOPPING INSULATION

— Mop the exposed vapor barrier liberally with hot bitumen. Mop only enough of the roof area at one time to embed a single insulation board. Each board shall be firmly embedded in the hot bitumen breaking joints both between sheets in the same layer and in successive layers.

At vertical walls, skylight curbs and under-monitor skylight sash, apply a cut-off strip of roofing felt around edges of insulation as in water cut-offs. However, this strip shall be carried at least 3 inches up the vertical surface rather than mopping to the top of the insulation.

STEEL ROOF DECKS

The deck shall be securely fastened to roof purlins and all joints shall be made rigid. The roof deck shall be smooth and clean and primed if not already shop coated.

The deck should be mopped with hot bitumen keeping the mopping back 4″ from all joints. Over this mopping when no vapor barrier is required lay one ply of #15 Saturated Felt, the edges of the felt being lapped 2″. When a vapor barrier is required lay two plies over the hot mopping lapped 19″ of #15 saturated felt and mop the lap with hot bitumen. Felt shall be turned up on, but not cemented to, all vertical surfaces to height of at least 3″ greater than the thickness of the insulation to be applied, and shall subsequently be mopped back over insulation. The felt or vapor barrier should be liberally mopped with hot bitumen. Only an area sufficient in size to embed a single roof insulation board should be mopped at one time. Embed each board firmly in the hot bitumen before mopping the next board-size area.

Where the roof insulation is applied over roof decks having a slope of 3″ or more per foot, each board shall be secured to the steel deck with three bolts, metal darts or sheet metal screws or any other device supplied by the deck manufacturer, along the top, in addition to the mopping of steep roofing bitumen.

APPLICATION OVER CONCRETE, GYPSUM AND UNIT TILE

The surface of the roof deck shall be reasonably smooth without depressions, shall be free from dirt and loose materials, thoroughly dried and properly pitched for drainage. Where deck is constructed of precast cement, gypsum, or similar tile construction, the joints of all tile shall be properly pointed up with gypsum or cement mortar. If a coal tar pitch is to be used no primer is necessary. If asphalt is to be used, the deck shall be primed with asphalt primer. Use a liberal coating of primer over gypsum decks. On monolithic type decks (concrete or poured gypsum), the mopping shall be continuous. If the deck is of precast units such as book tile, precast gypsum, or cement tile, spot or strip mop the individual units, keeping the mopping back 4″ from all joints so as to prevent drippage. Mop only sufficient area to provide complete embedment of each board at a time. A vapor barrier shall be included under all conditions shown in the introductory section of these specifications.

Over the mopping while hot lay two plies, lapped half, of #15 saturated felt and mop the lap with hot bitumen. This vapor barrier shall be turned up on, but not cemented to all vertical surfaces to a height of at least three inches greater than the thickness of roof insulation to be applied, and shall subsequently be mopped back over insulation.

Over the roof deck or vapor barrier, embed each board firmly in a bituminous mopping. Only sufficient area to provide complete embedment of each board shall be mopped at a time. Where two layers of roof insulation are to be used, mop the exposed surface of the first layer liberally with hot bitumen and embed the top board firmly in it. On roof decks having a slope of three inches or more to the foot, special provision shall be made for fastening roof insulation boards to the deck by nailing or other mechanical device.

10223-I-ED-EJ

BIRD & SON inc.
Established 1795
EAST WALPOLE, MASS.



Less staging is required, because of the longer reach with Bostitch H4 hammers. One-hand operation drives staples even beyond arm's length. Many users say: "4 times as fast as hammer and nails." New roofs applied with Bostitch H4 have survived wind storms when nailed roofs were badly damaged.

BOSTITCH
can help you
SAVE TIME and MONEY
on many building jobs



Actual Size of Staple

Drives staples of .070" x .050" galvanized steel wire with ¾" legs.

BOSTITCH H4
HEAVY DUTY STAPLING HAMMER

Each one-hand blow drives home a heavy galvanized staple — gum dipped, if desired, for extra holding power. Staple legs spread in opposite directions inside the work, increasing the grip. Ask for descriptive flier.



One hand, one blow. Fastest way to apply undercourse shakes is with Bostitch H2B medium duty hammer. Here again, speed and long reach mean increased production and lower costs.

One-hand, one-blow operation of Bostitch self-feeding hammers and tackers cuts operating time and increases profits, installing—

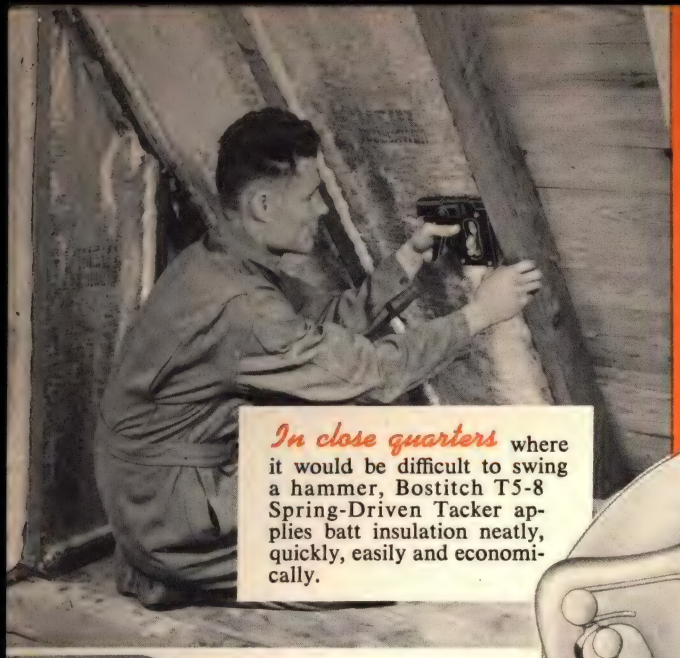
ASPHALT SHINGLES ON NEW ROOFS; FELT ON BUILT-UP ROOFS; BUILDING PAPER; INSULATION; METAL LATH; CORNERITE; UNDERCOURSE SHAKES; CEILING TILE; ACOUSTIC TILE; FLASHINGS AROUND WINDOWS; METAL HEAT DUCTS; SCREEN WIRE; AND A VARIETY OF OTHER JOBS.

Ask for full information about each of the Bostitch automatic hand tools speeding up the building operations in this folder.

ALL TYPES OF INSULATION

Installed Better and Faster with BOSTITCH

Blankets, foil-lined sheets, expanded batts—even corrugated board to retain blown insulation—all can be installed in a fraction of the time required for conventional hammer and tacks. You can turn out a workman-like job at a cost that leaves room for a decent profit.



In close quarters where it would be difficult to swing a hammer, Bostitch T5-8 Spring-Driven Tacker applies batt insulation neatly, quickly, easily and economically.



BOSTITCH H2B HAMMER

Swings like a claw hammer, but with a single blow to each "tack". Drives two-pointed staples with $11/32$" crowns to provide good purchase on the material. ¼" and ⅜" leg lengths in one model, ½" legs in H2B½. Better, faster, cheaper than any other method. Recommended by many manufacturers of insulating materials. Ask for descriptive flier.



Foil and paper are securely held by the crown of the Bostitch staple. Material that must be shaped, stretched, or fitted can be handled quickly, because the operator has a free hand.



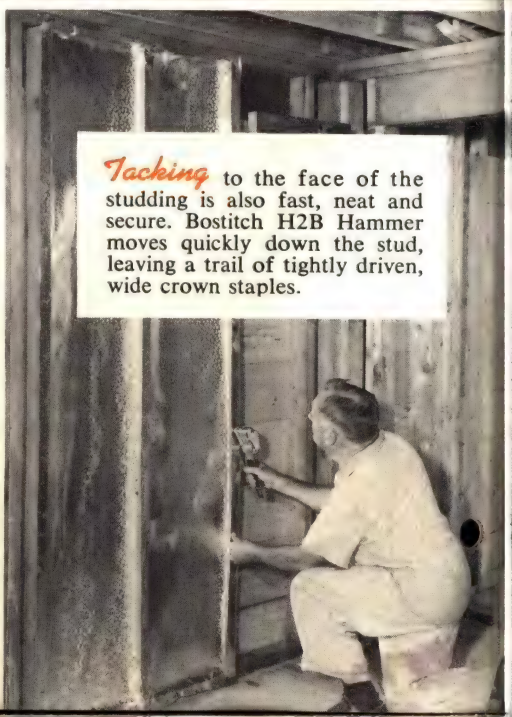
All types of batt insulation are installed quickly with Bostitch H2B. One hand is free to hold material in place while tacking.



In walls and ceilings, Bostitch H2B Self-Feeding Hammer applies fitted insulation batts with lightning speed. Each tap with the H2B places and drives a staple.



For batts with staple flanges, Bostitch T5-8 Tacker quickly pays for itself in time and labor saved. No special skill required.



Tacking to the face of the studding is also fast, neat and secure. Bostitch H2B Hammer moves quickly down the stud, leaving a trail of tightly driven, wide crown staples.

CEILING TILE MANUFACTURERS Recommend this Method

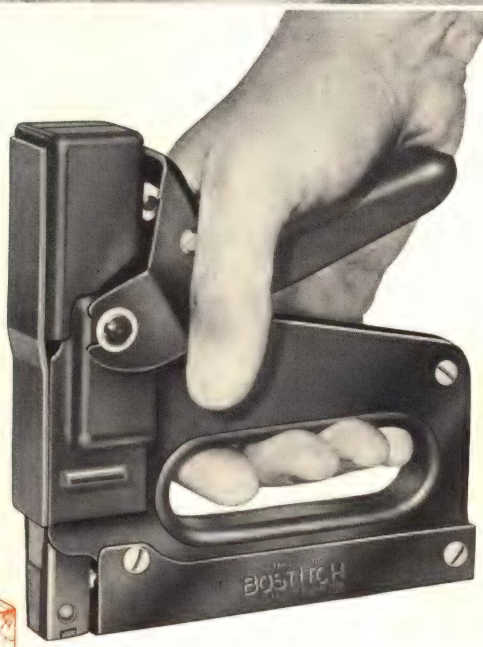
Bostitch T5-8 Stapling Tacker, with 9/16″ gummed staples, attaches flanged ceiling tile easily, quickly, and securely.

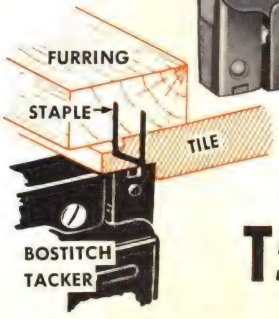


Acoustic tile, now available with stapling flanges, can be installed with Bostitch T5-8 Tackers faster than any other type or by any other method. Gloves can be worn to prevent soiling.



Ceiling tile. With Bostitch T5-8 Tackers, installing ceiling tile is fast and easy, saves time and labor. No marred edges. Staples hold fast, do not pull through (as nails do) under stress.





BOSTITCH T5-8 STAPLING TACKER

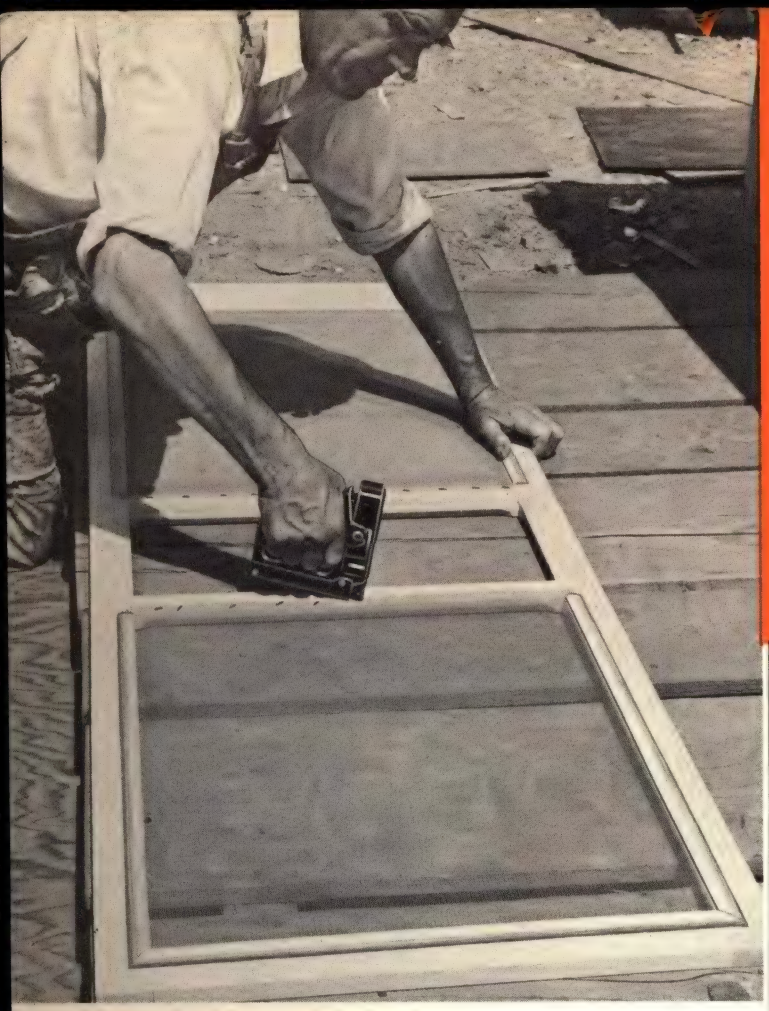
Operates easily, with one hand. Drives staple within 1/16 inch of inside corner of rabbet. Uses staples of .050″ x .019″ wire with 5/32″, 1/4″, 3/8″, 1/2″, and 9/16″ legs. Loads easily. Feeds staples automatically. Ask for descriptive flier.



Metal lath installation reaches its top speed with Bostitch H2B Self-Feeding Hammer. Every blow drives a staple.



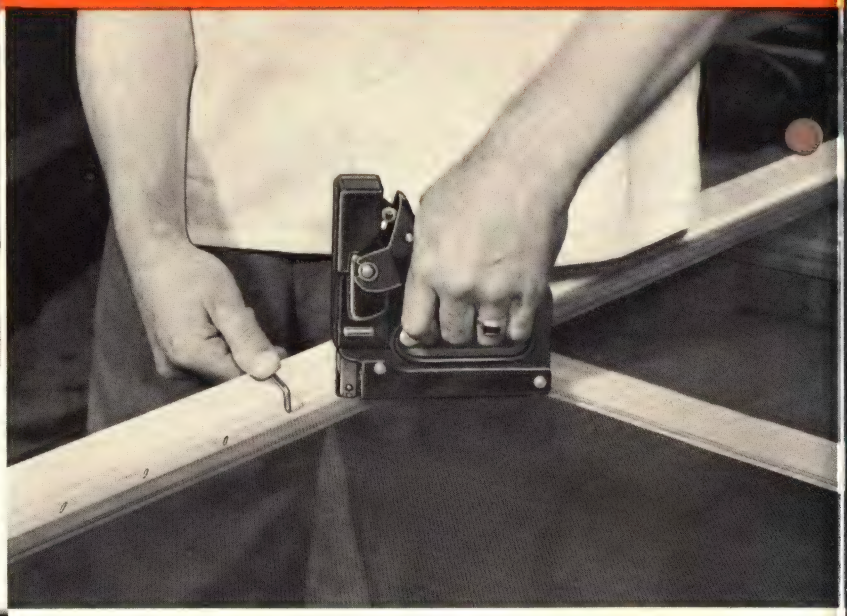
Cornerite goes into place easily and quickly with Bostitch T5-8 Tacker. Press and squeeze is all it takes. Attaches to laths, does not cause cracks as frame of building settles.



Tacking screenwire. Surface tacking of screen wire with Bostitch T5-8 Tacker is flush and firm and takes only a fraction of the usual time. The small nose of the Bostitch machine is particularly suited to tacking deep into the rabbet. Staple spans several strands of wire to hold fast, does not split wood. Copper staples and galvanized staples are available to cope with weather conditions.

BOSTITCH Tacking is Good for SHOP JOBS, too

Hammer and tacks are out!—once you have tried Bostitch tackers for attaching screen wire and other tacking jobs. No more awkward fumbling. No more dangerous tack spitting. But a lot more speed and a lot less cost.





Heavy tacking. Bostitch H4 Heavy Duty Hammer is sometimes used with a mallet, where staple must be located with great accuracy. Hammer is placed in proper location on the work and a staple is driven with a single mallet blow.

Check with your building supply dealer. If he does not carry these Bostitch tools, write or phone to address below.

Fasten It Better and Faster

with BOSTITCH® STAPLERS AND STAPLES

WESTERLY • RHODE ISLAND

REPRESENTATIVES IN KEY CITIES THROUGHOUT THE UNITED STATES AND CANADA.

LITHO IN U.S.A.



CELOTEX

REG. U. S. PAT. OFF.

3b Ce

STRUCTURAL INSULATION and OTHER BUILDING PRODUCTS

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THE CELOTEX CORPORATION • CHICAGO 3, ILLINOIS

You build and insulate better and easier with CELOTEX INSULATION BOARDS



Photo of Louisiana cane — revealing long, wiry fibers which are processed into Celotex insulation boards.

Long, lightweight, extraordinarily durable cane fibers—the stout heart of these boards—tell the story! Firmly felted and criss-crossed, they form millions of tiny air pockets that provide superior insulating value (see comparative values below). And—by reason of their length and wire-like character—they act also as reinforcement throughout the product, assuring an insulation board that is strong, rigid and long-lasting, that offers great structural bracing strength (see Turnbuckle Test, page 3).

Use of these Celotex fiberboards, performance-proved for more than 30 years, saves much time, labor and material. For example, one unit of the big structural types—in most cases easily handled by one man—takes the place of the many units of other building methods. The interior finish types make it a simple job to complete interiors rapidly; these are pre-finished in a range of colors at the factory and most are applied speedily with stapler. With all these Celotex boards, nominal sizes are actual sizes, and cutting and fitting waste is negligible.

Moreover, these boards are protected against termites and dry rot. During manufacture the individual cane fibers are treated by the patented Ferox* Process. Laboratory tests and years of job-experience have demonstrated that Ferox-treated Celotex insulation board is protected effectively against termite and dry rot attack.

*Reg. U.S. Pat. Off.

COMPARATIVE INSULATING EFFICIENCY OF CELOTEX CANE FIBER INSULATING BOARD



Insulating value of one-inch thickness of Celotex board

3 one-inch thicknesses of yellow pine

4½ inches of gypsum board

15 inches of common brick

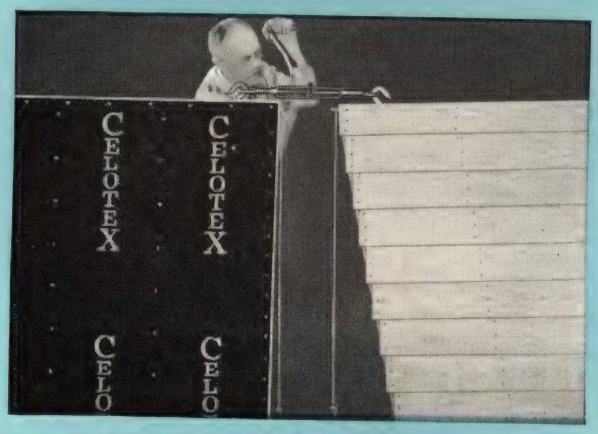
OR



36 inches of solid concrete

DOUBLE-WATERPROOFED INSULATING SHEATHING

greater insulation • greater structural strength • faster application



Turnbuckle Test proves superior wall bracing strength of Celotex Insulating Sheathing over horizontal wood sheathing.

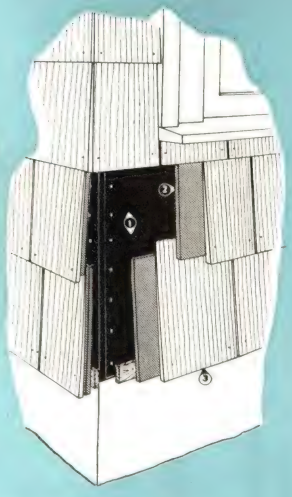
It's double-waterproofed by (1) an integral treatment of individual fibers and (2) an asphalt coating of surfaces and edges. This means extra moisture protection at job site, plus elimination of need for building paper except where local conditions might require. Though double-waterproofed, this Sheathing has more than twice the vapor-permeability advocated for wall sheathing by government agencies.

It offers the economical answer to modern requirements in wall construction, furnishing the desired increases in insulation value plus strong sheathing in one material at one cost. When Celotex 25/32" Insulating Sheathing is used in place of nominal 1" wood sheathing in standard frame wall construction (wood siding, sheathing, air space, gypsum lath and plaster), it increases the wall's insulation value 24%; FHA home insulation requirements for practically the entire country are met. For minimum-cost construction, Celotex ½" Insulating Sheathing produces a wall that's stronger, yet has 29% more insulation value than a standard frame wall sheathed with ½" gypsum sheathing.

The large, lightweight units go up speedily. Average time, substantiated by many builders, is 8 to 10 hours per 1000 square feet of wall area against 15 hours for horizontal wood sheathing. No dimensional loss—Celotex sizes are actual.

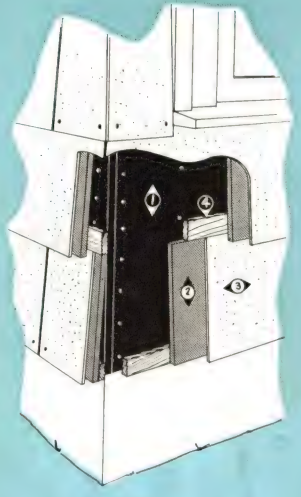
CELOTEX ASPHALT-IMPREGNATED BACKER BOARD

with Shingles over Celotex Insulating Sheathing (or other Fiberboard Sheathing)



with Wood Shingles

(1) Celotex Sheathing
(2) Celotex Backer Board
(3) Wood Shingles (Shakes)



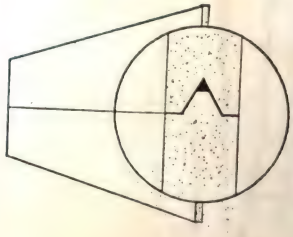
with Asbestos-Cement Siding Shingles

(1) Celotex Sheathing
(2) Celotex Backer Board
(3) Asbestos Shingles
(4) Wood Stripping (Shingle Nailing Base)

Recommended-Type Nail with Wood Shingles: 2" annular-grooved. **Celotex Backer Board** provides uniformly smooth undercoursing; adds insulation value for more comfortable interior in all seasons; builds strong shingled walls with deep shadow lines. 5/16" thick units, 13½" x 48" and 15½" x 48" for wood shingles, and 11¾" x 48" for asbestos-cement siding shingles.

NO CORNER BRACING REQUIRED

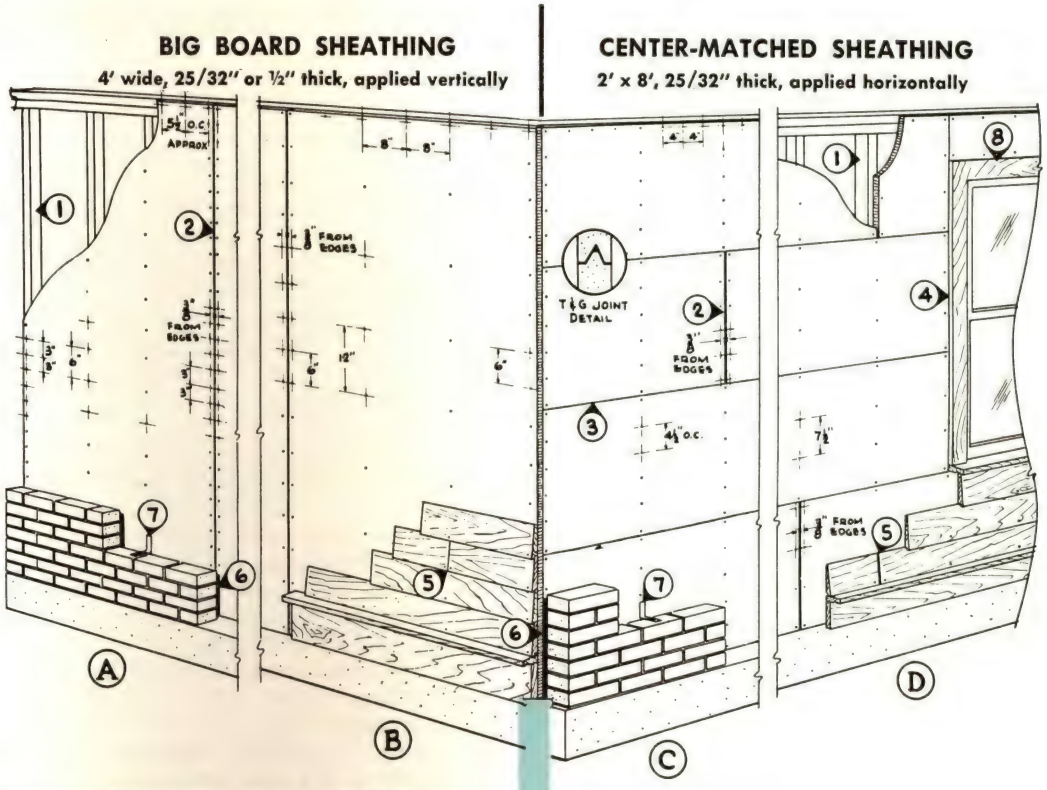
25/32" Celotex Insulating Sheathing, 4' wide, applied vertically *without corner bracing*, greatly exceeds racking strength requirements established in FHA Technical Circular No. 12 (racking strength at least equal to horizontally-applied wood sheathing with let-in bracing is minimum requirement). Structural bracing strength of all types of Celotex Insulating Sheathing exceeds that of conventional sheathing. Corner bracing may be omitted with ½" 4' wide Big Board or 25/32" Celotex Insulating Sheathing unless required by local regulations.



IMPROVED V-TYPE JOINT ON CENTER-MATCHED

Note wide, strong shoulders protecting groove; also tapered, square-end tongue. Snug, wind-tight. Tapered design permits rapid, easy fitting.

DOUBLE-WATERPROOFED INSULATING SHEATHING



TYPES, THICKNESSES AND SIZES

Big Board: 25/32" or ½" thick, 4' wide, 8', 9', 10' and 12' long, edges square. **Center-Matched:** 25/32" by 2' x 8', V-type tongue-and-groove joints on long edges, short edges square.

(Numbers and letters below are keyed to drawing above)

1. Erect framing 16" o.c. for both ½" and 25/32" Sheathing. Provide headers at ends of Big Board Sheathing.

2. Allow ⅛" space between adjoining Big Boards and between ends of Center-Matched Sheathing. Boards are cut scant for this allowance. Surface of Big Board Sheathing is nail-marked along vertical edges and intermediately 16" o.c. Big Board Sheathing should extend from sill to top plate. See standard application in Panels (A) and (C).

3. Apply Center-Matched Sheathing with tongue up. Set tongue-and-groove joints securely together and stagger end joints in successive courses.

4. Bring Sheathing units to close contact with frame around windows and doors where a snug joint is desirable.

5. Ends of wood siding should fall over center lines of studs. When ends fall between studs, use special clip fasteners on back side at joints.

6. Allow ½" minimum air space between masonry veneer and Sheathing.

7. Under masonry veneer, apply non-corrosive metal ties at rate of one tie to every 160-260 square inches of wall area, nailing through Sheathing into studs with 1" nail penetration. No building paper, unless required under local regulations.

8. Sheet metal or prepared roofing flashing should be provided over casings of all windows and doors.

Corner Bracing—Celotex 25/32" Big Board Sheathing may be used without diagonal corner bracing on studs spaced 16" o.c. when nailed as indicated in Panel (A) where this construction complies with minimum property requirements of Regional FHA Offices and local building regulations.

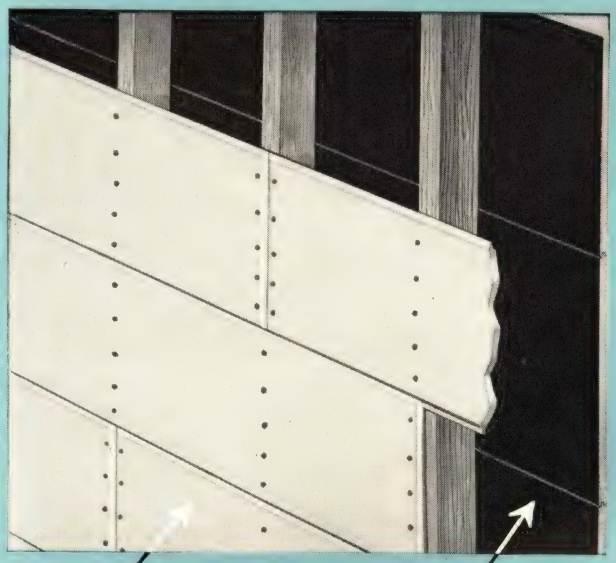
24" Stud Spacing—Celotex 25/32", 4' wide Insulating Sheathing may be used on studs spaced 24" o.c. with corner bracing where this construction complies with Regional FHA minimum property requirements for one-story homes as well as local building regulations.

Wider Nail Spacing—For wood siding and stucco lath secured to framing with nails driven through Sheathing and into studs, spacing of nails may be increased as shown in Panels (B) and (D) except where local building regulations require additional nailing.

Sheathing Paper—Vapor-permeable sheathing paper is not necessary over Celotex Insulating Sheathing unless required by local building regulations. Under FHA Minimum Property Requirements, sheathing paper is required only behind stucco exterior finishes.

Application of Exterior Surfacing—Wood shingles are applied over horizontal wood stripping, spaced to fit shingle exposure. For details on direct application of asbestos shingles, write for Technical Bulletin No. 122. For asbestos shingle application with aluminum accessories, write for Instructions No. 3963. Use of Celotex Backer Board with wood or asbestos shingles is detailed in Folder No. 3054. Application of hardboard siding is described in Folder No. 3606; and details on direct application of insulating siding are offered in Technical Bulletin No. 121.

INSULATING LATH
adds thermal and sound insulation at little cost



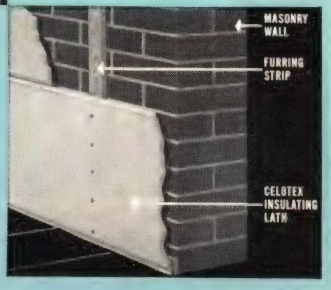
Celotex ½" Insulating Lath Celotex 25/32" Insulating Sheathing

CELOTEX SELF-INSULATING WALL
"U" VALUE=0.15 Btu.

Combines Celotex ½" Lath and 25/32" Insulating Sheathing, eliminating extra expense of furnishing supplementary inner-wall insulation in frame-type construction. Exceeds insulation requirements of FHA in about 90% of areas in United States. A better, stronger, less costly wall with **built-in** insulation.



Celotex Insulating Lath provides strong, solid, continuous plaster base that reduces threat of plaster cracking, yet has natural resiliency to cushion plaster against impact, vibration and framing distortion.



Here's the most economical and practical way to assure adequate insulation in masonry wall construction. Celotex Insulating Lath—used in place of ⅜" gypsum lath — increases insulating efficiency of 8-inch brick wall 27%.

Combines lath and insulation in one material, at one cost. Thermal insulation value is 5 times that of ⅜" gypsum lath; sound insulation value effectively reduces noise penetration from outdoors and sound transmission between rooms. Features plaster-bonding strength almost 200 times plaster weight—930 lbs. per square foot. Vapor-Seal type, with vapor-barrier in form of asphalt coating on back, is used on exterior walls and top-floor ceilings where interior humidity is above normal, or in cold climates, in order to prevent harmful condensation within stud and joist spaces.



EXTRA STRONG JOINTS

Shiplapped long edges slide easily into place, fit snugly. Beveling of all face edges adds extra plaster thickness at joints.

TYPES, THICKNESS AND SIZE

Regular and Vapor-Seal: ½" thick, 18" x 48".

APPLICATION—General
(See detailed instructions with shipment)

Do not moisten Lath during application or before plastering. Apply on framing 16" o.c. with beveled edges exposed and long edges at right angles to framing. Start at top of wall with back flange of shiplapped edge down. Stagger end joints and center over framing. Bring joints to moderate contact. Nail to each framing member with 5 nails (1⅛" No. 13 gauge blued insulation lath nails or 1½" 4d box nails) spaced 4½" apart, ⅜" from end edges, ½" from shiplapped edges. Staple metal corner beads and angle strips over Lath. Apply plaster in three coats, scratch, brown and finish, to full ½" thickness. Use quick-setting high strength plaster, setting in not less than 1½ hours and not over 3 hours. Apply standard gypsum cement plaster or gypsum wood fibered plaster for scratch and brown coats, mixed to manufacturer's specifications. Ventilate adequately until plaster dries out.

BUILDING BOARD
for large-panel insulated construction

Large interior wall and ceiling areas are covered quickly—one unit applied vertically on wall offers floor-to-ceiling coverage. Panels are applied to existing interiors as well as basic framing in new construction. They build, insulate and decorate in one application. Strong, rigid, lightweight and highly adaptable.

THICKNESSES, SIZES, FINISH		
½" Building Board Square Edges	4' wide x 6', 7' 8', 9', 10', 12' long	White Finish
1" Building Board Square Edges	4' wide x 8' long	White Finish

APPLICATION—General

(See detailed instructions with shipment)

Take units from bundles and air for 24 hours in room of application. Nail to framing (studs, joists, furring strips if over plaster or masonry) 16" o.c. at intermediate members first, spacing nails 6" apart; then nail at edges, spacing nails 3" apart and ⅜" from edge. With ½" units, use 1¼" galvanized finishing nails; with 1" units, use 1¾" nails. Bring units to moderate contact, centering joints over framing members. Drive nails at angle and set flush. Where nails are to be covered (with battens, mouldings, paint or wall covering) drive slightly below surface—here use 1½" galvanized shingle, roofing or box nails with ½" units and 1¾" nails with 1" units.



Lightweight Building Board is easily, quickly applied. Since the product comes pre-decorated, room occupancy can begin as soon as the last panel is installed.



This dining-room features a wall of painted Building Board. Far-wall panels are factory white. Long edges of units are beveled to provide V-joints. Ceiling: Tile Board.



Building Board is the finish for rafter slope, knee- and dormer-walls of this attic room. Edges are V-joint beveled. Ceiling and end wall: Tile Board and Finish Plank.



This formerly unfinished second floor has been attractively completed—at low cost—with Building Board. Long edges are beveled to form smart V-joints.

TILE BOARD • FINISH PLANK
build, insulate, decorate in one application

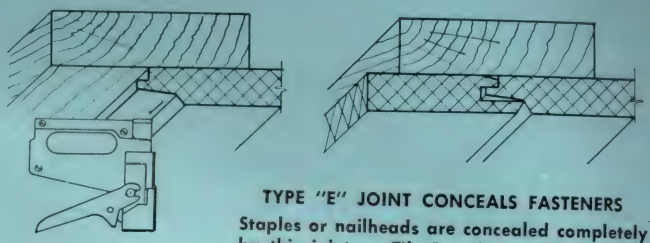


Walls of this recreation room are Blue-Green and Sierra Rose Finish Plank. Bar and booth: Celotex Hardboard. Ceiling: white Tile Board.



Interesting patterned surfaces, Ripple Blend Finish Plank on walls and white Tile Board on ceiling, give this multi-purpose room informal charm.

Pre-decorated panels that are not just surface-coated—their finishes are made an integral, permanent part of their composition by being embedded by the application of heat and pressure. Celotex Tile Board and Finish Plank (except Perforated Tile Board, and No. 78 Finish) have Flame-Resistant-Finished Surfaces, meeting Class F Requirements of Commercial Standards CS-42-49.



TYPE "E" JOINT CONCEALS FASTENERS

Staples or nailheads are concealed completely by this joint on Tile Board and Finish Plank. Fits in place easily, interlocks panels securely. Use of stapler cuts application time up to 50%.

THICKNESSES, SIZES, FINISHES

½" Tile Board Type "E" Joint (Plain)	12" x 12", 12" x 24"* 16" x 16", 16" x 32"*	No. 118 Sculptured White, No. 117 Linen White, No. 114 Sierra Rose, No. 112 Blue-Green, No. 78 Ripple Blend
½" Tile Board Type "E" Joint (Perforated)	12" x 12" 12" x 24"**	No. 117 Linen White
½" Finish Plank Type "E" Joint	8", 12", 16" wide x 8', 10' long	No. 117 Linen White, No. 114 Sierra Rose, No. 112 Blue-Green, No. 78 Ripple Blend

*Available also in TWINTEX† Tile Board, with cross-score for square tile appearance.

**TWINTEX type, with cross-score.

(*NOTE:* NOT ALL SIZES AVAILABLE IN ALL FINISHES—See Current Price List)

†Trade Mark

APPLICATION—General

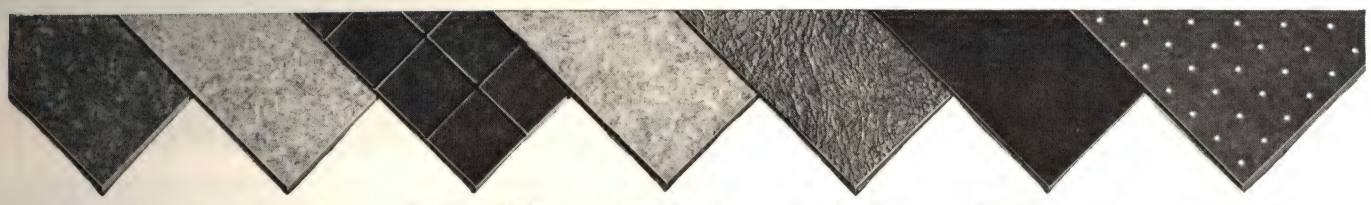
(See detailed instructions with shipment)

Air units in room for 24 hours. Make layout to treatment desired. Start application at corner of area (if Celotex Wood Starter Strip is used with Tile or Plank, start application at center). Apply Tile or Plank to *cross-furring* on framing. With smaller Tile, space strips 12" o.c. For larger Tile on ceiling, space strips 8" o.c. With vertical Plank on wall, space strips 12" o.c. For horizontal Plank on wall, space strips to width of units. Staple or nail through tongues, using 9/16" cement-coated staples or 1" No. 17 flat head brads. With Tile, space staples or nails 4" o.c. With Plank, space staples or nails according to furring and 12" o.c. on furring in horizontal applications of Plank or on continuous backing. In applying Tile on continuous surfaces use Celotex No. 1 Heavy Body Adhesive with 2" to 3" daubs at each corner and at intermediate locations 10" apart, plus stapling or nailing at each corner. With Plank, lay ribbons of adhesive 2" to 3" wide along edges, with intermediate ribbon on wider units, plus stapling or nailing at each corner and intermediately through tongues. On continuous wood backing Tile and Plank are secured sufficiently by nailing only.

CELOTEX
REG. U. S. PAT. OFF.

HARDBOARDS

rigid, durable, pressed wood fiber



Tempered | Regular | Hardboard Tile (Tempered) | Panel Board | Leather-Grain (Tempered) | Black Tempered | Perforated

Non-insulating boards that are strong, scuff-resistant and moisture-resistant. Take any decoration. Preferred by professional builders and homecraftsmen alike for many kinds of indoor and outdoor applications. For application and finishing instructions, write The Celotex Corporation.

TYPES, THICKNESSES, SIZES

REGULAR—Smooth face, screen back. Natural brown. 4' wide. 1/10" thick, 12' long; ⅛", 3/16", ¼", 5/16" thick, lengths to 12'. ⅛" and 3/16" S1S or S2S.

PANEL BOARD—Similar to Regular, only less dense. 4' wide. 3/16" and ¼" thick, 8', 10', and 12' long.

TEMPERED—Impregnated with special tempering compound. Brown. 4' wide. 1/10" thick, 12' long; ⅛", 3/16", ¼", 5/16" thick, lengths to 12'. 1/8", 3/16" and ¼" S1S or S2S.

BLACK TEMPERED—Clear-through black finish. 4' wide. 1/10" thick, 12' long; ⅛" thick 6', 8', 10' and 12' long.

TILE (Tempered)—Scored 4" square pattern. Brown, with smooth back. 4' wide. ⅛" thick, 6', 8', 10' and 12' long.

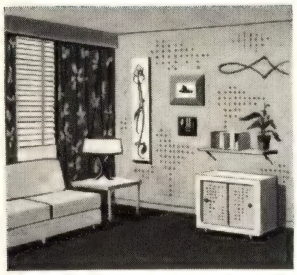
LEATHER-GRAIN (Tempered)—Distinctively textured, natural brown finish simulates Spanish-grained leather. 4' wide. ⅛" thick, 6', 8' and 12' long.

UNDERLAYMENT—Applied on wood sub-floor to furnish smooth, solid base for resilient flooring materials. Brown. .215" thick, 3' x 4' and 4' x 4'.

PERFORATED HARDBOARD—Functional wall panels with holes drilled on 1" centers. Metal fixtures available for hanging objects on perforated area. Tempered (S1S or S2S), Black Tempered and Leather-Grain types, ⅛" thick; also Tempered S1S, ¼" thick. 2', 3', 4' widths; lengths to 8'.

CELOTEX HARDBOARD WIDE SIDING

An outstanding hardboard product that combines the beauty of lap-siding with the advantages of *tempered hardboard*. Paints readily. Appearance is long-lasting, with minimum upkeep. Thicknesses; ¼", 5/16". Widths: 12", 16" or 24". Lengths: 8' to 16'. For complete application instructions, write The Celotex Corporation for Technical Bulletin No. 120.



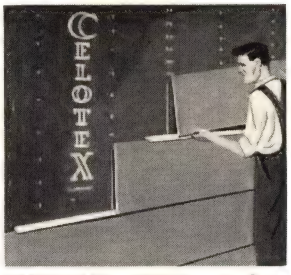
PERFORATED HARDBOARD—Decorative, practical. Wasted wall space is made useful.



KITCHEN, LAUNDRY WALLS—Hardboard Tile, surface-scored at factory in 4" squares.



BUILT-INS—Regular Hardboard, with Tempered Hardboard for extra strength.



HARDBOARD SIDING — Modern wide-widths. Presents grainless, easily painted surface.

APPLICATION—General

(See detailed instructions with shipment)

Celotex Hardboards may be applied easily and rapidly to wood framing, furring, continuous wood or sound plaster.

Apply Hardboard to framing or furring strips 16" o.c. or to continuous bases, wood or plaster. In applying to wood framing or furring strips nail first at intermediate bearings, using 1½" finishing nails spaced 6" apart; at edges, space nails 4" apart and ¼" from edge. Countersink nails and touch up with plastic wood.

In applying to sound continuous surfaces first spread Celotex No. 2 Light Body Adhesive over entire back surface of unit. Immediately after spreading adhesive, place unit in position. Press and tap entire surface so that unit is firmly in place. After unit is set, it should be braced or supported overnight to insure solid contact. Where possible, use supplementary nailing. Drive 1¼" brads to penetrate into framing, spacing brads 12" to 16" in each direction.

BLANKETS and HAND-POURING TYPE for speedy insulation of ceilings, walls and floors



Hand-pouring type offers an easy method of insulating unfloored attic. Should be applied on vapor-barrier paper.



Stapler simplifies application, specially overhead. Self-spacing flanges permit easy application to joists, studs, rafters.



Pre-cut eight-foot lengths are ideal for rapid wall installation. Vapor-barrier with stapling flanges faces warm- or room-side.

Celotex Spun Rock Wool is one of the most effective insulating materials known to science. It has a low thermal conductivity rating of 0.27 Btu per inch thickness. Tests have shown that such insulation, in full-thick blankets, of ceilings and side walls can reduce fuel costs as much as 40%. Made from rock which is melted at temperatures approximating 2600° Fahrenheit and then spun by live steam into fine, springy fibers. Integrally waterproof—fireproof—uniform—permanent.

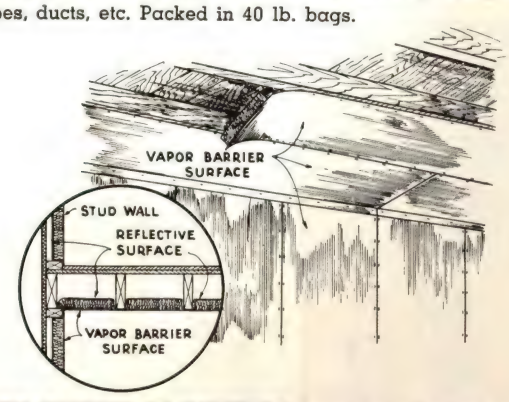
TYPES, THICKNESSES, SIZES

SPUN ROCK WOOL BLANKETS—An improved, resilient product, paper-encased for clean, easy handling and secure installation. Vapor-barrier face is flanged for stapling or nailing. Full- or semi-thick. Sizes: 15" x 24", 15" x 48", 15" x 96". Utility Blanket: 15" x 96".

REFLECTIVE SPUN ROCK WOOL BLANKETS—Two efficient forms of insulation, and vapor-barrier, in one product. Encased rock wool blanket retards flow of conductive heat; the non-corrosive Silvercote* reflective surface, on cold side opposite vapor-barrier surface, reduces flow of radiant heat. Sizes: Standard Thickness (about 2"), 15" x 96" and 15" x 24".

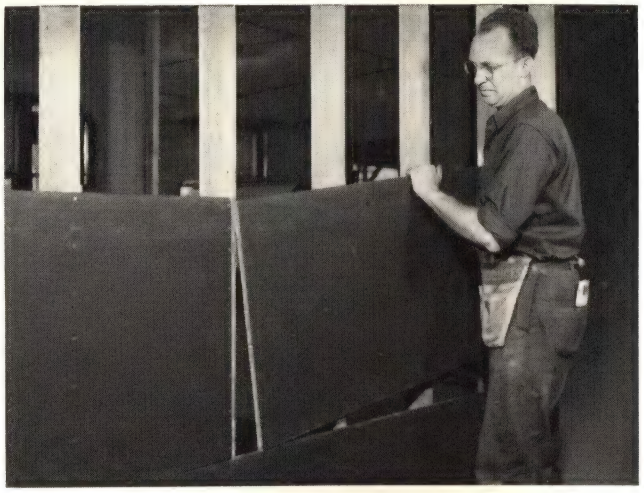
HAND-POURING TYPE—Specially processed into pellets sized for easy pouring directly from bag into open attic between-joist spaces and other areas. Packed in 40 lb. bags.

LOOSE SPUN ROCK WOOL—For hand-packing around pipes, ducts, etc. Packed in 40 lb. bags.



REFLECTIVE BLANKETS have the reflective surface on side faced to outer wall sheathing or roof side of the ceiling. Vapor-barrier surface always faces the room. Flanges on vapor-barrier are stapled or nailed to face of wood framing.

*Reg. U.S. Pat. Off.



CELO-ROK WEATHERPROOF (Core-Treated) SHEATHING

Sturdy, rigid sheathing for frame buildings beneath wood siding, shingles, brick or stone veneer, or stucco. Non-combustible gypsum core is specially treated to repel moisture and is encased in heavy water-repellent paper.

THICKNESS, SIZE

Designed for horizontal application, units are ½" thick, 2' wide and 8' long, with V-type tongue-and-groove joints on long edges.

APPLICATION—General

Apply units, groove down, to framing set 16" o.c. Interlock side edges, stagger vertical joints. Use 1¾" No. 11 ga. galvanized large-head roofing nails spaced 4" apart and ⅜" from ends. Nail spacing may be 8" where exterior finish is secured to framing. Building paper, except under stucco, may be omitted, unless required under local regulations or FHA Standards. Employing special aluminum channels, furring may be omitted in asbestos shingle application *(write The Celotex Corporation for details).*

CELO-ROK ANCHOR LATH

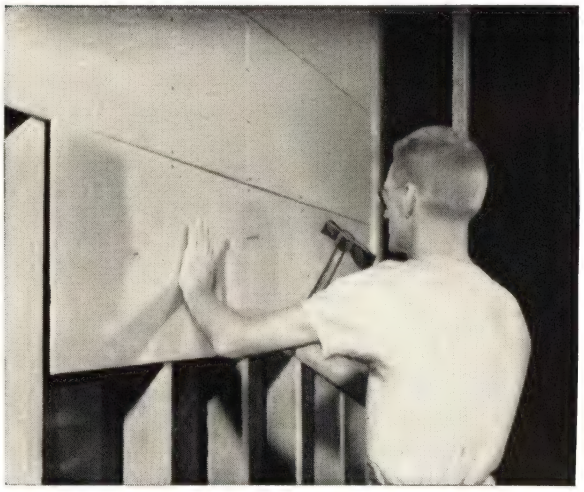
Gypsum plaster base in fibrous paper covering. Perforated Lath and plaster on walls and ceilings (ceilings with ⅜" head nails and striplath-covered joints) provide 1 hr. fire rating. Increased fire resistance is obtainable with Celo-Rok Plastolite† Plaster.

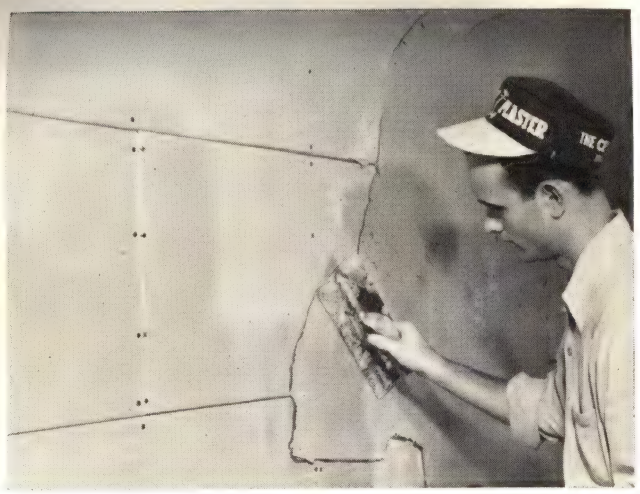
TYPES, THICKNESSES, SIZES

Plain or Perforated: ⅜", ½" thick, 16" x 48"; long edges rounded, paper-covered; short edges cut square. *Foil-Backed Lath:* ⅜", ½" thick, 16" x 48"; aluminum-foil back forms vapor-barrier, adds insulation value. *Long-Length Lath:* ½" thick, 24" x 7', 8', 9', 10', 12'; T&G long edges; used to construct 2" solid lath and plaster partitions.

APPLICATION—General

Apply to framing set 16" o.c., using 1⅛" No. 13 ga. blued lath nails with 19/64" head. Space nails 5" o.c., ⅜" from edges. (Fire-resistive rated constructions may require five 1⅛" No. 13 ga. blued lath nails with ⅜" head per support.) Apply units long edges across framing. Stagger end joints. Provide Cornerite at interior angles, fastening occasionally, and corner beads at exterior angles, nailing to framing. For diagonal reinforcement at door and window frames, use 4" minimum width strips of expanded metal lath.





CELO-ROK PLASTERS

Celotex manufactures a complete line of highest grade gypsum plasters. These insure smooth, hard, seamless surfaces of exceptional durability and beauty. Excellent base for any type decoration.

TYPES

Basecoat Plasters: Neat Cement Plasters, Fibered, Double-Fibered, Unfibered; Wood Fiber Plaster; Plastolite (Perlited); Concrete Bond Plaster. *Finishing Plasters:* Gauging Plasters, White and Local; Keene's Cement; Prepared Gypsum Finishes, Trowel Finish and Sand Float; Moulding Plaster, White and Local Grades, quick set and slow set. *Limes:* Hydrated Finishing Lime (Regular); Hydrated Finishing Lime, Autoclaved; Hydrated Mason's Lime.

†Trade Mark

CELO-ROK GYPSUM WALLBOARD
for low-cost, quickly-erected ceilings and walls



Use of T-brace simplifies ceiling erection. Broad areas are covered speedily by large wallboard units.



(A) Insulated 2-layer construction, with Celo-Rok Tapered Edge Wallboard applied "horizontally" on Celotex Building Board.



(B) This laminated construction is recommended for *all* ceiling and wall applications where greater rigidity plus insulation is desired.

TYPES, THICKNESSES, SIZES

Regular—Gypsum core panels (core is non-combustible) encased in smooth, durable covering. Ivory-finished face paper takes paint or wallpaper ideally (apply varnish wall size when wallpaper is used). Tapered Edge, Square Edge or Beveled Edge units. On long edges of Tapered Edge units, a slight taper about 2" wide allows for application of Celo-Rok Joint Reinforcing System or Celo-Rok Dry Wall Finish (as joint cement) with tape; produces smooth, seamless wall or ceiling, ready for paint or wallpaper. Thicknesses: ¼", ⅜", ½". Sizes: 4' x 6', 7', 8', 9', 10', 11', 12'.

Fi-Rok†—Has all advantages of Regular Wallboard, plus specially formulated gypsum core which provides increased fire resistance. Tapered Edge. Thicknesses: ½" (45 min. fire-rated; ⅝" (60 min. fire-rated). Sizes: 4' x 8', 9', 10', 12'.

Foil-Backed—Reflective aluminum foil, laminated to back of Regular Wallboard, provides vapor-barrier and added insulation value. Tapered Edge and Square Edge. Thicknesses: ⅜", ½". Sizes: 4' x 6', 7', 8', 9', 10', 12'.

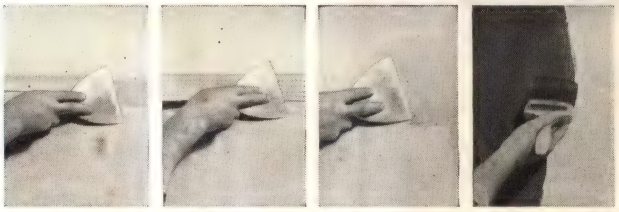
Wood-Grained—Face-covered with paper covering printed to reproduce natural graining and color-tones of actual Planked Walnut, Bleached Mahogany or Knotty Pine. Square Edge, except Mahogany, which has Beveled Edges. Thickness: ⅜". Sizes: 4' x 6', 7', 8', 9', 10', 12'.

APPLICATION—General

(See detailed instructions with shipment)

Set framing 16" o.c. for ¼" and ⅜" units and not more than 24" o.c. for ½" units when applied horizontally. Install headers for support of all fixtures and cut ends of board. No headers required at wall and ceiling intersections or behind horizontal joints reinforced by Celo-Rok Joint Reinforcing methods except when ¼" board is used. Apply Tapered Edge units with long edges across framing and Square Edge units with long edges parallel to framing. Erect ceiling first. Then, starting at end of one wall, work around room. Bring units to moderate contact. Stagger joints, leaving no vertical joints on same stud on opposite sides of partition. With ¼" and ⅜" units, use 4d nails 1⅜" long; with ½" units, use 5d nails 1⅝" long; with ⅝" units, use 6d nails 1⅞" long. On intermediate and end supports space nails 6" to 8" apart on walls and 5" to 7" apart on ceilings, and a minimum ⅜" from edges. Drive nails to form slight "dimple" around heads. With Square Edge units, leave edges exposed or cover with battens or mouldings; with Tapered Edge units, use Celo-Rok Joint Reinforcing System or Celo-Rok Dry Wall Finish (as joint cement) with tape. Touch up nail depressions with joint cement or finisher cement.

CELO-ROK JOINT REINFORCING SYSTEM or Dry Wall Finish (as Joint Cement) With Tape



1. "Valley" formed by tapered edges is buttered with joint cement.

2. Perforated reinforcing tape then is pressed into joint cement.

3. Two thin coats of joint finish are applied and feathered out about 12".

4. Sealer applied to joint and surface before painting or papering.

†Trade Mark

CELOTEX
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ASPHALT ROOFING

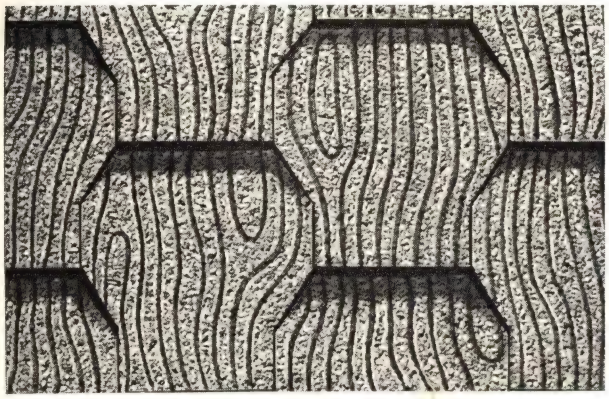
colorful beauty • long life
maximum protection • low cost



Thick Butt Shingle



3-Tab Hexagon Shingle



Sta-Lock† Double-Coverage Shingle

A complete line of asphalt shingles and roll roofing products, manufactured under the exclusive Celotex Triple-Sealed Process. Shingles and roll roofings are made of heavy felts, asphalt-saturated and surfaced with granules in beautiful colors and blends, with plain and textured finishes. Mineral-surfaced products are fire-resistant and carry Class "C" label of the Underwriters' Laboratories, Inc.

REPRESENTATIVE TYPES

THICK BUTT—A three-tab square butt strip shingle with extra thickness at weather end.
Size—12" x 36". **Headlap**—2". **Exposure**—5".
Slabs per square—80. **Bundles per square**—3.
Approx. weight per square—215 lbs. and 250 lbs.
Colors—Evergreen, Black, Pacific Gray Blend, Terra Cotta Red Blend, Cedar Green Blend, Mediterranean Blue Blend, Walnut Brown Blend, Gray Slate Blend, Spanish Red, Shell White, Silver Blue Blend, Coral Blend, Silver Gray, Bronze Blend, White, Pine Frost Blend, Driftwood Gray Blend. Plain and textured finishes.

SQUARE TAB—A strip shingle applied with minimum tab exposure for added wind resistance.
Size—10" x 36". **Headlap**—2". **Exposure**—4".
Slabs per square—100. **Bundles per square**—3.
Approx. weight per square—215 lbs.
Colors—Cedar Green Blend, Terra Cotta Red Blend, Pacific Gray Blend, Coral Blend, Bronze Blend, Walnut Brown Blend, Gray Slate Blend. Plain and textured finishes.

STA-LOCK†—Double-coverage interlocking shingle, specially effective in high wind areas.
Size—18½" x 20". **Headlap**—3½". **Sidelap** 4".
Singles per square—120. **Bundles per square**—3.
Approx. weight per square—230 lbs.
Colors—Evergreen, Terra Cotta Red Blend, Cedar Green Blend, Mediterranean Blue Blend, Pacific Gray Blend, Coral Blend, Pine Frost Blend. In textured finish only.

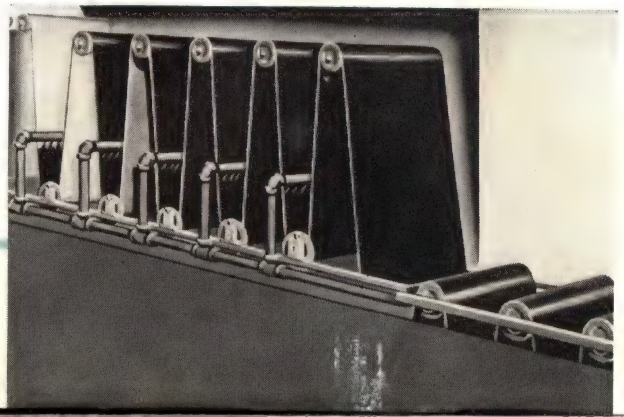
STANDARD STA-LOCK†—A dependable lock shingle at an economy price.
Size—18½" x 20⅛". **Headlap**—2". **Sidelap**—3".
Shingles per square—96. **Bundles per square**—2.
Approx. weight per square—170 lbs.
Colors—Cedar Green Blend, Evergreen, Coral Blend, Pacific Gray Blend, Terra Cotta Red Blend, Mediterranean Blue Blend, Bronze Blend, Driftwood Gray Blend. Plain and textured finishes.

HEXAGONS—Strip shingles for lower cost construction.
Size—11⅓" x 36". **Headlap**—2". **Exposure**—4⅔".
Slabs per square—86. **Bundles per square**—2.
Approx weight per square—167 lbs.
Colors—Silver Gray, Evergreen, Gray Green, Spanish Red, Black, Terra Cotta Red Blend, Cedar Green Blend, Mediterranean Blue Blend, Driftwood Gray Blend. Plain and textured.

†Trade Mark

CELOTEX TRIPLE-SEALED PROCESS

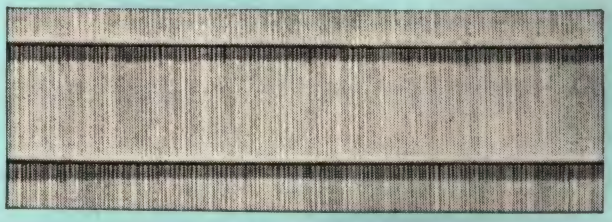
To produce roofing with superior wearing qualities, Celotex developed this process (drawing, right): **Inner-Sealed**—base felt is saturated with special asphalts applied from *one side only* to force out moisture and prevent formation of bubbles or blisters. **Outer-Sealed**—saturated felt is immersed in asphalt to seal all surfaces against moisture. **Face-Sealed**—an extra protective coating of heavy, mineral-stabilized asphalt is applied for greater weather-resistance and to provide base for granules.



BRICK, STONE and OVERLAP SIDINGS
sidewall insulation with rugged granule finish



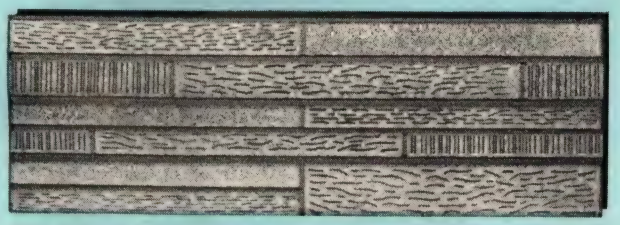
SHADOWLAP*



SHADOWGRAIN*



CELOBRIC*



LITE-LINE CELOSTONE*

Strong, rigid, lightweight panels for low-cost new construction and resurfacing existing frame walls. *(Overlap types, Celotex ShadowLap* and ShadowGrain* Insulating Sidings, have FHA acceptance for new construction over fiberboard, gypsum and wood sheathing.)* Made from Celotex cane fiberboard, surface-impregnated with special asphalt and topcoated with heavy mineral-stabilized asphalt in which colored granules are embedded. These Sidings form an exterior that simulates shake or overlap shingles, or brick or stone—an exterior that is weather-tight—requires no painting or maintenance—that gives the wall a continuous cover of insulation.

Shake or overlap type:

SHADOWLAP* and DEEPTONE SHADOWLAP PANELS—Reversible panels in 11", 12" and 14" widths. *Colors:* Silver White, Cedar Brown, Pastel Green, Salmon, Mint Green, Blue Gray, Brown, Green, Forest Green, Rustic Red, Meadow Brook Green, Colonial White, Bermuda Coral, Sun Tan, Pine Frost Green, Wedgewood Blue.

SHADOWGRAIN* PANELS—Reversible. 11" width. In attractive Silver White.

Brick and stone patterns:

CELOBRIC* PANELS—Size: 13-15/16" x 43-7/16". All edges shiplapped. *Colors (with black mortar line):* Textured Red, Textured Red Blend, Untextured Buff Blend, Textured Buff Blend, Textured Gray Blend. **Lite-Line Celobric:** Textured Red Blend or Buff Blend with colored mortar lines.

LITE-LINE CELOSTONE* PANELS—Size 13-15/16" x 43-7/16". All edges shiplapped. Textured Gray or Green blend with colored mortar lines.

*Reg. U.S. Pat. Off.

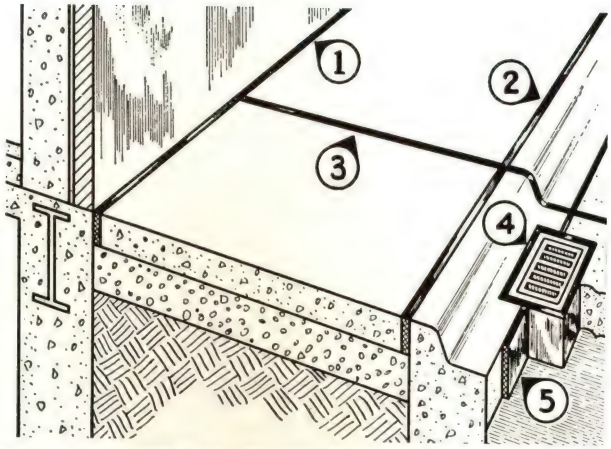


These homes, in Mount Holly, New Jersey, development, feature Celotex ShadowLap Insulating Siding.

FLEXCELL

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EXPANSION JOINT FILLER and PERIMETER INSULATION



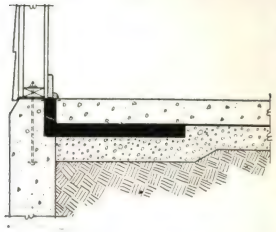
TYPICAL USES OF FLEXCELL EXPANSION JOINT FILLER—(1) between structure and pavement (2) (3) (5) in sidewalks, curbs and roadways (4) isolating inserts in concrete.

This product is made from cane fiberboard impregnated with a selected asphaltic compound. Water-repellent, durable — stands up under extreme service and climatic conditions. As joint filler, it is *non-extruding* because its unique air-cellular structure absorbs compression from surrounding slabs; it is *resilient*—tests show that when compressed to 50%, Flexcell board re-expands to upwards of 70% of original thickness. Bonds to concrete—joints are kept closed, with no gaping crevices. Qualities of resilience, moisture-resistance and insulation ideally adapt Flexcell board to use as perimeter insulation, sill and plate sealer.

SIZES, THICKNESSES

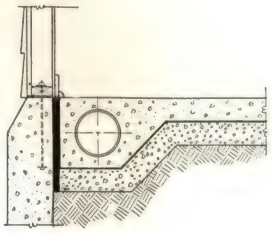
10' lengths by 4", 5", 6" and 8" widths in ½" thickness. Larger sizes available: 3' x 10' and 4' x 10' in all thicknesses—¼", ⅜", ½", ¾" and 1".

PERIMETER INSULATION



For Concrete Slabs at Grade—Flexcell board is applied along edge or perimeter of floor and extended two feet under floor as border. If radiant heating coils are located in slab, Flexcell board should be used under entire heated floor area for increased comfort, warmer floors, and less heat loss.

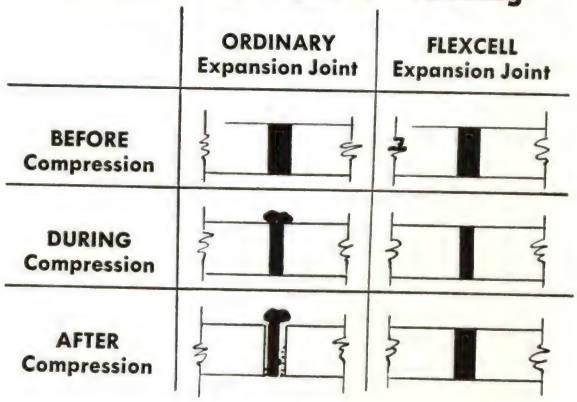
For Floors With Perimeter Warm Air Heating—Flexcell board, as indicated in drawing, will contribute toward a warmer floor by reducing heat loss at the heated perimeter.



Recommended Thicknesses

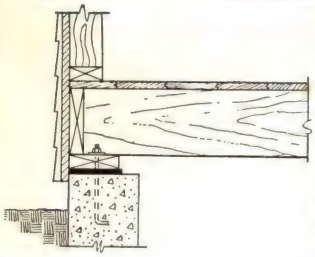
Heating Design Temperature	No Floor Heating	With Floor Heating
—20 F.	1"	1½"
—10	1"	1½"
0	¾"	1"
10	¾"	1"
20	½"	¾"

Flexcell Board is Non-Extruding



Suggested Spacing and Thickness of Joint

Joint Spacing in feet	10 to 20	20 to 30	30 to 50	50 to 70	70 to 100
Recommended Thickness of Joint Filler	¼"	⅜"	½"	¾"	1"



SILL SEALER in Frame Construction—Flexcell board in the ½" thickness forms an excellent seal between building foundation and sill. Its resiliency permits it to conform to irregularities at top of foundation like gasket. Protects sill against moisture.

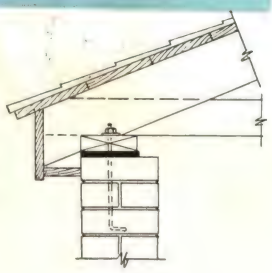
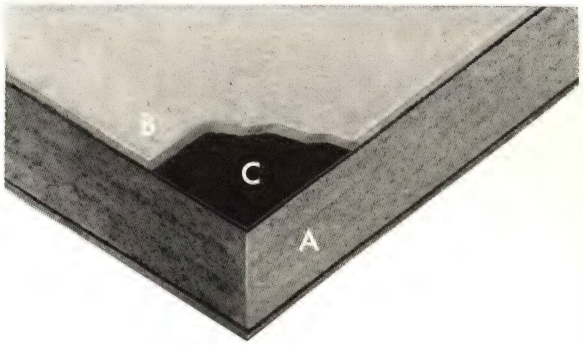


PLATE SEALER on Masonry Wall—Here's an effective way to seal top of masonry wall against wind infiltration. A ½" thickness of Flexcell board, placed between wood plate and top of wall, makes snug joint.

CEMESTO STRUCTURAL INSULATING PANELS

multi-purpose panels for exterior walls, partitions and roof decks



Cemesto Panels are a job- and time-proved structural insulating material, consisting of **(A)** a core of laminated cane fiber insulation board, **(B)** surfaces of incombustible, natural gray-white cement-asbestos board, and **(C)** moisture-proof, highly vapor-resistant bituminous adhesive that bonds the cement-asbestos surfaces to the core. *In a single thickness* they provide structural strength and insulation, plus maintenance-free (if left unpainted) and fire-resistive exterior and interior finish. Can be attached to wood or metal framing by nails, screws, bolts or clips. Ideal for walls, roof decks (finished ceiling if left exposed) and partitions for low-budget, quickly-erected homes and commercial and industrial structures. Used for nearly a quarter-century in all types of permanent structures in varying climates all over the world. Write The Celotex Corporation for housing and design details Folder No. 7419-B showing application of Cemesto Panels in home building.

THICKNESSES, SIZES

11/16", 1⅛", 1 9/16" and 2" thick, 4' wide x 6', 8', 9'*, 10' and 12' long. 11/16" thickness available in 4' x 8' size only. Special sizes in all thicknesses available on special order.

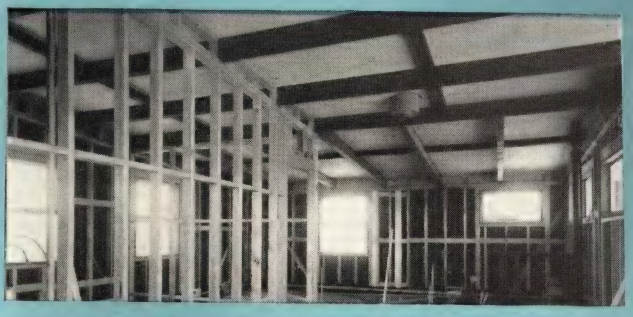
**Not available in 2" thickness.*



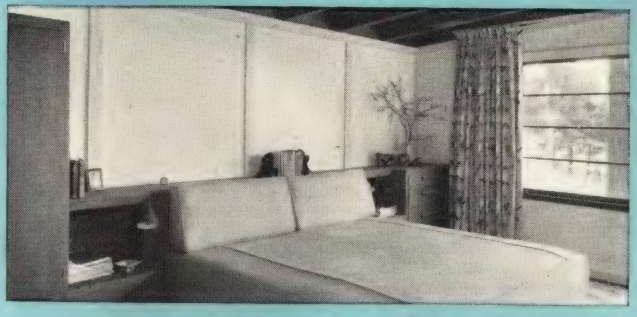
Large Cemesto Panels, extending from sill to top plate, provide single-thickness walls specially adapted to ranch-style design.



(A) Cemesto Panels are laid quickly and easily for roof decks.



(B) Deck of (A), when left exposed, makes attractive finished ceiling—no painting required



Charm of modern simplicity is realized in this bedroom with walls of multi-purpose Cemesto Panels.



Cemesto Panels, blended with collateral materials, lend unusual distinction to this striking tri-level home.

CELOTEX

REG. U. S. PAT. OFF.

STRUCTURAL INSULATION

and other building products

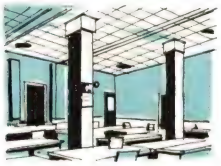
GENERAL OFFICES

THE CELOTEX CORPORATION
120 South La Salle Street
CHICAGO 3, ILLINOIS

BRANCH SALES OFFICES

ATLANTA 3, GEORGIA
BOSTON 16, MASSACHUSETTS
CHICAGO 4, ILLINOIS
CINCINNATI 2, OHIO
CLEVELAND 14, OHIO
DALLAS 1, TEXAS
DENVER 2, COLORADO
DETROIT 26, MICHIGAN
KANSAS CITY 6, MISSOURI
LOS ANGELES 17, CALIFORNIA
MINNEAPOLIS 2, MINNESOTA
NEW ORLEANS 12, LOUISIANA
NEW YORK 16, NEW YORK
PHILADELPHIA 2, PENNSYLVANIA
PITTSBURGH 19, PENNSYLVANIA
ST. LOUIS 5, MISSOURI
WASHINGTON 5, DISTRICT OF COLUMBIA
LONDON, ENGLAND

SOUND CONDITIONING PRODUCTS



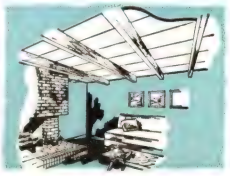
Acoustical materials that provide sound conditioning and interior finish for offices, schools, hospitals, churches, auditoriums, restaurants, bowling alleys, factories, homes and other buildings. In every part of the United States there is a franchised distributor-contractor for installation of Celotex Acoustical Products.

ROOF INSULATION



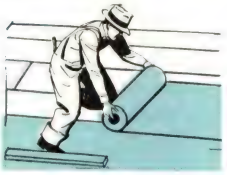
Cane fiberboard products specially designed for application under built-up roofing. Four types — Preseal, Preseal "30", Channel-Seal and Regular. Laid over wood, steel or concrete roof decks, Celotex Roof Insulation reduces fuel costs in winter and air-conditioning expense in summer, promotes year 'round interior comfort.

CELOTEX INSULATING ROOF SLABS



Rigid cane fiberboard Slabs which, when applied, provide structural roof deck, insulation and finished ceiling (when left exposed in open beam construction). Underside is smooth white. Exterior side is protected by roofing. For details of application in specific areas, write The Celotex Corporation.

ASPHALT ROLL ROOFING



Tough, waterproof, easily-applied roofing for pitched roofs. Lasting protection and attractive appearance at lowest cost. Mineral- or smooth-surfaced. Also Asphalt-Saturated Felts, Roof Coatings, Roof Cements, Roofing Asphalts, Sheathing Papers and Slater's Felt.

CELO-SIDING* FOR FARM BUILDINGS, GARAGES, COTTAGES, ETC.



Strong, rigid, granule-surfaced panels that apply directly to framing in new construction. Sheathing, insulation and appealing exterior finish—all in one material at one cost. No painting—no maintenance. Green colored granules.

*Reg. U.S. Pat. Off.

9-54—4026E

Printed in U.S.A.

A.I.A. File No. 23-L

The Bubble is our Star Salesman



Weatherproof HOMASOTE Insulating-Building BOARDS

—in sizes up to 8′ x 14′

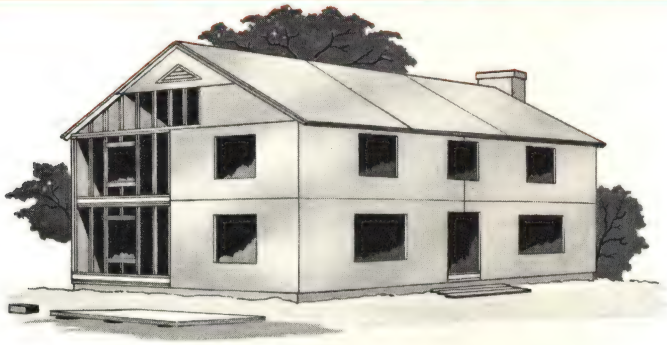
—in a variety of forms and thicknesses

HOMASOTE COMPANY

TRENTON 3, NEW JERSEY

A.I.A. File No. 23-L

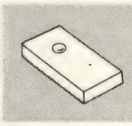
15/32" HOMASOTE



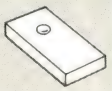
Homasote boards are weatherproof; they are highly moisture-resistant. When a prospective purchaser challenges these statements, our representative puts a sample of the board on his desk — and pours a small amount of drinking water onto it. The bubble, thus formed, remains there throughout the conversation. Allowing only for an extremely dry room, the bubble is essentially unchanged when the prospect returns to his office the next day. A good many customers have found this an interesting fact.

We would like to send you a sample and ask you to make this test for yourself. After which — you can also test it for strength, nail-holding, sound-deadening, or any other property that has a bearing on your immediate requirements.

15/32" Homasote is the oldest and strongest *insulating-building board* on the market — proved by many years of service in all extremes from Alaska to Tropical Africa to Little America. With its unusually low moisture absorption, low rate of air infiltration and low rate of water penetration, Homasote provides the maximum in lasting insulation value and full protection against dampness. (For a new understanding of insulation values, let us send you the data on the Wilson Thermal Factor.)



It's WEATHERPROOF
Make your own BUBBLE Test



Use Homasote for roof sheathing, exterior wall sheathing, sheathing under the flooring — for exterior finish — for interior finish of walls and ceilings.

No corner bracing is required when Homasote — in 4' widths or in greater widths up to 14' — is used on jobs under F.H.A. standards. . . . Racking tests prove Homasote sheathing ⅓ stronger than diagonal wood sheathing.

Homasote will not crack or split, takes any desired finish for either interior or exterior use. It is easy to work, easy to handle — saws and nails like wood. In Big Sheets—up to 8' x 14'—it materially reduces handling and nailing costs.

For 38 years, Homasote has been used for Dry Wall Construction — in millions of dollars of private homes. More than $500,000 in research has been spent to improve prefabrication by the use of Homasote. With Homasote Big Sheets — you have walls that are permanently crackproof, ideal for paper or paint, lending themselves to modern decorating effects, moldings and trim.

On the farm, Homasote has fully proved itself for both residential use and for poultry houses, brooder houses, range shelters and farm buildings of all sizes.



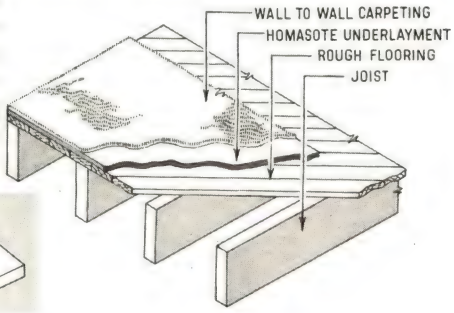
5/8" HOMASOTE TYPE U

5/8" Homasote Type U represents a major improvement in floor covering methods. It is nailed to the rough flooring or cemented directly to the concrete slab (35 days after the concrete is poured). Used under ⅛" rubber, Vinyl or linoleum tile, sheet linoleum or wall-to-wall carpeting, you effect important savings in materials and labor — the floors are warmer and quieter.

When used with either wall-to-wall carpeting or ⅛" linoleum, the resilience and life of the floor covering are greatly increased. The 5/8" thickness of the Homasote Underlayment brings the floor covering up to the height of the normal 25/32" hardwood flooring.

When used with linoleum, the linoleum is cemented directly to the Underlayment; no felt pad should be used. This saves the cost of both the felt and one cementing operation. When used under wall-to-wall carpeting, no pad is needed under the carpeting, saving both materials and labor.

5/8" Homasote Type U is supplied in lightweight 4' x 4' sheets for ease of handling. Weatherproof and permanently crackproof, it has important sound-deadening qualities — presenting a highly efficient barrier to heat and cold that might otherwise pass through the floor. With this major improvement in floor covering method, you save ⅓ to ½ of the cost of the materials usually used for Underlayment . . . We strongly recommend the use of cups under the legs of heavy furniture and appliances to prevent excessive denting of this resilient material.

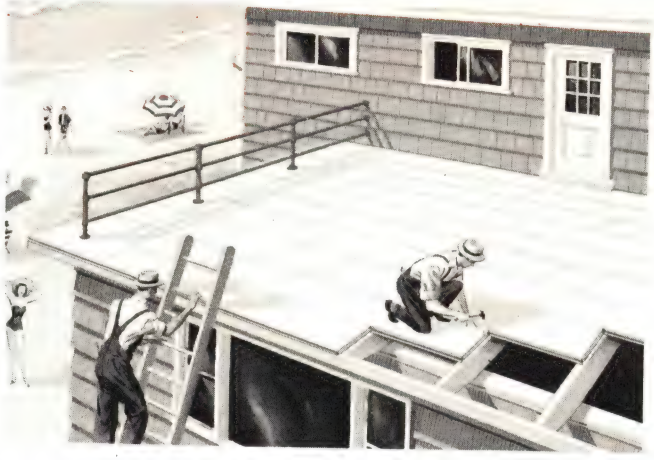


When Homasote Underlayment is laid directly over rough flooring, Homasote Ring Drive Nails #13753 should be used throughout — in the sub-flooring to prevent squeaking; in the Underlayment to prevent working up and making holes in the floor covering. There are 380 nails per lb.

Homasote Adhesive is the *only* material recommended by Homasote Company for use with Homasote Underlayment — for applying Underlayment to concrete slab — for applying ⅛" linoleum or Vinyl sheets or tile to Underlayment. Non-flammable, it is particularly suited to locations where fire-hazards cannot be tolerated. The adhesive never gets entirely hard. It allows the Underlayment to move independently of the floor covering, thereby protecting the floor covering from cracking. (Approximate coverage per gallon: For adhesion of Underlayment to concrete, 50 sq. ft. For adhesion of floor covering to Underlayment, 150 sq. ft.)



21/32" - 15/16" - 1⅜" - 1⅞" HOMASOTE TYPE RD



As roof decking — here is the economical, *new* material for flat, pitched or monoslope roofs. Lightweight and strong, this fine material is applicable to residences, schools and churches, to office, factory and commercial buildings.

Homasote RD is available in 21/32", 15/16", 1⅜" and 1⅞" slabs. The 21/32" is applied on rafters 16" o.c.; the 15/16", 24" o.c.; the 1⅜", 32" o.c.; the 1⅞", 48" o.c. Thus applied, independent laboratory tests show that this material will support a live load of more than 200 lbs. per sq. ft.

Wood or asphalt shingles, slate, ceramic or cement tiles, built-up roofing or 4" of concrete may then be applied.

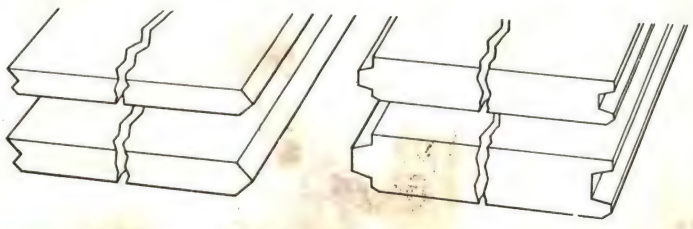
It's WEATHERPROOF
Make your own BUBBLE Test

As exterior sheathing—here is a 21/32" weatherproof, asphalt-free material available in a wide range of sizes. In 2' x 8' panels — V-grooved—you have the famous one-man sheathing. The V-grooved construction prevents air leakage, assures the same high insulating efficiency as is otherwise provided in the larger sizes. Homasote RD in the Big Sheets (up to 8' x 14') provides big savings in handling and nailing operations.



In every application, Homasote RD imparts great structural strength. Its insulating and sound-deadening values are far higher than wood roof decking or sheathing. Weatherproof and permanently crackproof, it affords lasting protection against moisture and mildew — it need not be covered if snow or rain threaten before construction is completed. Its fine under surface can also serve as the finished ceiling in areas with temperatures not lower than 40° F. In every case, Homasote RD affords major savings in both materials and labor operations otherwise required.

SIZES: The 21/32" and 15/16" thicknesses are available—*V-grooved* —in the 2' x 8' size only. The 21/32" is also available in all other standard Homasote sizes up to 8' x 14'. The 15/16" is also available in all standard sizes up to 4' x 14'. The 1⅜" and 1⅞" thicknesses are available in the 2' x 8' size only—and are furnished with an approved tongue and groove.



3b
Ho

3/8" STRIATED HOMASOTE



The most decorative insulation ever created! The "combed" surface of Striated Homasote Panels provides a rich texture—with highlights that change with the source of light.

Unlike other decorative insulation, these panels are warm, tough and durable. They offer all the basic values and economies of standard Homasote insulating-building board. You get top insulation with maximum structural strength and important sound-deadening values. Weatherproof and permanently crackproof, they may be used as either interior or exterior finish. Striated Homasote Panels take any paint or stain finish. Colors may be pastel or deep-tone — solid, blended or cross-wiped to accent the highlights.

These panels are easy to work. They cut cleanly — span the studs without backing or reinforcement. The striations run lengthwise on the panels. A wide variety of decorative effects can be achieved by varying the panel widths, by cutting to tile sizes, by changing the angle of the striations. . . . . Panels are made in 16", 32" and 48" widths; 8' lengths. The standard package is 6 panels — two of each width. The 8' length may be bent on a 18" radius.

* * *

WOOD-TEXTURED HOMASOTE 3/8"

Individually cast in molds taken from actual boards, Wood-textured Homasote Panels reproduce every detail of the grain and texture of the natural wood — everything but the splinters! Each panel includes several board widths. Thus — with three different panel widths — there is no need to have a monotonous, repeating pattern.

Wood-textured Homasote Panels have been used over many years — as both interior and exterior finish — in many different types of construction.

The working qualities, sizes and packaging are the same as for Striated Homasote Panels above.

[See next page for PHYSICAL CHARACTERISTICS of all forms and thicknesses and for SPECIFICATIONS.]



Physical Characteristics

THICKNESS	3/8"	15/32"	5/8"	21/32"	15/16"	1 3/8"	1 7/8"
WEIGHT, per sq. ft., lbs.	1.00	1.00	1.33	1.40	2.00	3.00	4.00
TENSILE STRENGTH, lbs. per sq. in.	650	650	650	650	650	650	650
TRANSVERSE STRENGTH, lbs. per sq. in. (MODULUS OF RUPTURE)	1100	1100	1100	1100	1100	1100	1100
THERMAL CONDUCTIVITY, BTU per sq. ft. per 1°F. per hour	2.22	.89	.67	.64	.49	.35	.21
WILSON THERMAL FACTOR	1.56	.63	.47	.45	.28	.25	.15
WATER ABSORPTION, (after aging), % in 2 hours by vol.	4.00	4.00	4.00	4.00	4.00	4.00	4.00

SPECIFICATIONS:

For Homasote Insulating-Building Boards

EXPANSION: All Homasote panels 4' x 8' or larger must be pre-expanded to prevent buckling. The afternoon before, expand each panel that is to be used the following day by wetting the entire surface lightly with a watering can or hose. Stack in a pile on a flat surface. Keep from freezing. Stand panels less than 4' wide around building overnight before using.

APPLICATION: Homasote shall be applied to wood members not exceeding 16" o.c. For exterior surfaces use 5d box cement coated nails for 15/32" and 6d box for 21/32" thickness. Start nailing in center of panel and work to each edge simultaneously, staggering nails on alternate wood members and placing nails 10" to 12" apart. Space nails 6" apart on all edges and hold back at least ½" from edge of board. Provide solid backing for all edges. Allow ⅛" to ¼" between abutting panels for expansion.

WALLPAPERING: Homasote shall be sized with glue, using ½ lb. of glue to a gallon of water. When dry, apply wallpaper with any good grade of wheat flour paste.

NAIL HOLES: All nails shall be countersunk half way through the board; then surface-putty with a good grade of spackling compound.

EXTERIOR PAINTING: Homasote shall be primed with a light coat of lead and oil, and then finished with a good grade of exterior house paint. If a stucco appearance is desired, take a good grade of exterior house paint as it comes in the can and mix 22 lbs. of clean, dry beach sand to brushing or stippling consistency.

INTERIOR PAINTING: All Homasote shall be primed with Homasote Primer Sealer.

JOINTS: All joints shall be left uncovered (but not filled) or covered with plaques or moldings.

MOLDINGS: ALWAYS paint or wallpaper BEFORE placing moldings.

PLASTER: NEVER plaster over Homasote.

BIG SHEETS: Be sure to put on second floor before stairwell is enclosed, and in all rooms before door heads are framed.

WAVY SHEETS: Moisten lightly and lay on a flat surface overnight.

For Laying Homasote Underlayment

To prevent squeaking of the sub-flooring, use Homasote Ring Drive Nails #13753. Otherwise, 7d resin-coated or galvanized nails. Over basement areas, 15 lb. felt shall be laid over the sub-flooring, lapped 6" at the joints.

Homasote Underlayment panels shall not be placed closer than ¼" to any wall or partition. Using Homasote Ring Drive nails #13753, start nailing the sheets in the center, working outwards in all directions and spacing nails 10" on centers. At all edges, nails should be spaced 6" on centers; except those edges adjoining walls or partitions where one nail should be used in each corner of the panel and one in the center.

Underlayment panels should be lightly butted to each other, but not jammed.

⅛" linoleum or Vinyl sheets or tile shall then be laid over the Homasote Underlayment, using ONLY Homasote adhesive which is especially designed for the purpose. The Company will not stand behind the product if any other adhesive is used. Do not use any felt between the floor covering and the Underlayment.

If sub-flooring is cupped do not lay Underlayment. If sub-flooring is not level shim so that all Underlayment panels will be level along the joints.

Over concrete slabs apply Homasote directly to the slab with Homasote Adhesive. For best results use Novamix Integral Waterproofing in all slabs, mixing with the gauging water at rate of 1 gallon per cu. yd. of concrete.

LITHO IN U. S. A.

Lockport

Lo-K



K—VALUE .24

INSULATION

for homes,
farm buildings,
apartment houses,
public buildings,
industrial uses,
cold storage.

LOCKPORT MILLS, INC.

FORMERLY LOCKPORT COTTON BATTING CO.

LOCKPORT, N. Y. established 1870

Lo-K INSULATION ... IT'S *Flameproofed*

A MODERN IMPROVEMENT OF A TIME-TESTED INSULATION

Lo-K, one of the most modern insulating materials on the market, has exactly what its name suggests — *low thermal conductivity* or low "k" value. It is made of a plentiful and distinctly American product — cotton — thoroughly flameproofed and backed with a tough water resisting paper which also acts as a vapor barrier. It answers today's problem of insulation with all of the soft fluffy warmth of a cotton comfort.



FLAME-PROOFED — To Meet Strict Government Specifications

Made fire-resisting by Lockport's patented method of treating cotton to resist combustion, Lo-K maintains a high standard of flameproof effectiveness and permanence. It is manufactured to meet Federal flameproofing specifications and under rigid tests for each run to verify the successful application of the flameproofing process. Even when subjected to the flame of a blow torch at 1800 degrees, Lo-K does not support combustion.



RESISTANT TO MOISTURE

Cotton is itself normally resistant to moisture. (Absorbency is induced only by a treatment not employed in manufacturing Lo-K.) Toss a piece of Lo-K on water — it floats indefinitely.

In addition Lo-K has vapor barrier paper with flange for stapling to framing members.

LIGHT WEIGHT — Brings Savings

Cotton weighs only .875 lb. per cubic foot. It is many times lighter than most insulations on the market today. See comparative weights in table on this page.

SPEEDS INSTALLATION

Lo-K's extremely light weight means easier and faster installation, at a saving in labor costs (according to Government bulletins) as high as 40%. Because Lo-K is compressed for shipping, fewer truck loads take more square feet from warehouse to job, fewer trips from truck to attic in each house.

EASILY HANDLED

Lo-K gives you lower transportation cost per thousand square feet. Its lighter weight also makes it easier to warehouse, more convenient and economical to load. On the job, handling of Lo-K is faster — this means lower labor costs.

NON-SETTLING

The light weight of Lo-K means long life. It stays permanently in place because it is LIGHT and therefore does not sag or settle. In addition, the fine kinky fibres of cotton have a natural tendency to cling to each other, and to rough surfaces . . . locking themselves to the framing members. Lo-K is made extra wide to make this locking process sure and secure.

RESISTS MILDEW AND ROT

Lo-K has a definite and built-in resistance to mildew, rot and decay. By a special process perfected by the Company, the chemical treatment incorporates a barrier to the ravages of fungus and bacteria growth.

RESISTS VERMIN

Governmental tests prove Lo-K cotton insulation resists vermin. There is nothing of food value in cotton which will permit them to live and the chemical treatment acts as an effective barrier against infestation of termites, moths, beetles and other pests. These same tests prove that treated cotton insulation not only offers no food value or encouragement to rodents, but that they show a definite aversion to cotton insulation.

NON-IRRITATING

One of the major problems in installing old-fashioned insulation has been the irritation to the hands of those working with the product. Lo-K gives you no "irritation itch." Its treatment is by non-irritating chemicals and none of the harsh abrasive fibres found in some other materials are present in cotton. Try the test yourself. Rub it on the back of your hand or face.

LOWER APPLIED COSTS

Because of its light weight and ease of handling, you will find that Lo-K installs more economically than other insulating materials. The ample length of the rolls means less piecing, no gaps in the insulation where drafts or excessive moisture may penetrate and greater general efficiency.

The light weight of this new type insulation speeds installation appreciably — at a saving in time of 25 to 40%.

LOCKPORT MILLS, INC.

FORMERLY LOCKPORT COTTON BATTING COMPANY



INSTALLATION OF Lo-K

Lo-K should be installed with the paper on the warm side. On the ceilings this means the vapor-barrier paper should be down, and on the side walls the paper would be toward the inside of the house. Convenient nailing flanges on the vapor-barrier paper can be stapled to the framing members.

Many contractors and architects prefer additional insulating value of a dead air space between the vapor-barrier paper and the inside finish. This type of construction requires that the nailing flange be stapled to the side of the framing members at a 90-degree angle to the plane of the cotton.

In side-wall construction, in knee-wall areas, or in sloping roof rafters, it is recommended that the cotton and the paper be stapled to the plate at the top of the area. This will hold the cotton firmly in place.



HIGH INSULATING *Efficiency*
LOW THERMAL CONDUCTIVITY

"K" Factor is .24

Compare the thermal conductivity of Lo-K insulation with any of the other insulating materials on the market today. This comparison alone would be convincing proof of Lo-K's superiority. The "K" factor (for 1 in.) is only .24 or anywhere from 4 to 36% more efficient than other recognized insulation materials.

Thus Lo-K has a lower thermal conductivity than rock wool, glass wool, corkboard or chemically treated wood fibres.

It has a "K" value 52 times more efficient than that of stone or stucco, and 4 times better than hollow tile or yellow pine.

Tests by Recognized Laboratories

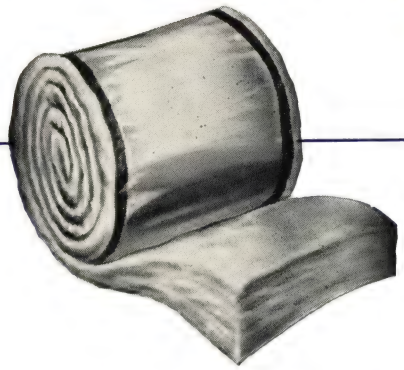
Material	Wt. per cu. ft.	Insulating Value	
		"K" factor	Authority
Lo-K Cotton Insulating Batt	.875	.24	J. C. Peebles
Rock Wool—Loose Fill type	10.0	.27	Bureau of Standards
Chemically treated wood fibres between sheets of paper	3.62	.25	J. C. Peebles
Glass Wool—Loose Fill type	1.50	.27	J. C. Peebles
Stitched & Creped Expanding Fibrous Blanket	1.50	.27	J. C. Peebles

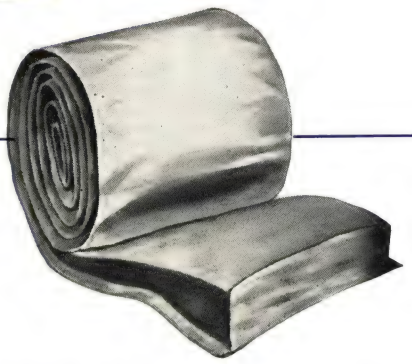
"K" factor means the amount of heat expressed in British Thermal Units transmitted in 1 hour through 1 sq. ft. of a homogeneous material 1 in. thick for a difference in temperature of one degree Fahrenheit between the two surfaces of the material. The lower the factor, the better the insulation. The values in above tables taken from the Guide of the American Society of Heating & Ventilating Engineers.

See Following Page

Other Members of the Family of Lo-K *Insulation*







CLOSED BLANKET—For easier handling and application a breather paper covers the top of the cotton. It permits the evaporation of natural moisture condensation in the insulation.

OPEN FOIL—Aluminum foil used as the backing of this type gives complete vapor barrier protection, and the foil stops 90% of heat loss by radiation. This means greater protection against heat loss by convection and conduction.

CLOSED FOIL—Tops in Lo-K's Insulation offerings. Aluminum foil backing for maximum heat resistance and vapor protection plus breather paper cover over the cotton. The maximum in efficiency and in ease of application.

DOUBLE FOIL (not illustrated) — All of the advantages of the Lo-K blanket, — with **foil** on both sides. Heavy foil on the back gives perfect vapor barrier. Bright foil surfaces both top and bottom offer resistance to the heat loss by radiation. Heat loss by convection and conduction are controlled by Lo-K's amazingly efficient blanket.

Increasing COMMERCIAL USES FOR Lo-K

The marked superiorities of Lo-K in home insulation have brought to light many industrial uses where the quality of Lo-K make it preferred. A few such uses mentioned here may suggest others in your line of business where Lo-K can save money and give you a better product.

REFRIGERATION — DEEP FREEZE UNITS — LOCKERS The greater thermal efficiency of Lo-K, based upon its lower "K" value, has prompted its repeated use in this important field. Its much lighter weight has made for easier installation, more economical shipping cost of finished product and has reduced condensation problems to a minimum.

These features apply particularly for extreme low temperatures and for freezing units. Navy locker plants or walk-in units require special sizes or thickness of Lo-K—which are most effectively installed and produced at small increased cost.

HOT WATER HEATERS Lo-K has been used extensively in this field where light weight and superior thermal resistances are vital. Knob and Tube wiring tests conducted by the Canadian Standards Association of Toronto show that Lo-K may be used with safety in connection with electrical wiring.

TRUCKS, TRAILERS AND FREIGHT CARS The need here is for an insulating material which can give good resistance to heat flow without burdening thickness, which will not add materially to the weight of the vehicle, and thus reduce pay load capacity. These requirements relate to two of the greatest advantages of Lo-K.

PREFABRICATED HOUSES Lo-K Insulation has specialized in the "Prefab" field. Lower "K" factor, economy in installing and in shipping weight of Lo-K apply especially to the production line operation. Lo-K serves the prefabricator better because it can be compressed and requires less storage space for a given number of square feet.

LO-K ACOUSTICAL BLANKET Exhaustive tests by the Bureau of Standards in Washington have established the merit of Lo-K Insulation in the Acoustical Field. Sound must be controlled in two ways for complete efficiency.

The first of these is to reduce sound at its source by absorption. In this, Lo-K behind perforated asbestos board or perforated metal pans has a noise reduction factor as high as .75. This compares very favorably with other materials used for this purpose. One interesting point in these Bureau of Standards tests shows that Lo-K Acoustical Blanket has the best efficiency in the lower cycles which predominate in the usual sound background of home, office or public building.

The second method of sound control has to do with reducing the transmissions of sound from one room to another. Here Lo-K Acoustical Blanket of a two inch thickness will reduce 36.7 decibels of sound. Fifty to sixty decibels is about the loudness of sound in a fairly busy office. This means that two inches of Lo-K, installed in a wall, will effectively bar the passage of sound in the average office and an even greater proportion in a normal home. If Lo-K were used within a room in office or home as sound absorber and the walls were treated for sound transmission it is obvious that no sound would pass from origin to another room in a busy office.

In acoustical use Lo-K offers special features of cleanliness and light weight. No particles of shot or dirt come through the facing material and load strain is materially reduced by the light weight of Lo-K. Used as an acoustical material Lo-K offers the same superiority of thermal efficiency and fire resistance.

SPECIAL STORAGE PROBLEMS

POTATO STORAGE Moisture condensation is a major problem in insulating potato storage. Because of the wide temperature differences involved and because of the moisture given off by the potatoes themselves, excessive moisture loaded and froze the insulation in previous materials used.

It has been proven conclusively in actual use that cotton insulation will neither hold moisture nor freeze, thus giving perfect protection.

TOBACCO STORAGE This insulation use presents a special problem. In storing and curing tobacco an even temperature with plenty of ventilation in the sides of the structure and no excessively warm area near ceiling or roof are essential elements. Lo-K's uniform thickness, extra thermal efficiency and light weight have made it preferred for this purpose.

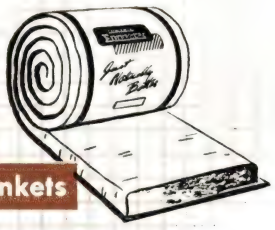
LOCKPORT MILLS, INC.

FORMERLY LOCKPORT COTTON BATTING CO.

ESTABLISHED 1870

MAIN OFFICE AND PLANT: LOCKPORT, NEW YORK

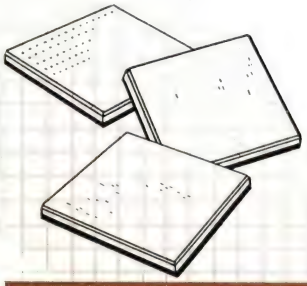
OWENS-CORNING
FIBERGLAS



roll blankets



batt blankets

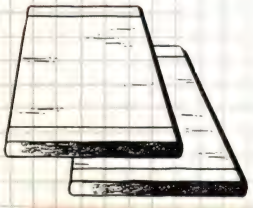


sound control products

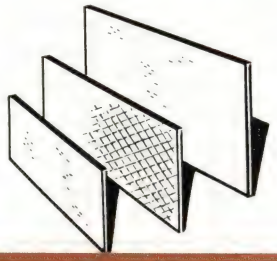


pouring wool

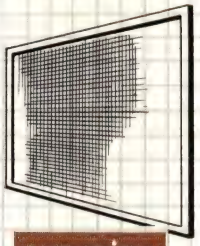
Fiberglas Building Products



roof insulation



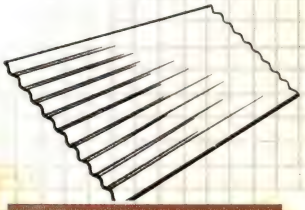
perimeter insulation



screening



blowing wool



translucent panels



gypsum board reinforcement



utility batts

A.I.A. FILE NO. 37

BL1.C1 — *May, 1954*

OWENS-CORNING FIBERGLAS CORPORATION

OWENS-CORNING
FIBERGLAS

building insulations

do:

reduce fuel costs

An insulation investment is returned to the building owner in his first few heating seasons. Reduced fuel bills cancel the original cost - - - continue to pay the owner dividends for as long as he lives in the house. Initial cost of heating or cooling plants for homes may be reduced.

give winter comfort

Properly insulated homes are warmer in winter. While it is possible, though expensive, to maintain air at correct temperatures in an uninsulated house by running the furnace at peak capacity, walls and exposed floors and ceilings will still be cold. With adequate insulation, wall temperatures can be kept uniformly high enough to insure comfort.

keep homes cool in summer

Insulation retards heat flow until ventilation can take it away. With enough insulation, and well vented attic spaces, buildings in any climate can be more comfortable in summer.

Air conditioning increases this summer need for insulation. Removal of heat is more expensive than heating - - - it costs five to six times as much per btu to cool a house in summer as to heat it in winter. Adequate insulation alone can cut installed costs for cooling equipment by 30% to 50% - - - reduce cooling costs proportionately.

meet every insulation need

There are a variety of efficient Fiberglas insulations. Batt or Roll Blankets, Utility Batts, Blowing Wool, Pouring Wool and Perimeter Insulation form a complete line to meet every building insulation need.

are:

permanent

Fiberglas insulations resist rot, settling and odors, outlast most building materials.

easy to use

Stout nailing flange on batts and blankets speeds application - - - inch markings facilitate cutting. Applicators install blowing wool quickly - - - with no fuss or bother.

protection against condensation

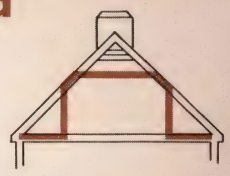
Vapor barrier facing on Fiberglas batts and blankets has a permeance of less than 1 perm - - - gives positive condensation protection when properly installed.

efficient

Low thermal conductivity values assure effective reduction of heat flow. "U" values of typical installations are given on page 4.

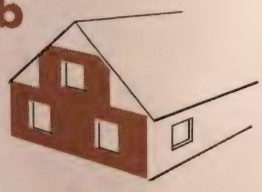
where to insulate

a



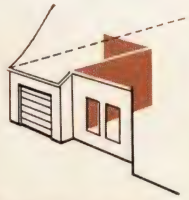
attics
Insulate attic floor or knee walls, slopes and ceiling with thickness adequate for comfort. Use vapor barrier on "warm-in-winter" side.

b



sidewalls
Completely insulate outside walls. Place vapor barrier toward the inner or "warm-in-winter" side of the wall to prevent condensation.

c



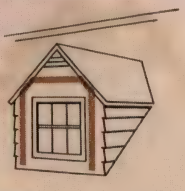
heated from unheated
Insulate heated spaces from unheated garages or storage spaces with the same care as the exterior walls to give comfort in all rooms.

d



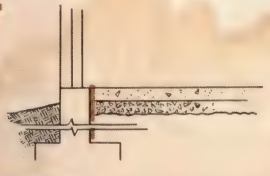
floors over unheated areas Insulate floors of unheated perches or garages and over ventilated crawl spaces to prevent heat loss and cold, uncomfortable floors.

e



dormers
Insulate dormers with special care. Utility batts and pouring wool are easy to stuff. Insulate wall, ceiling and spaces around the window.

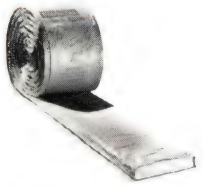
f



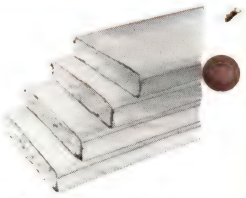
perimeter
Insulate the entire perimeter of the concrete floor slabs with Fiberglas perimeter insulation. Insulate inside the walls of crawl spaces.

FIBERGLAS*

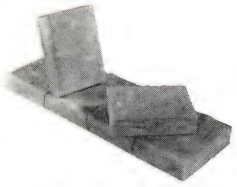
product



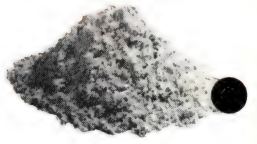
ROLL BLANKETS



BATT BLANKETS



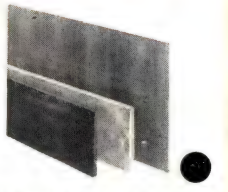
UTILITY BATTS



POURING WOOL



BLOWING WOOL



PERIMETER INSULATION

INSULATION SELECTION AND INFORMATION CHART

uses: new construction	uses: existing construction	lengths	widths	thicknesses	where to buy	page
a b c d	a	30 to 65 feet depending on width and thickness	15″ for 16″ stud spacing 19″ for 20″ stud spacing 23″ for 24″ stud spacing	Economy—1½″ Medium—2″ Thick—3″	TIGER, INSULITE, RUBEROID, FLINTKOTE	5
a b c d e	a	24″, 48″, 96″	15″ for 16″ stud spacing 19″ for 20″ stud spacing 23″ for 24″ stud spacing	Economy—1½″ Medium—2″ Thick—3″	TIGER, INSULITE, RUBEROID, FLINTKOTE	5
a b c d e	a	15″ nominal	10¾″ nominal	Full Thick	TIGER, INSULITE, RUBEROID, FLINTKOTE	6
a d e	a			May be poured to desired depth	TIGER, INSULITE, RUBEROID, FLINTKOTE	6
a b c d e	a b c d e			Blown to full thickness of stud spaces. 3⅝″ in walls. May be blown to desired depth in ceilings or other areas.	Authorized Fiberglas Blowing Wool Applicator	7
f	f	Type AE-6 36″ maximum	4″, 6″, 8″, 12″, 18″, 24″	1″, 1½″, 2″	TIGER, INSULITE, RUBEROID, FLINTKOTE and Fiberglas Branches	7
		Type PF-615 48″ maximum	12″, 18″	¾″, 1″, 1½″, 2″		
		Type PF-619 48″ maximum	20″	¾″, 1″, 1½″, 2″		

FIBERGLAS* is the trademark (Reg. U. . Pat. ff.) of Owens-Corning Fiberglas Corporation for a variety of products made of or with fibers of glass.

heat transmissions values ("U")

Values given below are computed on the basis of the "k" value of .27 Btu hr. sq. ft. inch thickness degree F. temperature difference as given in Heating Ventilating Air Conditioning Guide. These figures represent typical performance of Fiberglas Building insulations though exact "k"s' may deviate from this figure due to difference in product density, composition and other factors.

HEAT TRANSMISSION VALUES ("U") OF WALLS *with Fiberglas Insulation*

	 Brick veneer on gypsum sheathing					 Wood Shingle on wood sheathing					 Wood Clapboard on $^{25}/_{32}$" Ins. Board					 Masonry walls furred and plastered				 Metal Bldgs. Ins. on strips			
INSULATION THICKNESS	**None**	**1½"**	**2"**	**3"**	**3⅝"**	**None**	**1½"**	**2"**	**3"**	**3⅝"**	**None**	**1½"**	**2"**	**3"**	**3⅝"**	**None**	**1½"**	**2"**	**3"**	**None**	**1½"**	**2"**	**3"**
Overall Heat Transmission "U" Btu/hr./sq. ft./deg. temp. diff.	.35	.12	.10	.07	.06	.25	.11	.09	.07	.06	.19	.09	.08	.06	.06	.38	.12	.10	.08	.58	.14	.11	.08
Total Heat Loss Btu/hr./sq. ft. at 70° temp. diff.	24.5	8.4	7.0	4.9	4.2	17.5	7.7	6.3	4.9	4.2	13.3	6.3	5.6	4.2	4.2	26.6	8.4	7.0	5.6	40.6	9.8	7.7	5.6
% of heat stopped by insulation	....	66	72	79	81	....	57	65	73	76	....	52	58	68	71	....	59	74	79	....	76	81	86
Inside Surface Temp., degree F. 70 F Inside, 0 F Outside	55.4	64.9	65.9	66.9	67.2	59.5	65.5	66.3	67.2	67.4	61.9	66.1	66.6	67.4	67.6	53.7	65.3	65.8	67.2	45.4	64.5	65.3	66.8

HEAT TRANSMISSION VALUES ("U") OF ROOFS AND CEILINGS *with Fiberglas Insulation*

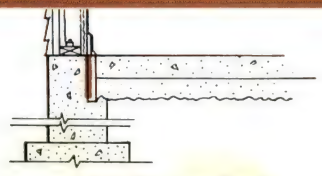
	 Ceiling without floor					 Ceiling with floor					 ¾" Acoustical Tile and gypsum lath ceiling				
INSULATION THICKNESS	**None**	**1½"**	**2"**	**3"**	**4"**	**None**	**1½"**	**2"**	**3"**	**4"**	**None**	**1½"**	**2"**	**3"**	**4"**
Overall Heat Transmission "U" Btu/hr./sq. ft./deg. temp. diff.	.70	.14	.11	.08	.07	.30	.11	.09	.07	.06	.25	.10	.09	.07	.05
Total Heat Loss Btu/hr./sq. ft./ of 70F inside and 0F outside	49.0	9.8	7.7	5.6	4.9	21.0	7.7	6.3	4.9	4.2	17.5	7.0	6.3	4.9	3.5
% of heat saved by insulation	....	80	83	88	90	....	63	70	77	80	....	60	64	72	80
Inside Surface Temp., deg.F. 70 F Inside, 0 F Outside	45.0	63.6	65.9	67.1	67.6	59.9	65.4	66.2	67.3	67.9	61.1	65.5	66.2	67.6	67.9

HEAT TRANSMISSION VALUES ("U") OF FLOORS *with Fiberglas Insulation*



Wood Frame Floors over crawl spaces

INSULATION THICKNESS	**None**	**1½"**	**2"**	**3"**
Total Heat Transmission "U" Btu/hr./sq. ft./deg. temp. diff.	.29	.10	.08	.06
Total Heat Loss Btu/hr./sq. ft. at 70° temp. diff.	19.6	7.0	5.6	4.2
% of heat saved by insulation	....	66	70	77
Inside Surface Temperature degrees F at 70F inside and 0F outside	49.4	65.7	63.8	65.2



Slab Concrete Floors

Heat loss from floor Btu/hr./lineal foot of exposed edge/deg. temp. diff.	**No Ins.**	**1" Perimeter Ins.**
	.81	.55
Heat loss from floor at 70° temp. diff.	56.70	38.50
% heat saved by insulation	.....	32%
Average Surface Temperature	49.8	61.2



batts and roll blankets

Efficient, low density Fiberglas insulation enclosed in an envelope formed by a vapor barrier paper on one side and vapor porous perforated backing on the other. Nailing flange on edges permits quick attachment to studs. Inch markings along both edges of batts and blankets facilitate cutting. Three widths for use where studs are on 16″, 20″, or 24″ centers. See BL6.A1-B for additional design and product information.

application

sidewalls



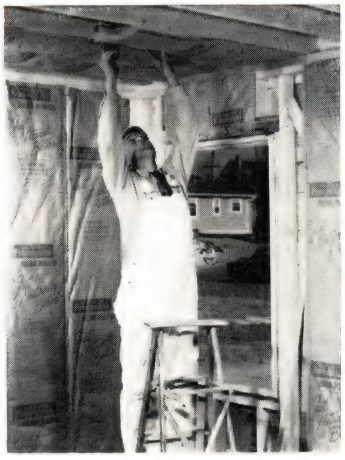
1: Cut insulation to stud height plus 3″ for top and bottom nailing flanges.

2: Fluff blanket, open nailing flanges and press back 1½″ of insulation at each end. Keep vapor barrier on "warm-in-winter" side.

3: Staple or nail flanges to studs. Install from top down with blankets - - - bottom up with batts.

4: Insulate on cold side of pipes and drains.

ceilings



1: Cut blankets to length of ceiling plus 3″ for nailing flanges at wall or apply from roll and cut off at end of joist.

2: Apply overhead before plaster base is attached with vapor barrier down.

3: Staple or nail flanges to joists. Staples or nails should be on 4″–6″, centers. Batts or blankets should butt tightly together at joints for peak efficiency.

unfloored attics



1: Batts or blankets are suited to this application only where joists are on 16″, 20″, or 24″ centers. Unroll blankets or lay batts between floor joists with vapor barrier face down. Leave flanges folded for a neater fit.

2: Push insulation tightly into eaves but do not block eave vents. Butt insulation tightly together at joints to gain maximum insulation value and to halt vapor travel.

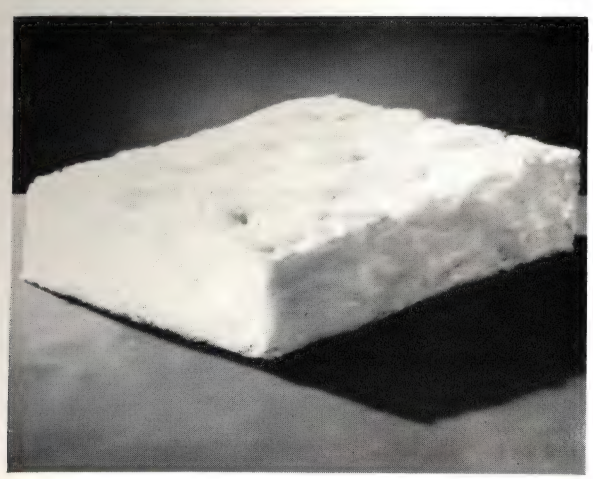
finishing attics



1: Install collar beams and knee wall studs. Provide louvers for venting spaces above insulation as a vapor control precaution and to remove summer heat.

2: Staple or nail insulation up knee walls, along roof joists and across collar beams. Space should be left between insulation and roof for venting. Keep vapor barrier toward "warm-in-winter" side of the wall.

utility batts



Utility Batts are rectangular pieces of low density Fiberglas insulation similar to that in batts and blankets except that they have no paper envelope. Conveniently sized for quick application ..... 15″ width fits between studs on 16″ spacing, two 10½″ pieces may be fitted snugly between studs on 20″ spacing. See BL6.A1-B

application

1: On walls, stack batts between studs and staple or nail a vapor barrier paper to studs over insulation as a condensation prevention measure.

2: In unfloored attics, line bottom of spaces between joists with vapor barrier paper to reduce the danger of condensation and lay utility batts in place over the paper.

3: Utility batts also find wide usage for stuffing confined spaces, and around piping, wiring, etc.



pouring wool



Pouring Wool is Fiberglas insulation formed into small pellets which pour and rake easily. Large bags give approximately 20 sq. ft. coverage at 4″ thick. Coverage is greater than with most other pouring type products, up to 54% more per bag. As much as 53% more efficient than some pouring type insulations. See BL6.A1-B

application

1: In unfloored attics, cut and lay asphalt paper vapor barrier between joists, pour wool from bags to desired depth and level off as shown in photograph above.

2: Vapor barrier may be omitted if attic is adequately vented.

3: Pouring wool is also ideal for hand packing narrow spaces around doors, windows, etc. to give continuous insulation.



blowing wool



Fiberglas Blowing Wool is manufactured so that it is suited to pneumatic installation. Fibers of glass are formed into small tufts to blow well, give good coverage and provide effective insulation.

uses

new buildings when:

Working space is limited: spaces are to be insulated after they are enclosed: design considerations demand greater thicknesses than those available in batts or blankets.

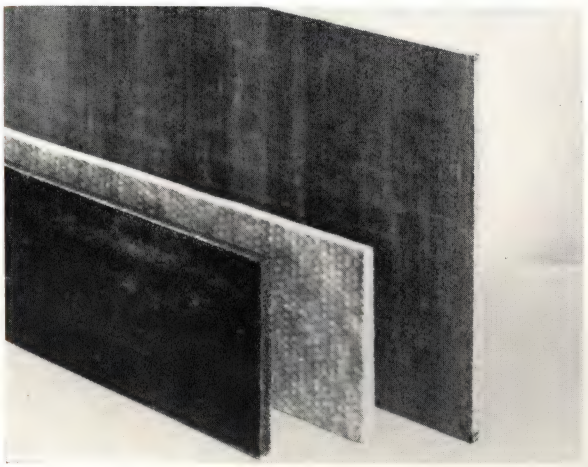
existing buildings

application

Fiberglas Blowing Wool is applied only by dependable, approved Fiberglas Applicators. Skill and experience insure rapid application in strict compliance with design requirements and manufacturers recommendations. For further details see Fiberglas literature BL6.A2.



perimeter insulation



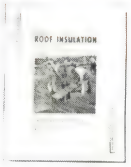
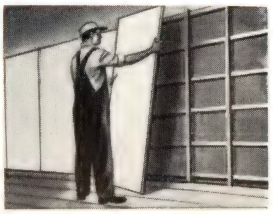
Fiberglas Perimeter Insulations offer effective insulation for basementless homes of slab or crawl space type. To keep pace with the swing to this type of construction, the range of sizes and types has been expanded to give an easy-to-apply product for every need. PF-615 offers low cost protection, AE-6 is enclosed in a protective asphalt sheath, PF-619 is made from a high density board for residential load-bearing applications.

application

1: One vertical piece may be used or an "L-shaped" application made using vertical insulation along edge of slab and horizontal under edge.
2: The damp course of waterproof paper should be carried up the insulation if PF-615 is used.
3: Insulation may be adhered to outside of foundation in existing buildings. For specific design recommendations, see Fiberglas literature BL6.A4.



other Fiberglas products for buildings

product		descriptive	where to buy	write for
Fiberglas reinforced plastic panels		Plastic structural panels are made of plastic reinforced with Fiberglas yarn. In a variety of colors; flat or corrugated; curved to standard radii. Ideal for a wide variety of structural and decorative applications.	Building Supply Dealers. Owens-Corning Fiberglas makes only the reinforcement for panels - - - others actually manufacture panels.	 PR6.A2
Fiberglas screening		Long-lasting screening woven of vinyl-coated Fiberglas yarns. Will not rot; will not stretch; cannot rust or stain; resists weathering. Available in window units or in easy-to-use rolls.	Department or Hardware stores. Building Supply Dealers. Owens-Corning Fiberglas does not make screening - - - only the yarns from which it is woven.	 A.I.A. 35-P-1
Fiberglas roof insulation		Rigid, board insulation for use in insulating over the deck on flat roofed buildings when surface is to be a built up roof. Kraft paper is adhered to one or both sides to give a good mopping surface. Standard size, 24″ x 48″.	Roofing Contractors, Fiberglas Roof Insulation Distributor, Fiberglas Branch Office.	 RW6.A2
Fiberglas sound control products		A complete Fiberglas line of incombustible acoustical products including Textured, Perforated and Sonofaced Acoustical Tile: Ceiling Board, Noise Stop Baffles, Sonocor metal pan pads.	Fiberglas Acoustical Contractor, Fiberglas Branch Office.	 AC6.A1
Fiberglas reinforced gypsum wallboard		Superior gypsum wallboard reinforced with Fiberglas yarns mixed right into the board itself. Stronger, easier to erect, better looking wallboard at no extra cost	Building Supply Dealers. The Certain-teed Corp. and Fabco Corp. presently manufacture such wallboard - - other brands available shortly. Owens-Corning sells only the reinforcement.	

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Owens-Corning Fiberglas Corporation

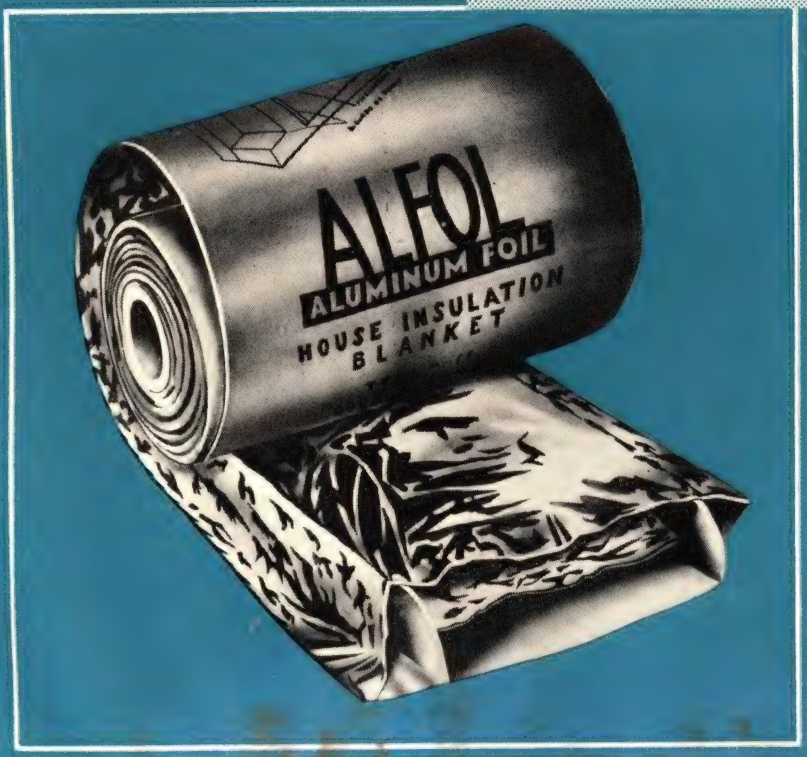
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Manufacturer of a complete line of thermal insulations.

ALFOL

multi-layer aluminum foil

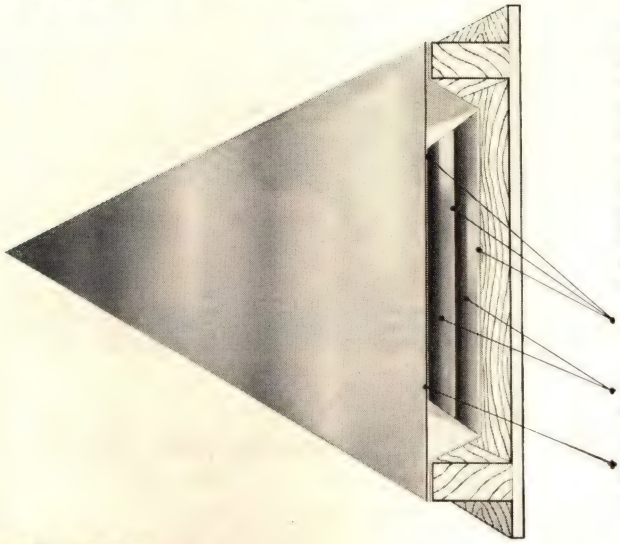
blanket insulation



REFLECTAL CORPORATION

A Subsidiary of Borg-Warner Corporation

ALFOL self-spacing aluminum foil insulation



Though clearly America's most modern insulation, ALFOL is not a "new" product. First in reflective insulation, it was introduced in 1929. Today, after 25 years of continuous development, ALFOL remains an acknowledged leader.

The unique advantages of reflective insulation are recognized in ever-widening circles. But many architects, scientists and engineers agree that the ALFOL expansible blanket is the most functional reflective product obtainable. Only the ALFOL blanket combines these three vital design features:

- **Self-spacing aluminum foil sheets**—reflect 95% of all Radiant heat, provide an effective barrier against heat loss by convection.
- **Multiple reflective air spaces,** optimum size, maximize efficiency of foil sheets, minimize heat loss by Conduction.
- **Heavy duplex backing** (behind base foil on Types 3, 4, behind kraft paper on Types 1, 1A, 2) provides a positive vapor barrier and sag-proof, rip-resisting application.

features

outstanding thermal efficiency

Resisting all 3 forms of heat loss (see above), ALFOL delivers up-flow and side-flow factors that are outstanding, down-flow values that are even better. The result is a composite (year-round average) efficiency schedule that cannot be surpassed.

protection against condensation

A positive vapor barrier in and of itself, ALFOL is applied in continuous unbroken lengths from wall to wall or floor to ceiling. A positive and continuous vapor barrier is the finest condensation "insurance" obtainable. (Write Reflectal, Dept. S for data on U. S. Forest Products Laboratory Report R-1710.)

handling, storage economy

ALFOL is competitively priced. And its remarkable compactness—1/12th the weight, 1/20th the volume of convective materials—effects handling, storage and application economies clearly reflected in installed costs. (Write Reflectal, Dept. S for Cost Study.)

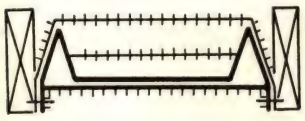
speed and ease of application

ALFOL application is rapid, positive and virtually foolproof. Installation speeds up to twice those possible with bulk-type batts are often attained.

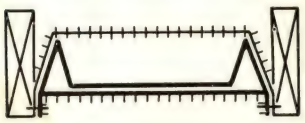
additional advantages

Clean, odorless and permanent, ALFOL won't sag or settle. And with 5 Types to choose from, you specify what you need . . . and get what you specify.

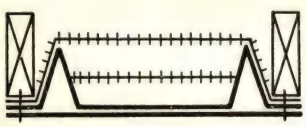
types



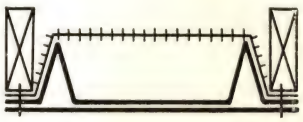
ALFOL TYPE 4 BLANKET
—for highest efficiency. Four reflective air spaces, 3 self-spacing foil sheets. Base layer duplex-backed for extra support. Ideal for ceilings, attics, etc.



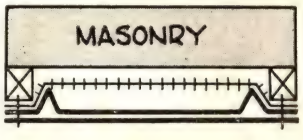
ALFOL TYPE 3 BLANKET
—similar to Type 4 but with 2 self-spacing foil sheets providing 3 reflective air spaces. For use in crawl space work, etc.



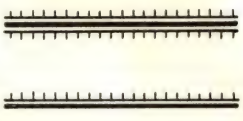
ALFOL TYPE 2 BLANKET
—three reflective air spaces provided by 2 self-spacing inner foil sheets. Kraft paper face sheet is duplex-backed. Widely used in sidewalls, ceilings.



ALFOL TYPE 1 BLANKET
—similar to Type II but with one foil sheet expanding to provide 2 reflective air spaces. For low cost efficiency.



ALFOL TYPE 1A BLANKET
—for furred-out masonry. Similar to Type I, but foil layer expands exactly 3/8" to bisect the standard 1"x2" furring space.



DRYFOL TYPE "B"
an insulation and vapor barrier made by laminating ALFOL aluminum foil to both sides of heavy kraft paper.

DRYFOL TYPE "C"
similar to Type "B", but has foil on one side only.

technical data

"U" factor efficiency values

(based on standard A.S.H.V.E. Calculations)

CONSTRUCTION	ALFOL TYPE 1	1A	2 and 3	4
WALLS:				
Frame, standard	.13	.13	.09	.08
Frame, insulation lath and sheathing	.09	.09	.07	.06
Masonry, 7/8" furred	...	.15	...	...
Masonry, 2" furred	.15	.15	.08	.075
FLOORS:				
Double flooring (ventilated crawl space)	.07	.07	.05	.04
CEILINGS (flat):				
Winter (heat flow up)	.18	.18	.12	.10
Summer (*) (heat flow down)	.07	.07	.05	.04

(*) summer figures computed on assumption of ventilation above insulation.

comparative efficiency

(authority: U. S. Bureau of Standards)

Building Materials and Standards Report BMS-52, published by the National Bureau of Standards (United States Department of Commerce), rates 5 insulation materials in their "order of decreasing effectiveness in protecting the ceiling against summer heat" as follows:

1. Two layers of aluminum foil (both sides of each layer reflecting).
2. Full thick (3 5/8") rock wool.
3. One layer of aluminum foil (both sides reflecting).
4. Full thick (3 5/8") glass wool.
5. 2" of rock wool or 2" of wood-fibre blanket.

sizes



widths

ALFOL is available in widths to accommodate 12", 16", 20" and 24" framing centers.

coverage

Except for Type 1A, all ALFOL Types are available in easily-handled, continuous-lengths rolls of either 500 or 250 square feet of coverage. ALFOL Type 1A is available in 250 square foot rolls only

specifications

insulation

Alfol Reflective Insulation as manufactured by REFLECTAL CORPORATION, 310 South Michigan, Chicago. To be installed in accordance with the manufacturer's recommendations.

ceiling and wall

After electrical inspection and before lathing, install expansible aluminum foil blanket with its vapor barrier paper in such manner as to form multiple reflective air spaces and a continuous vapor barrier.

floor

After flooring has been laid, install expansible aluminum foil blanket with its vapor barrier paper from underneath floor joists in such manner as to provide multiple reflective air spaces and continuous vapor barrier.

NOTE: These are sample specifications and should be revised to suit climatic conditions by specifying the definite Type of ALFOL REFLECTIVE INSULATION required.

typical installations



Northwest Mutual Fire Insurance Building
Los Angeles, California

In A.I.A. award-winning commercial structures —where design is King—architects specify ALFOL REFLECTIVE INSULATION.



Mount Palomar Dome
Mount Palomar, California

In exacting technical installations—where efficiency is the sole criterion—scientists rely on ALFOL REFLECTIVE INSULATION.



Mitchell Gardens
Hempstead, L. I., New York

In the largest housing projects—where cost is the key consideration—builders save with ALFOL REFLECTIVE INSULATION.

ALFOL is quickly and easily installed



step 1

Cut or tear ALFOL blanket to required length and staple left hand flange of blanket to left framing member.



step 2

Grasp right hand flange and pull—self-spacing aluminum foil sheets automatically expand into panel!



step 3

With blanket thus expanded, right flange overlaps right framing member. Secure this flange, then seal at plates.

ALFOL "exposed ceiling" installations



For factories, warehouses, showrooms, etc., the ALFOL "exposed ceiling" application is recommended. Featuring ALFOL Type IV, this unique installation combines all the benefits of insulation . . . with a permanent ceiling semi-finish that never needs painting!

The ALFOL "exposed ceiling" is applicable with any type of construction in new or existing structures. And because ALFOL requires no costly extra support, such applications often cost no more than a two-coat paint job. (Write to Reflectal, Dept. "S" for editorial reprints from *Factory Management and Maintenance* magazine.)

other REFLECTAL products

ALFOL Asbestos insulation

Aluminum foil bonded to aircell asbestos or heavy asbestos paper. For high temperature applications.

INGERSOLL Roof Deck

A unique structural roof system combining the benefits of strength, adaptability and low maintenance. Available in porcelain, aluminum and galvanized steel. See Sweet's Architectural File index 2d/Re.

ALFOL Jacketing

Reinforced asphalt and kraft paper base with aluminum foil on both sides. For low temperature work.

KOOLSHADE Sunscreen

A woven bronze sun-shading device for windows. Consists of tiny fixed louvers set at an angle to keep out the greatest possible amount of solar heat and glare. See Sweet's Architectural File index 18a/Re.

REFLECTAL CORPORATION

A Subsidiary of Borg-Warner Corporation

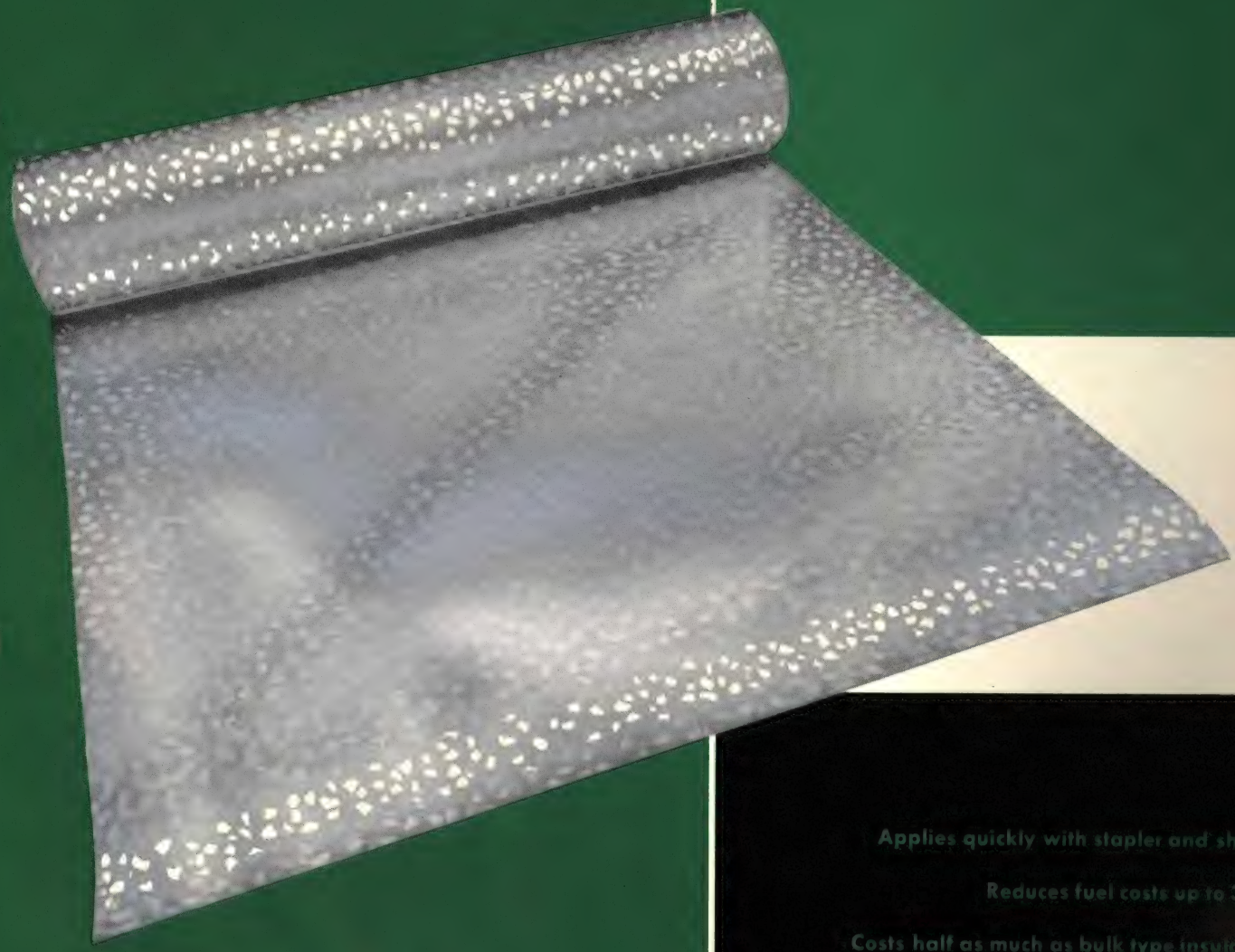
310 South Michigan Chicago 4, Illinois

REFLECTAL B-W BORG-WARNER

More detailed information on ALFOL for your permanent files—together with the name of your nearest ALFOL distributor—is available on request. Simply address letterhead to Reflectal, Dept. "S".

3b
Rey

REYNOLDS ALUMINUM REFLECTIVE INSULATION



INSULATION EFFICIENCY WITHOUT BULK

...THE PERFECT VAPOR BARRIER

Applies quickly with stapler and shears

Reduces fuel costs up to 30%

Costs half as much as bulk type insulation

Reduces temperatures up to 15° in summer

Maintains efficiency indefinitely

Extremely low heat storage capacity

Embossed for added beauty and rigidity

Copyright 1939 [illegible]

REYNOLDS ALUMINUM REFLECTIVE INSULATION

WHERE IT IS USED . . .

Existing Homes: Between rafters, in ceilings, over crawl spaces, behind radiators, as decorations in game rooms, as lining for pantry shelves and closets, under residing and re-roofing.

New Homes: Walls, floors and ceiling construction. As a vapor barrier in laying hardwood floors or linoleum.

Commercial Units: Under roof decks of cast gypsum, flexicore, metal, cement tile, kaylo tile, light aggregate, sand and gravel, vermiculate or wood. In walls, ceilings and floors. As a vapor barrier in applying wall board, loose rock wool, rock wool batts and cork.

Farm Structures: In walls and ceilings. Under residing and reroofing. As a vapor barrier protection in chicken and duck houses, cow barns, incubators, brooders, apple and potato storage houses, seed bins and tobacco curing barns.

Other Applications. To cure concrete in road building, as a lining for concrete forms, as insulation of knee walls, as retainer for rock wool, as insulation and vapor proofing of domestic refrigerators, freezer and locker storage plants, as insulation for trucks, trailers, refrigerator freight cars and busses, hot water heaters, cold water coolers, as insulation wherever radiant heat is used, as decoration in store windows and ceilings.

CEILINGS



In Ceilings. Reynolds Aluminum Reflective Insulation is bowed between ceiling joists. Application is done along bottom of ceiling joists in new construction, and along top of joists in unfloored attic for existing homes. Use 36″ wide insulation in ceilings when ceiling joists are on 16″ centers.

FLOORS



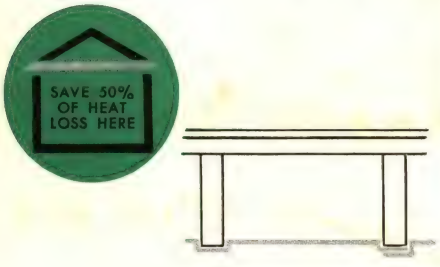
In Floors. In new construction, insulation can be bowed between floor joists before floor is laid (photo above; alternate "A", below). Alternate "B", below, illustrates usual method of installation over crawl spaces. Since bowing is not required, 33″ wide insulation is used here for floor joists on 16″ centers.

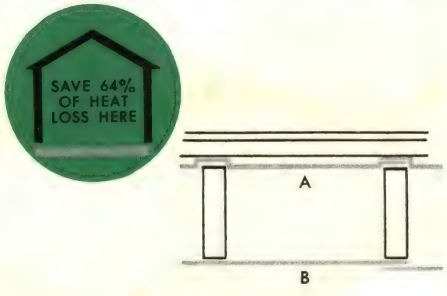
WALLS



In Walls. Where Reynolds Aluminum Reflective Insulation is to be covered with finished wall (photo, above; drawing, below) recess insulation to leave at least ¾ inch air space on both sides. Use 36″ wide insulation for studs on 16″ centers.

TO OBTAIN FULL INSULATING VALUE, PROVIDE AN AIR SPACE FACING







USE IT TO SAVE FUEL IN WINTER

. . . TO KEEP COOL IN SUMMER

Reynolds Aluminum Reflective Insulation is the pacemaker in the modern conception of insulation efficiency without bulk. This perfect vapor barrier holds its shape year after year . . . holds its reflective efficiency, too, in spite of dust and age. Yet Reynolds Aluminum Reflective Insulation is available at about half the cost of conventional bulk insulation . . . a new and welcome saving to builders and home owners. Reynolds Aluminum Reflective Insulation is composed of "solid sheets" of *Lifetime* Aluminum bonded to tough, kraft paper for ease in handling. Available embossed in two styles: with the aluminum bonded to one or both sides of kraft sheet.

ATTICS

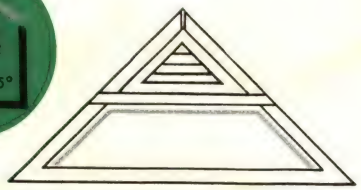


In Attics. Insulation is simply stapled over roof rafters. Use 33″ wide insulation for rafters on 16″ centers, 25″ insulation for rafters on 24″ centers. Ventilation above collar joists is important. If collar joists are missing, install them. If attic is to be finished, bow between rafters using 36″ wide insulation for rafters on 16″ centers.

ACH FOIL SURFACE







SPECIFICATIONS

Insulation shall be applied where shown on architects plans and specifications. Material shall be Reynolds Aluminum Reflective Insulation, Type B or C as required. Material shall be applied according to Reynolds suggested application procedures, parallel to framing members and with an air space on one or both sides. (Detailed specifications available on request.)

TYPE B



Weight: 15 lbs. per roll

TYPE C



Weight: 11 lbs. per roll

Both types available in roll widths of 25″, 33″ and 36″.
Coverage: 250 sq. ft. per roll.

INSULATING VALUES IN TYPICAL CONSTRUCTION AS SHOWN IN ASH&VE GUIDE, 1949

Data from tests conducted by Professors Gordon B. Wilkes, Massachusetts Institute of Technology, and F. G. Hechler and E. R. Queer, Pennsylvania State College.

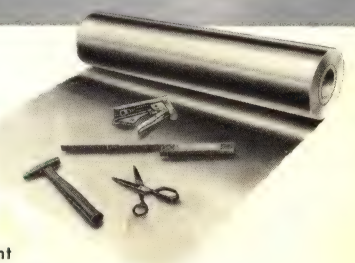
LOCATION AND POSITION OF AIR SPACE	SEASONAL HEAT FLOW	CONDUCTANCE (C) NUMBER OF AIR SPACES			RESISTANCE (1 C) NUMBER OF AIR SPACES		
		1	2	3	1	2	3
Rafter Space (8 in.) Horizontal	Winter		0.27	0.17		3.70	5.88
Horizontal	Summer		0.09	0.06		11.11	16.67
30 deg. slope	Winter		0.25	0.16		4.00	6.25
30 deg. slope	Summer		0.13	0.09		7.69	11.11
Stud Space (3⅜ in.) Vertical	Winter and Summer	0.34	0.21	0.13	2.94	4.76	7.69
Joists over crawl space	Winter		0.10	0.07		10.00	14.30

1 air space—One layer single-faced Reynolds Reflective Insulation (Type C)

2 air spaces—One layer double-faced Reynolds Reflective Insulation (Type B)

3 air spaces—One layer Type B and One layer Type C, equally spaced.

EASY TO APPLY



Reynolds Aluminum Reflective Insulation is installed with minimum equipment and expense. Tools include knife or shears, stapler or tack hammer and rule. Professional and non-professional builders alike find directions easy to follow; application rapid and clean.



REYNOLDS ALUMINUM REFLECTIVE INSULATION

A low cost insulation . . . and a perfect vapor barrier

CUTS MILDEW AND DAMPNESS

Reynolds Aluminum Reflective Insulation gives protection against much of the dampness that mildews shoes and clothing, books, suitcases and other items stored away in musty closets.

REDUCES INNER-WALL CONDENSATION

Reynolds Aluminum Reflective Insulation provides a dryer, healthier atmosphere in your home, prevents much of the dampness that ruins wallpaper and decays structural timbers.

PROTECTION FOR BULK INSULATION

When bulk type insulation is desired, the use of Reynolds Aluminum Reflective Insulation is strongly recommended. It acts as an effective vapor barrier to prevent the bulk insulation from absorbing moisture and thus losing its efficiency.

MOISTURE VAPOR TRANSMISSION *

MATERIAL	GRAINS SQ. FT. HR. (IN. HG)
Reynolds Reflective Insulation (Type B)	0.10
Gypsum lath, with Al. backing	0.25
Brick masonry, 4-in.	1.08
Plaster, two coats Al. paint	1.15
Duplex paper 30-30-30	1.95
Pine lap siding	4.9
Plywood, ¼ in., Douglas fir, soybean glue, plain	5.4
Plaster, wood lath	11.0
Slater's felt	15.0
Plastered wall, no paint, plasterboard lath	20.0
Mineral wool, unprotected, 4 in.	29.0
Insulating lath and sheathing, board type	30.0
Kraft paper, 1 sheet	82.5

*Average values obtained from Report BMS63, National Bureau of Standards.



Reynolds Reflective Insulation paid for itself in less than one year, according to the owner of this large Chicago garage.

THE MOST COMPLETE LINE OF ALUMINUM BUILDING PRODUCTS

CORRUGATED ROOFING AND SIDING • NAILS
RIBBED EMBOSSED SIDING • WEATHERBOARD SIDING
WINDOWS • 5-V CRIMP ROOFING AND SIDING
GUTTERS AND DOWNSPOUTS • FLASHING
INDUSTRIAL CORRUGATED • REFLECTIVE INSULATION
COMPLETE ROOFING AND SIDING ACCESSORIES

REYNOLDS METALS COMPANY

(Contact your nearest Building Products Sales Office listed below or write direct to Building Products Division, 2000 So. Ninth Street, Louisville 1, Kentucky.)

SALES OFFICES

Atlanta, Baltimore, Birmingham, Boston, Charlotte, Chicago, Cincinnati, Cleveland, Columbus, Dallas, Denver,* Des Moines, Detroit, Grand Rapids, Houston, Indianapolis, Kansas City, Los Angeles, Louisville, Memphis, Milwaukee, Minneapolis, New Orleans, New York, Phoenix, Pittsburgh, Portland, Richmond, Salt Lake City, San Francisco, Seattle, St. Louis, Tampa.

BP 315-E (9/52)

Litho in U.S.A.

MILCOR

REG. U. S. PAT. OFF.

metal lath and accessories

firesafe construction

Metal Lath and plaster is recognized as the finest and most dependable form of firesafe construction. In actual conflagrations, metal lath and plaster has lived up to the performance promised for it in laboratory tests.

lasting satisfaction

You get a better job with Milcor Metal Lath and plaster. The lath doesn't swell or warp when wet plaster is applied, nor shrink when the plaster dries out. The firm bond between lath and plaster resists cracks and damage due to impact or shock.

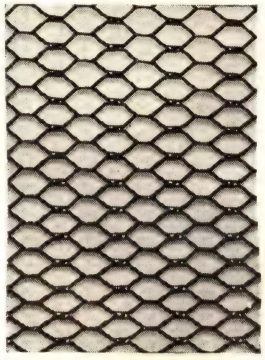
freedom of design

Milcor Metal Lath and accessories allow complete freedom of expression for the architect in the design of building interiors. They can be formed to any contour—faithfully expressing the architect's conception.

your best choice

Milcor offers the most complete line in the industry from which to select the steel building products you need. Years of experience, with continuing improvement in design and manufacturing procedures, have made Milcor Metal Lath and accessories the standard of quality for firesafe construction.

METAL LATH



Smalmesh metal lath

A general utility lath which can be readily bent or formed for furred or ornamental members. Due to the small, rigid mesh only a minimum amount of plaster is required to produce a perfect key.

SHEET SIZE: 27" x 96", packed 10 sheets (20 sq. yds.) per bundle. All sheets are squared on both ends.

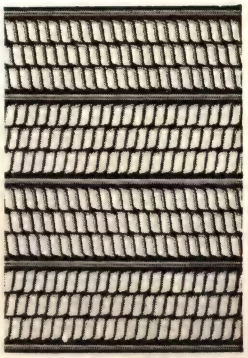
MATERIALS AND WEIGHTS (lb. per sq. yd.): Copper Alloy Steel, Painted—2.50 lb., 3.40 lb. Galvanized Sheet Steel—3.40 lb.

Specialmesh metal lath

A rib lath for interior walls and ceilings. Saves plaster, yet provides excellent bond. Ribs 3/8" wide, spaced 1 3/8" on centers. Cross strands at 1/4" intervals, reinforced by stiffening members (two between each pair of ribs). All sheets are squared on both ends. Well suited to "two coat work" or "back plastering".

SHEET SIZE: 27" x 96", packed 10 sheets (20 sq. yds.) per bundle.

MATERIALS AND WEIGHTS (lb. per sq. yd.): Copper Alloy Steel, Painted—2.75 lb., 3.40 lb.





3/8" Stay-rib metal lath no. 2

Ideal lath for wide ceiling spans, for floor reinforcing over steel joists and for studless partitions. 3/8" heavy ribs spaced 4.8" on centers. Five stiffening members between ribs. Connecting strands at 1/4" intervals. Rigidity of ribs saves labor and material when there is wide spacing of supports.

SHEET SIZE: 24" x 96", packed 9 sheets (16 sq. yds.) per bundle.

MATERIALS AND WEIGHTS (lb. per sq. yd.): Copper Alloy Steel, Painted—3.40 lb., 4.00 lb.

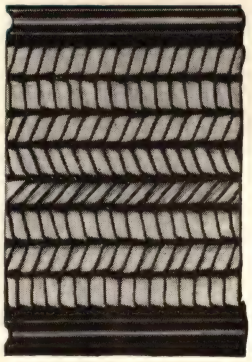
3/4" Stay-rib metal lath no. 3

Reinforcement for concrete floors and roofs. Serves as a form for wet concrete. Adjustable to pitched sawtooth and monitor-type roofs. Also for reinforcing concrete base for tile, terrazzo, or composition flooring. Five 3/4" ribs spaced 6" on centers. Seven stiffening members between ribs.

SHEET SIZE: 24" wide, 8, 10 and 12 ft. long. Packed 6 sheets to a bundle.

MATERIALS AND WEIGHTS (lb. per sq. ft.): Copper Alloy Steel, Painted—.60 lb., .75 lb.

CROSS SECTIONAL AREAS (sq. in. per ft. width): .60 lb.—.1482; .75 lb.—.1977.



Milcor cold rolled channels

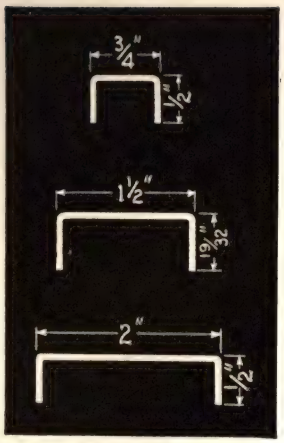
Accurately formed with true right angles; uniform and straight their entire length. Regularly used with metal lath for suspended ceilings, furring and solid and hollow partitions.

SIZES: ¾", 1½" and 2". Stock lengths 16 ft. and 20 ft.

PACKING (per bundle): ¾"—20 pieces; 1½" and 2"—10 pieces.

WEIGHTS (lb. per 1,000 lin. ft.): ¾"—300 lb.; 1½"—490 lb.; 2"—590 lb.

MATERIAL: 16 gauge Steel Painted.



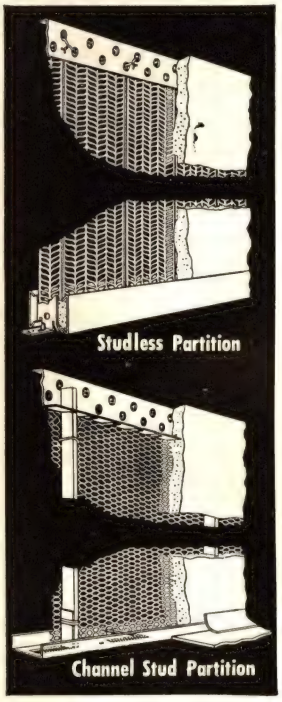
Milcor solid partitions (studless and channel stud) and Milcor furring system

Simplified erection for space saving, 2" plaster partitions or furred walls. Studless partition utilizes ⅜" Stay-rib Metal Lath with Corner-Ex or L-type Ceiling Runner; Base Clips and Metal Base. Cost of channel studs and their installation is eliminated. Channel stud partition employs Z-type Ceiling Runner (Pat. No. 2,257,712) with Martrack Channel Floor Runner (Patent applied for). Besides anchoring channel studs, Martrack provides screed and plaster grounds. "L" Type Beam Runner used when partition is constructed along beam. Milcor Metal Base can be used by employing clips in place of Martrack. Z-type Floor Runner also available.

MATERIAL: 20 gauge Galvanized Steel. Martrack 18 gauge Galvanized Steel. Stock lengths: 10 ft.

WEIGHTS (lbs. per 1,000 lin. ft.): "Z" Type Ceiling Runner—230 lb. "L" Type Ceiling Runner—189 lb. "L" Type Beam Runner—374 lb. "Z" Type Floor Runner—136 lb. Martrack—640 lb.

PACKING (per carton): "Z" Type Ceiling Runner, "L" Type Ceiling Runner and "L" Type Beam Runner—50 pcs. "Z" Type Floor Runner—100 pcs. Martrack—20 pcs.



Milcor one piece steel stud and track

LARGE, UNIFORM OPENINGS: Spaced 6" on centers in all studs. Provides a pre-determined location for conduits or pipe lines.

REINFORCED X-SHAPED MEMBERS: The short-span X-shaped framing is reinforced by an embossed corrugation.

MATERIAL: 16 gauge Steel, Painted.

STANDARD STUD LENGTHS: 6, 7, 8, 9, 10, 12, 14, 16, 18 and 20 ft. Intermediate lengths can be furnished.

WEIGHTS (lb. per 1,000 lin. ft.): 3¾"—625 lb.; 4"—675 lb.; 6"—720 lb.

STANDARD RUNNER TRACKS: Same design as studs. Made in 10 ft. lengths only. Punched for attaching to floor.

EXTERNAL TYPE STUD SHOES: Made from 20 gauge steel in 5 in. and 7 in. lengths. 7 in. shoes used for ceiling attachments when variations in ceiling height call for extra length. Weight: 100 lb. per 1,000 pcs.

MARTRACK FLOOR RUNNER (Patent applied for): One standard unit serves as runner track for any size stud. Also provides screed and plaster grounds, eliminating cost of installing separate grounds. 18 gauge Galvanized Steel. Weight per 1,000 lin. ft.—500 lbs. Packed 20 pcs. per carton.

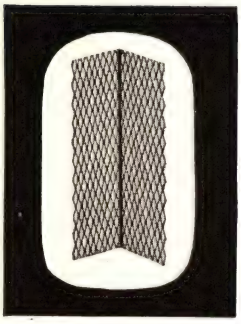


Milcor corner-ex

Finished edges. Center rib guides Corner-Ex accurately into corner. Design and contour eliminate any projections interfering with plastering. Wired together in sub-bundles of 25 pcs. ea. Packed three sub-bundles (75 pcs.—600 ft.) per ctn.

SIZES: 2" x 2" x 96"; 3" x 3" x 96".

WEIGHTS (lb. per 1,000 lin. ft.): 2"—100 lb.; 3"—140 lb.



Milcor arch bead

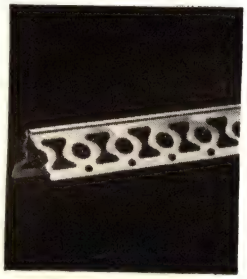
Used either straight or curved. To curve — simply snip one or both flanges with tin snips. Bead can then be formed easily into a smooth arc, without kinks or breaks in the nose, by applying slight pressure with the hands. A minimum amount of metal cutting is required.

MATERIAL: 26 gauge Sheet Steel, Galvanized.

LENGTHS: 7, 8, 9, 10 and 12 ft.

WEIGHT (lb. per 1,000 lin. ft.): 175 lb.

PACKING: Wired in bundles of 10 pcs. ea. 7 and 8 ft. packed 8 bundles per carton; 9, 10 and 12 ft. packed 6 bundles per carton.



Super-ex corner bead

Patent No. 2,267,002

Combines advantages of both Expansion and Solid Wing corner beads into a superior product. Strong, straight nose reinforced by two solid flange sections, strengthened by corrugations. Integral expansion flange makes excellent plaster bond and simplifies erection.

MATERIAL: 26 gauge Sheet Steel, Galvanized.

LENGTHS: 7, 8, 9, 10 and 12 ft.

WEIGHT (lb. per 1,000 lin. ft.): 270 lb.

PACKING (per carton): 7 ft.—80 pcs.; 8 ft.—70 pcs.; 9 ft.—60 pcs.; 10 and 12 ft.—50 pcs.



No. 1 expansion corner bead

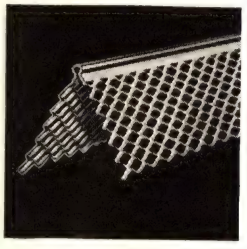
Wide expanded metal wing integral with nose of the bead—plaster keys right up to nose of the bead; effective plaster reinforcement exactly where needed.

MATERIAL: 26 gauge Sheet Steel, Galvanized.

LENGTHS: 7, 8, 9, 10 and 12 ft.

WEIGHT (lb. per 1,000 lin. ft.): 210 lb.

PACKING (per carton): 7 and 8 ft.—80 pcs.; 9, 10 and 12 ft.—60 pcs.



No. 10 expansion and No. 50 solid wing bull nose corner beads

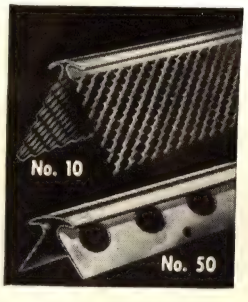
For use where broad, rounded corners, with extra resistance to damage from moving carts, wheelchairs, etc., are desired. Face of bead 1" wide, radius ¾".

MATERIAL: 26 gauge Sheet Steel, Galvanized.

LENGTHS: 7, 8, 9, 10 and 12 ft.

WEIGHT (lb. per 1,000 lin. ft.): No. 10—340 lb.; No. 50—230 lb.

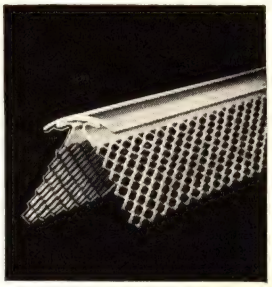
PACKING (per carton): No. 10: 30 pcs. **No. 50:** 7 and 8 ft.—80 pcs., 9, 10 and 12 ft.—60 pcs.



No. 8 and No. 9 bull nose expansion corner beads

For extra broad, heavy duty rounded corners. Heavy gauge steel face: No. 8—2" wide, curved to 1½" radius; No. 9—2¼" wide, curved to 2" radius. Expansion wings are spot-welded to the nose.

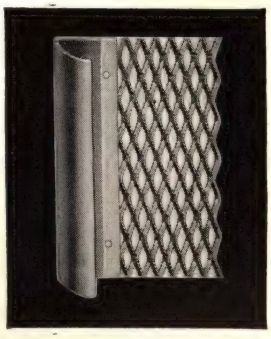
MATERIAL: Expansion Wing—26 gauge Sheet Steel, Galvanized. Nose — 16 gauge, Galvanized.
LENGTHS: 7, 8, 9, 10 and 12 ft.
WEIGHT (lb. per 1,000 lin. ft.): No. 8—815 lb.; No. 9—860 lb.
PACKING (per carton): 15 pcs.



No. 4 expansion casing bead

For doors, windows and other openings. Applied before plastering. Provides screed to which plasterer can work. Only the smooth, quarter round nose of the casing bead is exposed after plastering. Integral Expansion Wing reinforces the plaster. Ridged flange insures a tight fit to the jamb.

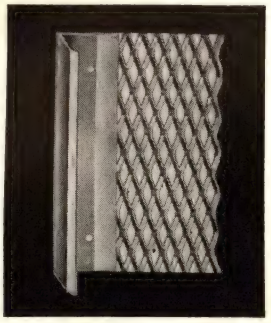
MATERIAL: 24 gauge Tight Coat Galvanized Steel.
LENGTHS: 7 ft., 7 ft. 3 in. and 10 ft.
GROUNDS: ½ in. and ¾ in.
WEIGHT (lb. per 1,000 lin. ft.): 315 lb.
PACKING (per carton): 7 ft. and 7 ft. 3 in.—80 pcs.; 10 ft.—60 pcs.



No. 60 expansion casing bead

Similar to the No. 4 Casing Bead except that the face is flat and has a bevelled edge. Slight ridge in the nailing flange of Milcor Casing Bead creates a pressure that holds the nose of the casing bead tightly against the jamb.

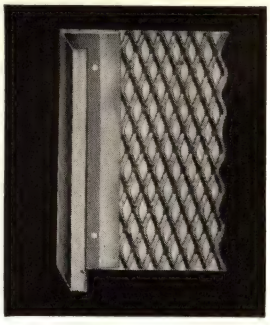
MATERIAL: 24 gauge Tight Coat Galvanized Steel.
LENGTHS: 7 ft., 7 ft. 3 in. and 10 ft.
GROUNDS: ½ in. and ¾ in.
WEIGHT (lb. per 1,000 ft.): 250 lb.
PACKING (per carton): 7 ft. and 7 ft. 3 in.—80 pcs.; 10 ft.—60 pcs.



No. 66 expansion casing bead

Square design with 3/16" return. Expansion Wing feature affords excellent plaster bond and reinforcement; minimizes plaster cracking. Ridge in nailing flange insures tight fit.

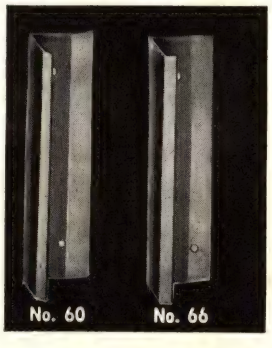
MATERIAL: 24 gauge Tight Coat Galvanized Steel.
LENGTHS: 7 ft., 7 ft. 3 in. and 10 ft.
GROUNDS: ½ in. and ¾ in.
WEIGHT (lb. per 1,000 lin. ft.): 260 lb.
PACKING (per carton): 7 ft. and 7 ft. 3 in.—80 pcs.; 10 ft.—60 pcs.



No. 60 and No. 66 short flange casing beads

Nailing flange is 1⅛" wide with two rows of nailing holes. Holes are staggered and spaced 6" on centers in each row. Ridged flange for tight fit.

MATERIAL: 22 gauge Tight Coat Galvanized Steel.
LENGTHS: 7 ft., 7 ft. 3 in. and 10 ft.
GROUNDS: ½ in., ¾ in. and ⅞ in.
WEIGHT (lb. per 1,000 lin. ft.): No. 60—210 lb.; No. 66—240 lb.
PACKING (per carton): 7 ft. and 7 ft. 3 in.—80 pcs.; 10 ft.—60 pcs.



No. 138 short flange casing bead

Formed in a true quarter-round design. Sections straight and uniform in shape. Good looking fitted, mitered or coped corners easy to make. Nailing flange is 1⅜" wide with two rows of nailing holes. Ridged flange for tight fit.

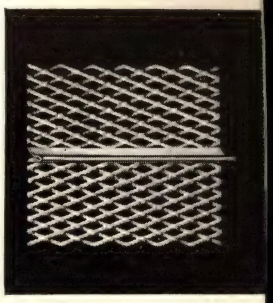
MATERIAL: 24 gauge Tight Coat Galvanized Steel.
LENGTHS: 7 ft., 7 ft. 3 in. and 10 ft.
GROUNDS: ½ in., ¾ in. and ⅞ in.
WEIGHT (lb. per 1,000 lin. ft.): 235 lb.
PACKING (per carton): 7 ft. and 7 ft. 3 in.—80 pcs.; 10 ft.—60 pcs.



No. 3 expansion flush base screed

A firm, rigid metal dividing strip to set between plaster and flush concrete base. Expansion Wings assure keying of plaster and concrete close up to the nose of the screed. 9/16" grounds.

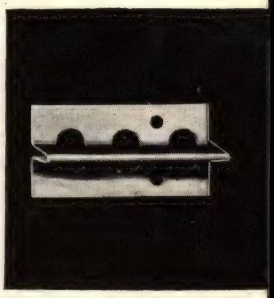
MATERIAL: 26 gauge Tight Coat Galvanized Steel.
LENGTHS: 10 ft.
WEIGHT (lb. per 1,000 lin. ft.): 210 lb.
PACKING (per carton): 50 pcs.



No. 77 flush base screed

A strong, straight dividing strip for use between plaster and flush concrete or terrazzo base. Key holes for plaster and concrete in top and bottom flanges. Made in ½" grounds only.

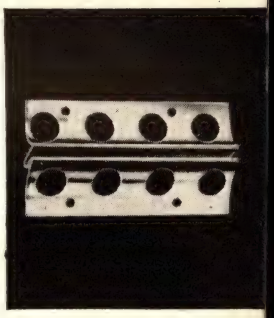
MATERIAL: 26 gauge Tight Coat Galvanized Steel.
LENGTHS: 10 ft.
WEIGHT (lb. per 1,000 lin. ft.): 150 lb.
PACKING (per carton): 50 pcs.



No. 70 concealed picture mould

Applied before plastering. Entirely concealed except for narrow nose. Permanent, sturdy and sanitary. Forms a rigid, dependable support for pictures, maps, art objects, etc.

MATERIAL: 26 gauge Tight Coat Galvanized Steel.
LENGTHS: 10 ft.
WEIGHT (lb. per 1,000 lin. ft.): 235 lb.
PACKING (per carton): 50 pcs.



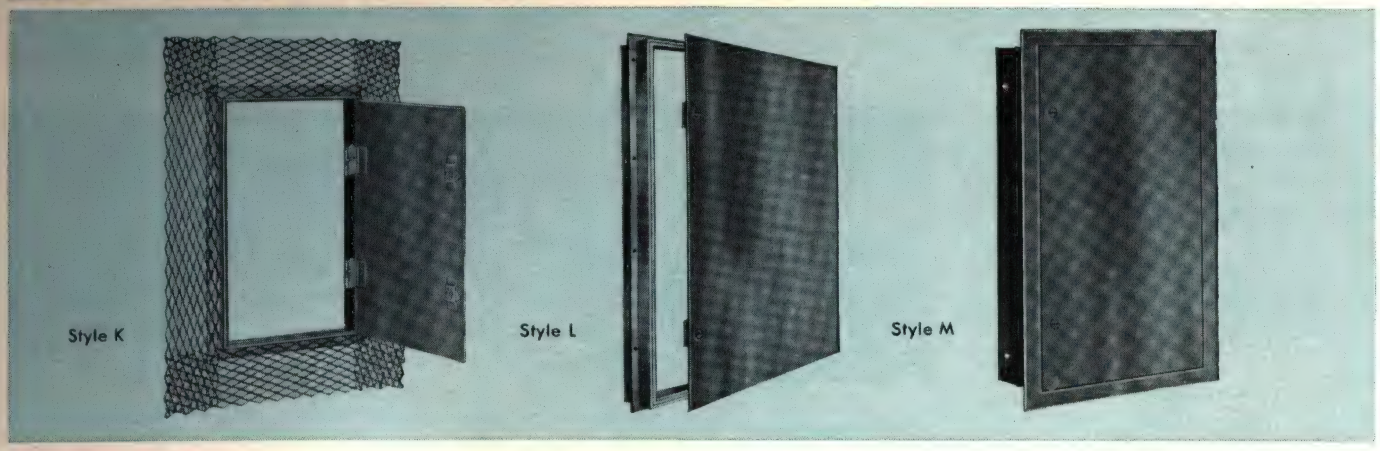
Milcor clean out doors

Patent No. 2,679,914

A convenient means of access for removing accumulations of soot and fly ash from the chimney. Door catch provides a positive lock, preventing door from being blown open. Hinge design permits lasting freedom of operation. Wide flanges on frame simplify installation.
The Milcor Clean Out Door is stamped from high grade, 16 gauge Copper Alloy Steel Sheets. Furnished painted. Size — 8" x 8". Packed six doors per carton. Shipping Weight per carton—19 lbs.



MILCOR metal lath accessories



Milcor metal access doors

Permit easy access to key points in plumbing, heating, electrical and refrigeration systems without damage to wall. Spring hinge allows opening to 175°. Number of hinges varies with size of door. Doors removable by extracting hinge pin.

THREE STYLES: Style "K", with Expansion Wings, for use with plastered walls, Style "L", without Expansion Wings, for use with plastered walls. Style "M", with Flush Flange, for use with non-plastered walls.

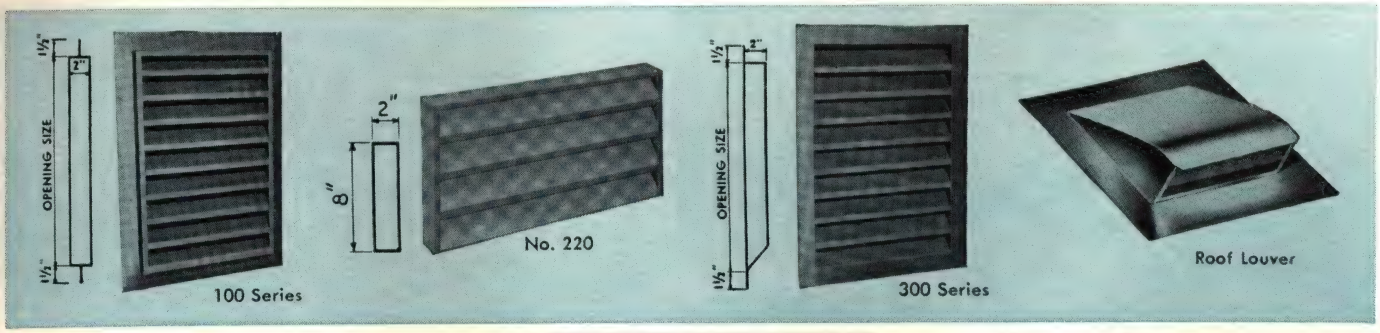
MATERIALS: Door 14 gauge Steel; Housing 16 gauge Steel. Gray primer painted.

LOCKS: Flush, screwdriver operated, metal cam. Number of cams varies with size of door. Cylinder lock with two keys furnished on request at extra charge.

ANCHORS: Corrugated anchors for brick, stone or structural facing tile furnished on request at slight extra charge.

PACKING: One per carton.

Catalog Number	Wall Opening (Inches)	No. of Hinges	No. of Cam Locks	Shipping Weights	
				Style "K" (lb. each)	Styles "L" or "M" (lb. each)
8-8	8⅜ x 8⅜	1	1	4½	4
8-12	8⅜ x 12⅜	1	1	6	5½
12-12	12⅜ x 12⅜	1	1	7	6½
12-16	12⅜ x 16⅜	2	1	10	8½
12-18	12⅜ x 18⅜	2	1	11	9½
16-16	16⅜ x 16⅜	2	1	12	10½
16-20	16⅜ x 20⅜	2	1	14	12½
18-18	18⅜ x 18⅜	2	1	14	12½
20-24	20⅜ x 24⅜	2	2	18½	17
20-30	20⅜ x 30⅜	3	3	23	21
24-24	24⅜ x 24⅜	2	4	22½	20½
24-30	24⅜ x 30⅜	3	5	26	24
24-36	24⅜ x 36⅜	3	5	30½	28½



Milcor louver ventilators

Patent No. 2,309,717 and 2,340,570

Relief from summer heat; wintertime protection against condensation damage. Made of heavy Galvanized Sheet Steel. Aluminum painted. Welded construction. Generously fitted corners and overlaps. Reinforced louver blades. Carefully framed removable insect screen. No. 100 Series—self casing style. No. 220—for use with masonry—fits opening the size of one concrete block. No. 300 Series—flush type flange.

Opening Size, Width, Height, Inches	Free Area, Sq. In.	100 Series		200 Series		300 Series	
		Style No.	Wt. Ea. Lb.	Style No.	Wt. Ea. Lb.	Style No.	Wt. Ea. Lb.
8 x 8	27	108	2	. . .	. . .	308	1½
8 x 12	50	110	3	. . .	. . .	310	2½
12 x 12	71	112	4	. . .	. . .	312	3
8 x 16	66	116	4	. . .	. . .	316	3
12 x 18	119	118	5	. . .	. . .	318	4
16 x 8	66	. . .	. .	220	3	. . .	. . .
14 x 24	196	124	8	. . .	. . .	324	7
24 x 30	436	. . .	. . .	. . .	. . .	330	15

No. 330 packed 2 per ctn. All others packed 6 per ctn.

Milcor roof louvers

Patent No. 2,551,223

For ventilation of attics which have no gables or side walls. Can be installed on roofs of any pitch. No special framing required—extra wide flanges give adequate support and protection. Equipped with removable insect screen. Screen frame 5¼" x 12". Extreme height 4⅝". Overall size 16" x 18". Made of Galvanized Steel and painted with aluminum. Weight each 4 lb. Packed 6 per carton.

INLAND STEEL PRODUCTS COMPANY

4121 West Burnham Street, Milwaukee 1, Wisconsin

BALTIMORE 5, MD. — 5300 Pulaski Highway • BUFFALO 11, N. Y. — 64 Rapin St. • CHICAGO 9, ILL. — 4301 S.W. Ave. Blvd.
CINCINNATI 25, OHIO—3240 Spring Grove Ave. • CLEVELAND 14, OHIO—1541 E. 38th Street • DETROIT 2, MICH.—690 Amsterdam Ave.
KANSAS CITY 41, MO. — P. O. Box 918 • LOS ANGELES 58, CALIF. — 4807 E. 49th St.
NEW YORK 17, N. Y. — 230 Park Ave. • ST. LOUIS 10, MO. — 4215 Clayton Ave.

3d KEYMESH
Ke KEYBEAD
KEYCORNER

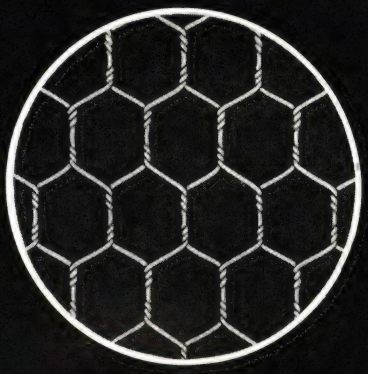
KEYSTONE

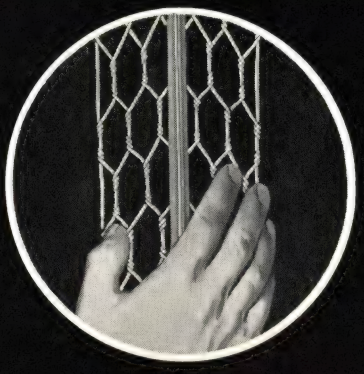
3 KEYS TO STRONGER PLASTER

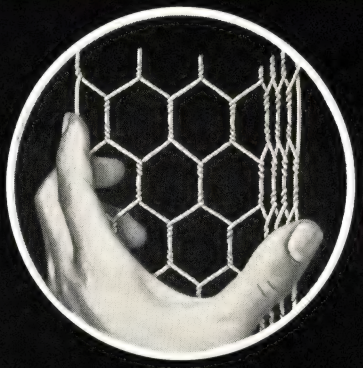
KEYMESH

KEYCORNER

KEYBEAD







With Keymesh, Keycorner and Keybead—Keystone's 3 Keys to stronger plaster—an efficient, economical method is provided to strengthen plaster. The combined use of Keymesh on the entire ceiling area with Keybead on outside corners and Keycorner at inside corners, joints and ceiling-wall junctures, results in trouble-free, lasting plaster beauty—a valuable advantage to plasterers, lathers, builders, contractors, and architects alike. It assures greater owner satisfaction.

plaster reinforcing

column fireproofing

KEYSTONE

KEYSTONE STEEL & WIRE COMPANY

PEORIA 7, ILLINOIS

CONTENTS

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Other Products.....page 4

3 Keys to stronger plaster

The simple addition of Keymesh galvanized reinforcing lath over gypsum lath increases the fire rating reference of a ceiling from

KEYMESH FOR CEILINGS
galvanized reinforcing lath

Woven of cold drawn steel wire, Keymesh provides greater bonding surface and assures a full, even thickness of plaster on ceilings. This is due to its reverse twist weave. Keymesh rolls out flat, laps without bulging and goes up fast. It forms easily for arches, curves or rectangular shapes and cuts quickly around doors, windows and other openings. Galvanized, it prevents rust stains. The smooth surface and open mesh permit easy, rapid troweling and is not injurious to the hands.





SPECIFICATIONS
Galvanized Hexagon Mesh

150′ x 3′ rolls	Shipping Wt.
1″— 18 gauge	88 lbs.
1″— 20 gauge	45 lbs.

Other widths and gauges available

KEYBEAD FOR OUTSIDE CORNERS
galvanized reinforcing lath*

Keybead corner bead combines the multidirectional reinforcement and effective bonding surface you get with Keymesh . . . plus precision-formed, strong metal bead. Keybead comes boxed in standard lengths for quick, easy application on the job. Sections can be spliced, when desired, to make a continuous length. The even surface and selvage edge of the Keybead wings permit smooth, rapid troweling, and will not cut or tear hands.

**Also available with pure zinc nose.*





SPECIFICATIONS

Length	Wings Width	Number per carton	Shipping Wt. per carton
7′	2½″	100	129.5 lbs.
8′	2½″	80	118.5 lbs.
9′	2½″	80	133 lbs.
10′	2½″	60	112 lbs.
12′	2½″	60	134 lbs.

KEYCORNER FOR INSIDE CORNERS
galvanized reinforcing lath

Made of the same material as Keymesh, Keycorner comes in narrow widths. It rolls out flat and forms the corner shape when flexed. The quick, snug fit in corners is accomplished by a preforming process. Because Keycorner can be cut quickly to the exact length required, there is no waste. This low-cost, reinforcing lath has the smooth surface and selvage edge features which provide easy troweling and prevent injury to the hands. Keycorner is galvanized for protection in storage and to prevent rust streaks.





SPECIFICATIONS

150-Ft. Rolls, Galvanized Hexagon Mesh

Width	Gauge	Mesh Size	Shipping Wt.
4″	18	1″	11 lbs.
4″	20	1″	5.8 lbs.
5″	18	1″	13.8 lbs.
5″	20	1″	6.9 lbs.
6″	18	1″	15.5 lbs.
6″	20	1″	8.2 lbs.

Other widths and gauges available

with 50% more fireproofing

- one hour to one and one-half hours when finished with ½ inch of lightweight aggregate plaster.

3d KEYMESH
Ke KEYBEAD
KEYCORNER



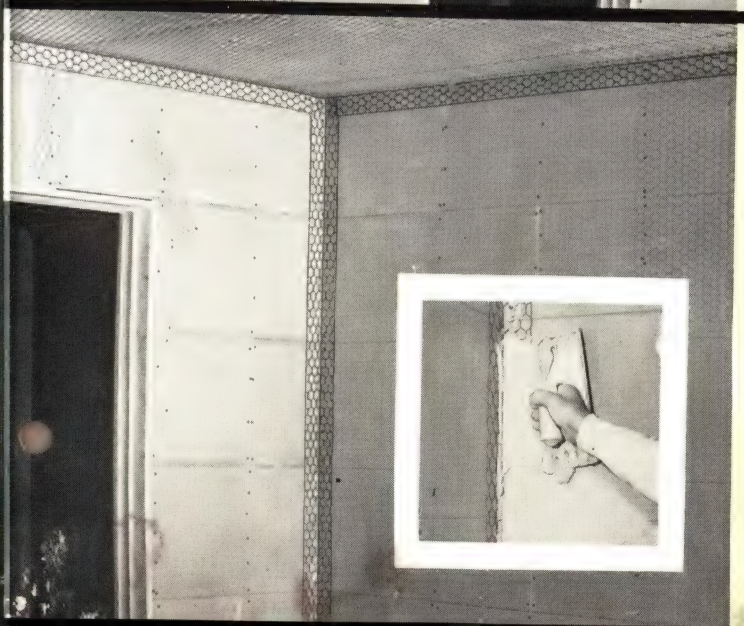
KEYMESH

When applied over the lathed ceiling area, Keymesh reinforces the plaster. When the plaster is applied, the Keymesh becomes completely embedded, and structural stress is distributed uniformly throughout the reinforced ceiling, thereby adding valuable protection against cracking. There is no restriction to interior design and construction possibilities when ceilings are reinforced with Keymesh. It is especially valuable for its reinforcement of plaster ceilings when radiant heat is used.



KEYBEAD

Keybead assures true, strong, shock-resistant corners at the lowest possible cost. The tough steel (or pure zinc) bead takes the shock of sharp blows. The Keybead wings allow full embedment of the plaster for stronger reinforcement. The open mesh construction permits plaster to flow through and grip tightly for greater strength. The solid plaster corner, with its multidirectional reinforcement, has exceptional resistance to cracking, shattering or breaking.



KEYCORNER

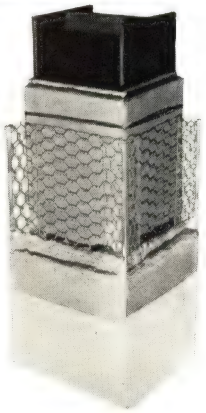
Strengthens inside corners, joints and corners at windows, doors and other large openings. Also reinforces wall and ceiling junctures around the entire perimeter of the room. It provides the extra assurance against plaster cracks that occur at these points. Keycorner also assures full, even plaster thickness wherever used. The flexibility of Keycorner makes it easy to use in reinforcing plaster details, such as cove lighting, arches, cornices, etc. Economical and easy to use, Keycorner is one of the 3 Keys to a better plaster job.



Up to 30% Cut in Cost of COLUMN FIREPROOFING with Keymesh-Keybead Reinforcing

- 4 hour fire rating
- less weight
- no forms
- fewer piles
- easier conduit installation
- quality finish
- saves space

Savings derived from the reduction of steel tonnage, piles, yardage of concrete and omission of forms make the use of Keymesh and Keybead reinforcing completely practical. The open-mesh design assures full plaster protection of the column, while the network of multidirectional steel wires holds the plaster in position even after severe fire exposure. By wiring Keybead to the corners the plaster flows freely to the desired thickness, yet is firmly laced with the hexagonal mesh for maximum strength, life and fire protection. The precision formed bead assures true corners that are protected against shocks and blows.



$75,000 in construction costs was saved in this building by using reinforced plaster to fireproof the columns and beams

East Dentistry-Medicine-Pharmacy Building
University of Illinois, Chicago

Architects—Pace Associates

General Contractor—
Sumner Sollitt Company

Plastering Contractor—
McNulty Bros. Company

Use KEYMESH to reinforce modern stucco and simulated stone and brick sidings



Concrete stucco and simulated sidings are attractive, economical exterior finishes. They are successfully used in every climate and every locality to cut costs, provide higher fire resistance and keep maintenance costs low. Keymesh provides strong reinforcement for cement sidings of any type on either new or modernization jobs. For more information see Sweets Catalog, 7c/Key for further details or write for the book—Keystone System.



TIE WIRE

Available in coils or straight pieces. All standard sizes. Conveniently packaged. Is smooth and pliable. Can be used for innumerable building purposes.



SPECIAL NAILS

A full selection of nails for various applications is available from Keystone. For example, furring, concrete, duplex, blued lath and galvanized roofing nails. There is also a complete assortment of sizes.



WELDED WIRE FABRIC

Easy to handle, cut and form. It is manufactured in a wide variety of weights and sizes. Cold drawn steel wire, expertly electrically welded at each intersection for permanence and long life.

KEYSTONE STEEL & WIRE COMPANY, Peoria 7, Illinois

Keymesh • Keybead • Keycorner • Keystone Tie Wire • Nails
Welded Wire Fabric • Non-Climbable and Ornamental Fence

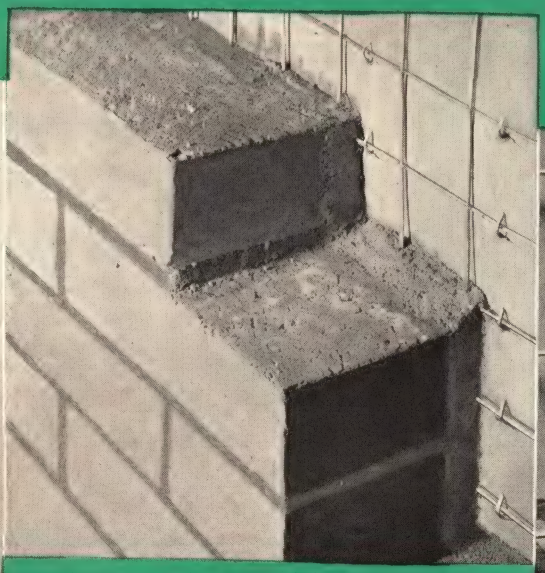
PRINTED IN U. S. A.

A-7439

Pittsburgh Steeltex®



for plaster



for masonry



for stucco

Steeltex Floor Lath

for Concrete Floors and Roofs

and

Pittsburgh Welded Wire Reinforcement

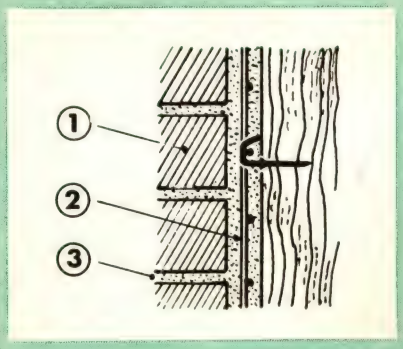
(See *Structural Systems Section*)

Pittsburgh Steel Products Company

A Subsidiary of **Pittsburgh Steel Company**

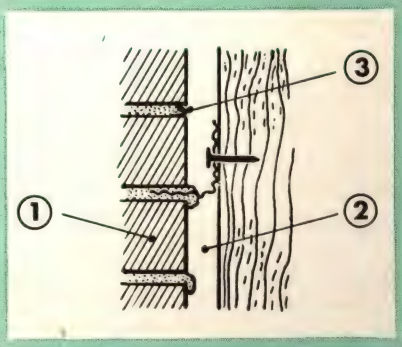
Pittsburgh 30, Pa.

STEELTEX ADDS FIRE PROTECTION



Steeltex Construction

1. The veneer becomes a part of the structure.
2. One inch space filled with mortar, reinforced by wire mesh, eliminates the flue area.
3. Properly filled mortar joints are assured and the waterproofed backing adds protection against air and moisture penetration.



Ordinary Construction

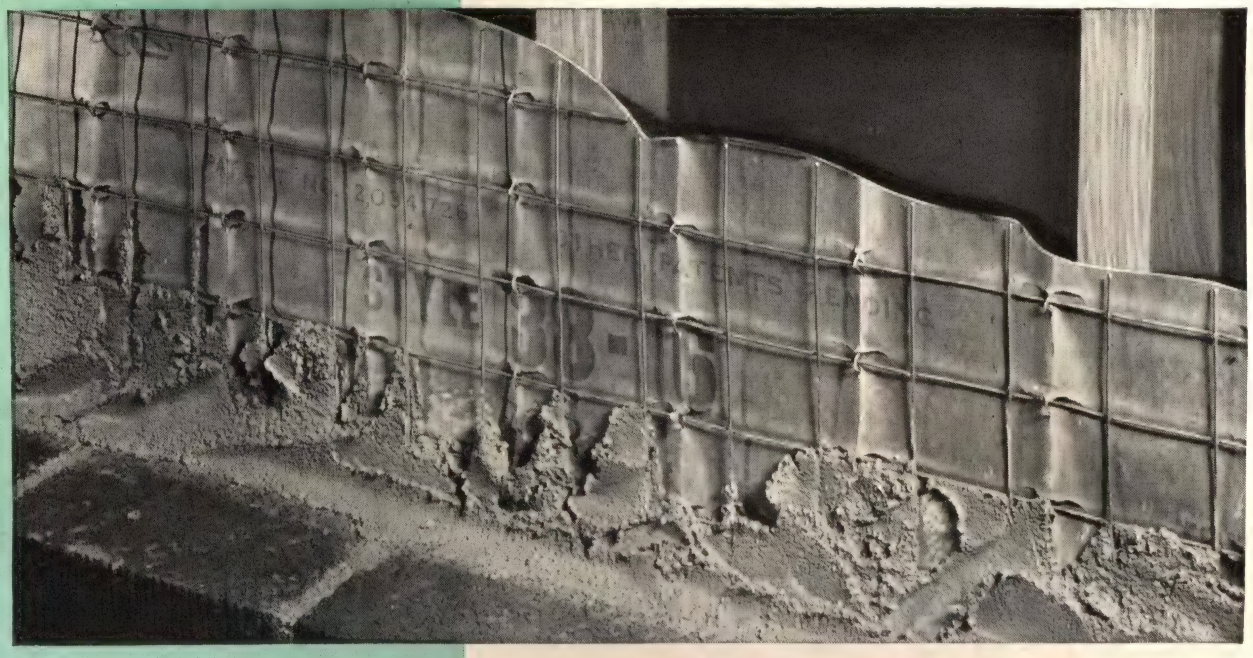
1. The veneer is tied only with small metal ties.
2. One inch air space can become a dangerous flue in case of an interior fire.
3. Partially filled mortar joints permit penetration of air and moisture.

Steeltex for Masonry Veneer

Reinforcing Sheathing Applied Directly to the Framework

Masonry veneer walls constructed with this reinforcing sheathing are extremely solid and durable, yet economical in cost when the Steeltex is nailed direct to the studs. Steeltex Style 38-16 is made of 16 gauge, electrically welded, galvanized mesh with double-ply waterproofed breather backing attached.

Reinforced masonry veneer construction using Steeltex as the sheathing for the veneer, actually binds the outer wall to the framework. Strong welded steel mesh embedded in the continuous mortar behind the veneer provides additional resistance against settling or distortion.

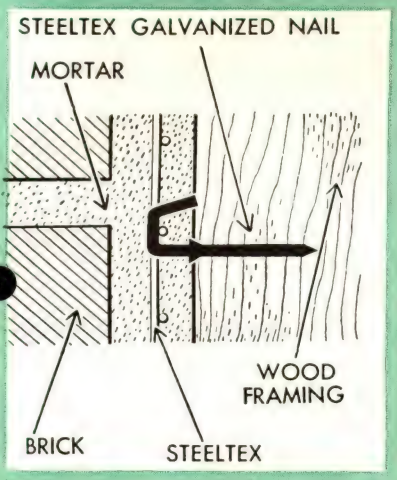


Notice how Pittsburgh Steeltex builds a veneer wall into a single solid unit.

Specifications

for Applying Steeltex Style 38-16 for Masonry Veneer

3d
Pi



Scope of Work

Under this heading list and locate all the respective areas to be covered with Steeltex Style 38-16 for masonry veneer.

Material

Reinforced Sheathing shall be Steeltex Style 38-16 as manufactured by the Pittsburgh Steel Products Company. The material shall be a 2" x 2" mesh of 16 gauge, electrically welded, cold drawn, galvanized steel wire with waterproofed, double ply breather backing attached by crimped stitch wires.

Nails For Wood Framing shall be Steeltex Galvanized Nails, U-shaped head, 13 gauge by 1 7/16" long. Nails shall penetrate the wood framing at least 1".

Nails For Steel Framing shall be Steeltex Galvanized Nails, offset head, 12 gauge by 1 11/16" long. Nails shall penetrate the steel framing at least 1 ½".

Mortar shall be mixed according to the Portland Cement Association recommendation, i.e., 1 portland cement, 0 to ¼ hydrated lime and 2 to 3 sand by volume.

Veneer Specify the type of brick or stone, shape, size, quantity, color, finish, etc.

Application

STEELTEX ON WOOD OR STEEL FRAMING

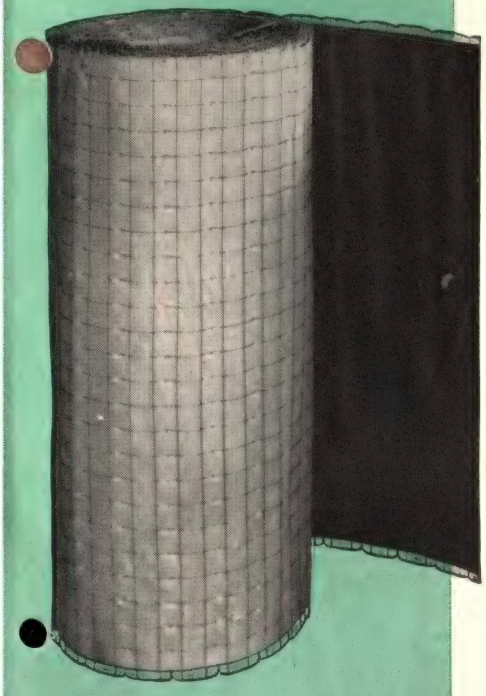
Steeltex Style 38-16 shall be nailed directly to the framing, starting the first width at the sill line and extending around the building. The second width shall lap the first at least 2", shingle fashion, lapping wire against wire. All horizontal laps shall be tied midway between the studs with 18 gauge tie wire.

Steeltex shall be bent around all corners and nailed to the first stud beyond the corner. Vertical joints shall be staggered and lapped 3" with a 2" strip of backing along the edge of one piece cut away to form a selvage edge of wire which overlaps the preceding piece.

The vertical joints shall not be made at corners, under, or over openings. Steeltex shall be carried up to the openings or under the molding of all doors and windows.

For added protection at the corners of the window or door openings, an 8" by 12" strip of Steeltex with backing removed shall be applied diagonally to provide double reinforcing.

All nails shall be placed over the horizontal wires on 6" centers on each stud, nailing around all door and window openings on 4" centers. Steeltex shall be tightened across framing members by means of a tightener or pry bar.



Style 38-16

General

Veneer shall be laid 1" from the face of the Steeltex. The space between the Steeltex and the veneer surface shall be filled with the mortar by spading with a trowel as each course is laid so as to assure bond of veneer and Steeltex.

Wood Studs shall be spaced accurately 12" or 16" on centers.

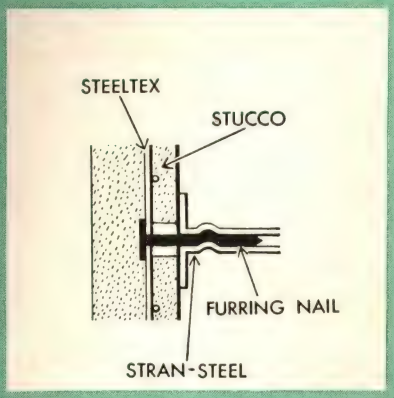
Steel Studs shall be spaced accurately on 16" or 24" centers.

For more detailed information write for Booklet DS 132.

Steeltex for Stucco



For Wood Framing



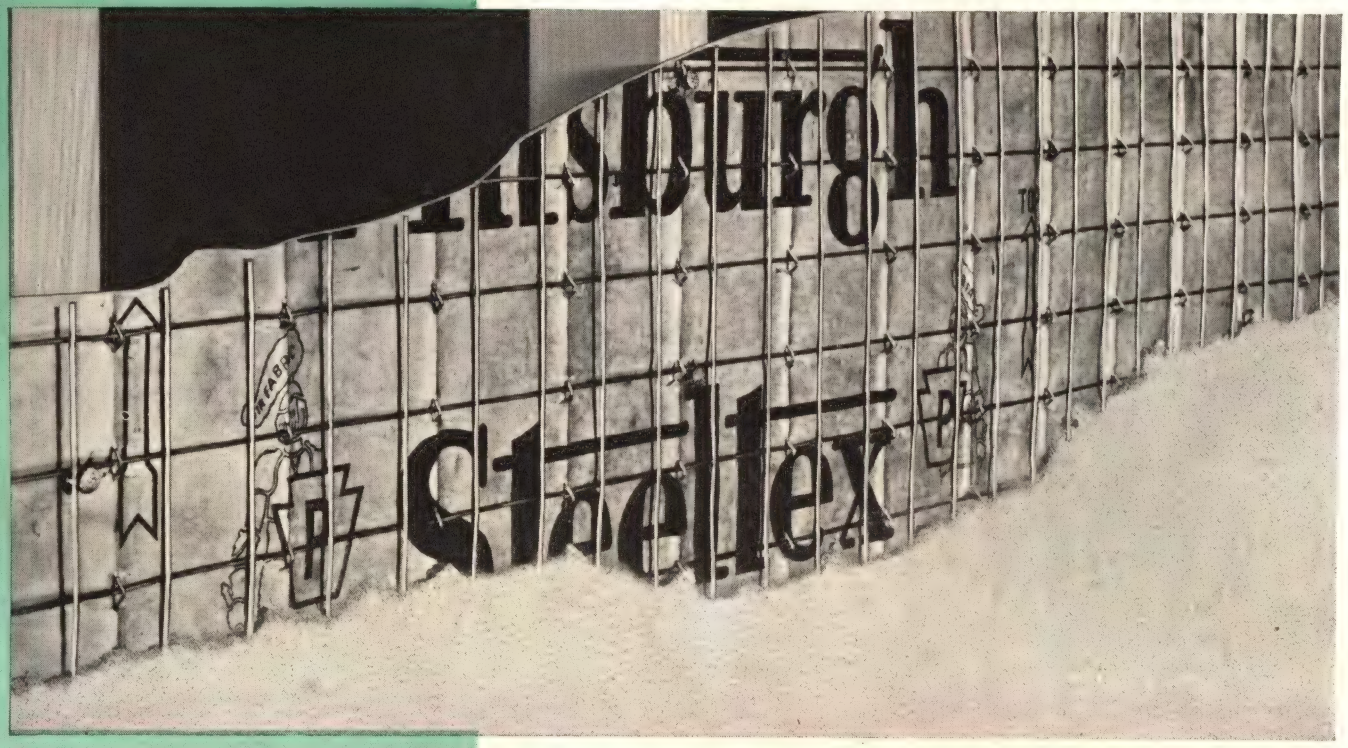
For Steel Framing

Reinforced Stucco Construction With Steeltex

Nailed directly to the framework, Steeltex Style 38-16 affords a base on which to apply stucco and provides reinforcing in the finished exterior wall. Considerable saving is realized because the backing and mesh are applied in one operation.

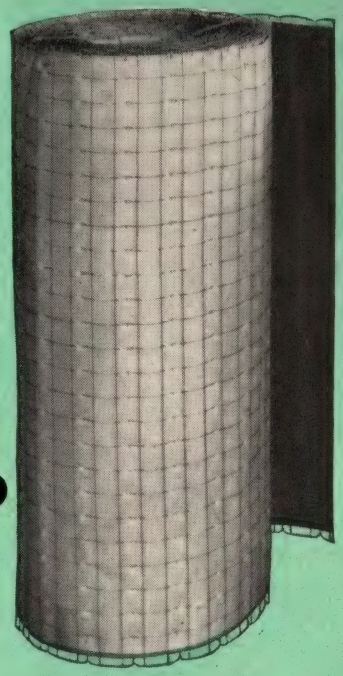
Style 38-16 is made with 16 gauge wire. The electrically welded galvanized mesh has a double-ply waterproofed breather backing attached.

Applied with furring nails or Steeltex galvanized nails, the reinforcing in the Steeltex stands out ¼" from the supports to insure positive embedment of the steel in the stucco. The waterproofed backing aids in the curing of the stucco by retaining the water in the stucco slab. Drying is permitted from the outside only during successive periods of wetting down.



Notice how welded-wire Pittsburgh Steeltex bites deep into a stucco slab.

Specifications



Style 38-16

For Applying Steeltex Style 38-16

Material

Stucco Reinforcing shall be Steeltex Style 38-16 as manufactured by the Pittsburgh Steel Products Company. The material shall be a 2" x 2" mesh of 16 gauge electrically welded, cold drawn, galvanized steel wire with waterproofed, double-ply breather backing attached by crimped stitch wires.
Nails for Wood and Steel Framing shall be Steeltex galvanized nails, U-shaped head, 13 gauge x 1 7/16" long or furring nails. Nails shall penetrate the wood framing at least 1" and steel framing at least 1½".
Stucco shall be mixed and cured according to the Portland Cement Association's specifications.

Application

STEELTEX ON WOOD AND STEEL FRAMING

Steeltex Style 38-16 shall be nailed directly to the framing, starting the first width at the sill line and extending around the building. The second width shall lap the first at least 2", shingle fashion, lapping wire against wire. All horizontal laps shall be tied midway between the studs with 18 gauge tie wire.

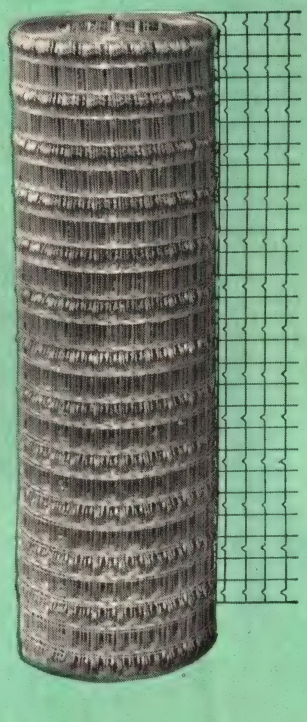
Steeltex shall be bent around all corners and nailed to the first stud beyond the corner. Vertical joints shall be staggered and lapped 3" with a 2" strip of backing along the edge of one piece cut away to form a selvage edge of wire which overlaps the preceding piece.

Vertical joints shall not be made at corners, under or over openings. Steeltex shall be carried up to the openings or under the molding of all doors and windows.

For added protection at the corners of the window or door openings, an 8" by 12" strip of Steeltex with backing removed shall be applied diagonally to provide double reinforcing.

All nails shall be placed over the horizontal wires on 6" centers on each stud nailing around all door and window openings on 4" centers. Steeltex shall be tightened across framing members by means of a tightener or pry bar.
Stucco shall be placed in three coats over Steeltex to a total thickness of at least ⅞" in accordance with the Portland Cement Association's specifications.
Wood Studs shall be spaced accurately 12" or 16" on centers.
Steel Studs shall be spaced accurately 16" or 24" on centers.

Note: ***Pittburgh Steeltex for Stucco also furnished in 14 gauge.***



Style C-216

For Applying Pittsburgh Reinforcing Styles C-216 or AA 1616

Material

Stucco Reinforcing shall be Pittsburgh Reinforcing Style C-216 as manufactured by the Pittsburgh Steel Products Company. The material shall be 2" x 2" mesh of 16 gauge, electrically welded, cold drawn, galvanized self-furring steel wire.
Stucco Reinforcing shall be Pittsburgh Reinforcing Style AA 1616 as manufactured by the Pittsburgh Steel Products Company. The material shall be 2" x 2" mesh of 16 gauge, electrically welded, cold drawn, galvanized steel wire.
Nails For Style C-216 shall be Steeltex Galvanized Nails, U-shaped head, 13 gauge by 1 7/16" long. Nails shall penetrate the wood framing at least 1".
Nails For Styles AA 1616 shall be any approved furring nail that furs out the reinforcing not less than ¼". Nails shall penetrate the wood framing at least 1".
Stucco shall be mixed and cured according to the Portland Cement Association's specifications.

Application

Pittsburgh Reinforcing Over Wood or Composition Sheathing.
Specify the type of wood or composition sheathing, method of application, nails, flashings, weight and grade of waterproof felt or building paper, etc.

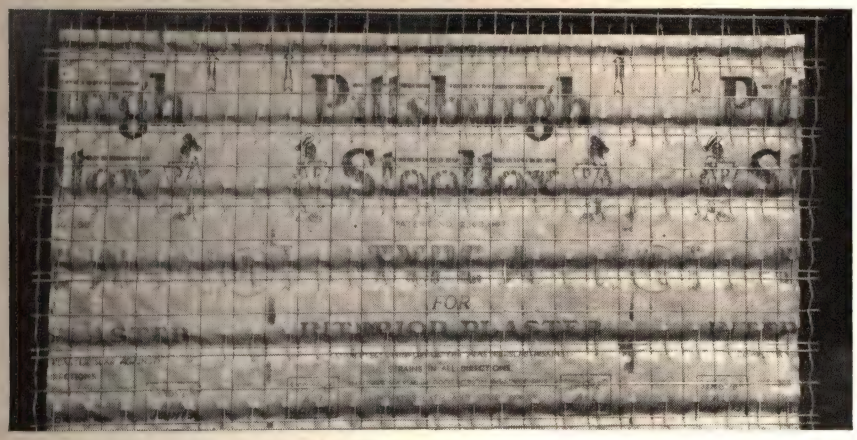
Pittsburgh Reinforcing Style ___ (C-216 or AA 1616) shall be nailed over the sheathing and felt or waterproof building paper, starting the first width at the sill line and extending around the building. The second width shall lap the first at least 2", shingle fashion, lapping wire against wire. Vertical joints shall be staggered and lapped 3", and shall not be made at corners, under or over openings. The reinforcing shall be carried up to the openings or under molding of all doors and windows. For added protection at the corners of the window and door openings, an 8" x 12" strip of reinforcement shall be applied diagonally to provide double reinforcing.

The reinforcing shall be bent around all corners and nailed to the first stud.

Pittsburgh Reinforcing Over Open Frame Construction.
No. 18 gauge wire shall be stretched tightly across the studs at 6" centers and shall be nailed securely to each stud. An approved waterproof building paper or felt of not less than 15 lbs. per 100 sq. ft. shall then be nailed directly to the framing and lapped not less than 3 inches shingle fashion. Pittsburgh Reinforcing shall then be applied.
Style C-216 shall be nailed on 6" centers with nails placed over the horizontal wires and around all door and window openings on 4" centers.
Style AA 1616 shall be nailed on 8" centers with nails placed over the horizontal wires, and around all door and window openings on 6" centers for all types of construction.
Stucco shall be placed in three coats over Pittsburgh Reinforcing to a total thickness of at least ⅞" in accordance with the Portland Cement Association's specifications.

Note: ***Pittsburgh Stucco Reinforcing also furnished in 14 gauge.***

Steeltex for Plaster



The Reinforcing Plaster Lath

Steeltex Type A is fabricated in sheets by stitching 2″ x 2″ mesh of 16 gauge, electrically welded, galvanized wire to an absorbent backing. Ribs spaced approximately 4⅜″ have an added wire welded in the crimp to provide rigidity for easy plastering. The 30½″ x 49″ sheets have a selvage edge on the top and sides to provide continuous reinforcing at all laps.

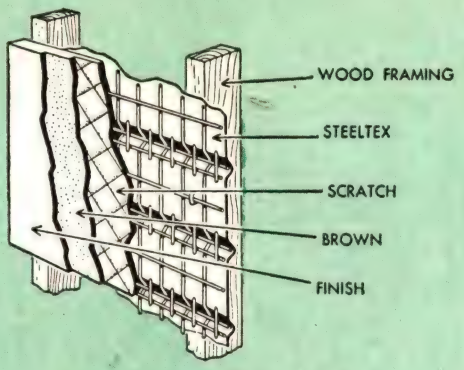
Advantages of Plaster Reinforced with Steeltex Type A

When using Steeltex Type A, the principle of concrete reinforcement is applied to plastered interiors because the wire mesh of Steeltex becomes firmly embedded in the plaster. The plastered ribs which act as reinforced trusses provide great rigidity and floating wall construction as they are the only portion of the plastered area in contact with the framework. This combination of reinforcement and truss action guards against plaster cracking.

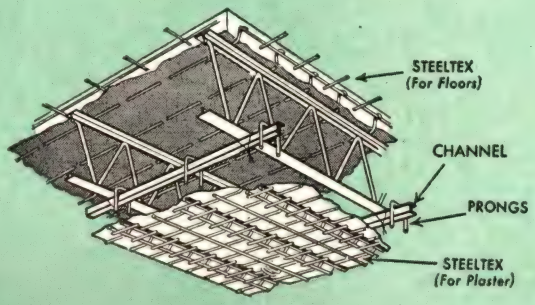
Steeltex Type A is exceptionally well adapted to all types of quality plaster construction and is used on structures ranging from small residences to large fireproof commercial buildings. Steeltex provides a slab of uniform thickness, and because of its minimum contact with the framework, the wall has an added acoustical value in retarding sound transmission. Plaster readily adheres to the absorbent backing of Steeltex and completely surrounds the welded wire mesh.



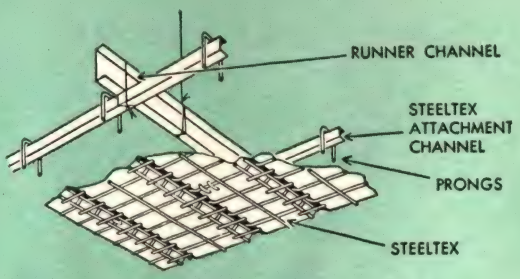
Steeltex Type A is listed in the Underwriters' Laboratories, Inc. Re-Examination Service and has been tested and awarded a one-hour fire rating.



STEELTEX NAILED ON WOOD FRAMEWORK



STEELTEX UNDER STEEL JOISTS



STEELTEX SUSPENDED CEILINGS

For more detailed information write for booklet DS 130.

Specifications
for Applying Steeltex Type A for Plaster

3d
Pi

Scope of Work

Under this heading, list and locate all the interior walls and ceilings to be covered with Steeltex Type A for plaster.

Material

Lath shall be Steeltex Type A as manufactured by the Pittsburgh Steel Products Company. Lath shall be 2" x 2" mesh of 16 gauge, electrically welded, cold drawn, galvanized steel wire with absorbent backing attached by 17 gauge stitch wires. Stiffening ribs in the fabric shall not be more than 5" on centers.

Nails shall be Steeltex Blued Nails, U-shaped head, 13 gauge by $1\frac{7}{16}$" long. Other type nails, including $1\frac{1}{4}$" blue plasterboard with $\frac{7}{16}$" heads and $\frac{1}{4}$" blued metal lath staples, may be used provided they penetrate the wood framing at least 1" and engage securely the horizontal wire in the rib.

Furring Channels shall be $\frac{3}{4}$" cold rolled Steeltex Pronged Channels having a minimum weight of 300 lb. per thousand linear feet with prongs of $12\frac{1}{2}$ gauge galvanized wire welded on approximately 5" centers.

Application

STEELTEX ON WOOD FRAMING

Wood studs shall be placed on 16" centers. Steeltex shall be attached to the wood supports with Steeltex Blued Nails spaced on 6" centers with the U-shaped head of each nail encircling a reinforcing wire of the mesh.

STEELTEX ON SUSPENDED CEILINGS

Any type of suspension from flat slab, arches, pan system, steel or concrete joists or similar floor and roof construction.

Steeltex Type A shall be first applied to the ceiling and bent at ceiling angles to form a drop or apron down the side walls at least 4". Side walls shall be lathed from the ceiling down so that all horizontal laps are made over the upper sheets with the lath bent around all vertical corners to prevent joints at the juncture of walls.

End laps shall be staggered so that corners of any four sheets shall not occur at any one place. All laps shall be 1" and made so that wire laps against wire. End laps shall be made on supports only with side laps being tied once between supports.

Lath may be butted at angles and corners with corner reinforcing applied. Where any wall partition or ceiling abuts masonry, the lath shall extend over the masonry at least 6" beyond the joint. This extension shall have a selvage edge of at least 2" and be nailed to the masonry, or the lath may be butted and corner or joint reinforcing applied.

Specifications
for Applying Steeltex Type A for Plaster

Plaster thicknesses of ½", ⅝" and ¾" shall be attained by applying grounds of ¾", ⅞" and 1" respectively.

Hangers shall be placed not to exceed 4' centers in both directions. The minimum size of hangers shall be 8 gauge galvanized wire, 1" by $\frac{3}{16}$" flats, or $\frac{7}{32}$" round, mild steel rods. Hangers shall be wrapped around beams or suitably anchored in the concrete or tile. Where steel beams, joists or purlins are on not more than 4' centers, hangers may be attached directly on them.

Runner Channels shall not be less than 1½" cold rolled channels, nor weigh less than 475 lb. per thousand linear feet. Channels shall be suspended the required distance from the floor slab and shall be spaced not to exceed 4' on centers. When wire or rod hangers are used the channels shall be attached by saddle tie, or three twists of the hangers around the channel. When flat hangers are used, the channels shall be bolted to the hangers by ⅜" diameter bolts.

Furring Channels of ¾" Steeltex Pronged Channel shall be spaced not more than 16" on centers, placed at right angles to the runner channels and saddle-tied securely by at least three strands of 16 gauge galvanized wire at each crossing or by 9 gauge wire hairpin clips.

Steeltex Type A shall be attached with ribs at right angles to the Steeltex Pronged Channel by pressing the lath against the prongs so that the backing is pierced. With the lath against the channel, the prongs shall be bent and pressed firmly over the reinforcing wire.



Pittsburgh Steel Products Company

A Subsidiary of Pittsburgh Steel Company

Grant Building • Pittsburgh 30, Pennsylvania

Branch Offices: Atlanta, Chicago, Columbus, Dallas, Detroit, Los Angeles, New York, Philadelphia, San Francisco

Printed in U.S.A.



Added beauty together with a lifetime of trouble-free service are among the many plus values offered in this lovely Upson lined home interior by Harnischfeger Corporation.

3d
Up

UPSON
Laminated
PANELS

UPSON

FILE A. I. A. 23

THE UPSON COMPANY



Finest in PANEL MATERIALS

A full generation—better than forty-three years ago, in fact, The Upson-Company was founded at Lockport, New York.

Specialists in the development of fibre products, the new company sensed the potential market for a dependable wall and ceiling lining—a desire on the part of the public to get away from wet plaster and to turn to more efficient dry-wall construction.

Intensive research and often years of development have been behind every Upson Product before any attempt to market it has been made. Emphasis has always been on quality and performance rather than price. The wisdom of such a policy is best reflected in the Company's growth.

From a modest little plant having only 15,000 square feet of floor space, and capitalized at $50,000, The Upson Company has grown until today its present huge manufacturing facilities extend over 23 acres.

As striking as the growth in plant capacity is the comparison of the Upson Board of yesterday with the marvelously efficient Upson Panels of today.

No better proof of this exists perhaps than the thousands of Upson Panel installations which have been made both in private buildings and Governmental housing projects. Upson Panels have more than justified the faith architects and builders have placed in them.

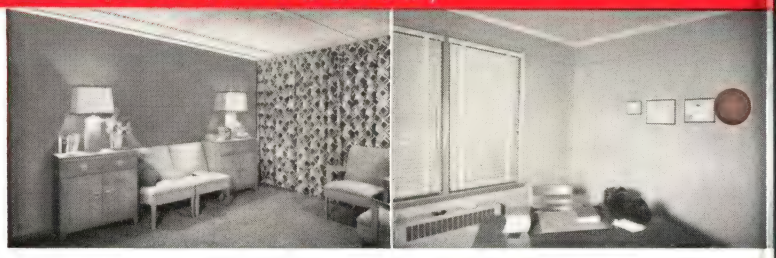
for new home construction

UPSON STRONG-BILT PANELS (WATERPROOFED)



section **a**

6 PLY



Upson STRONG-BILT Panels (waterprooted) provide the ideal wall and ceiling lining for new home construction. Strong, rigid (6 plies, approximately 3/8" thick), efficient insulating value . . . forever CRACKPROOF. Strong-Bilt Panels are eight feet high and room length — large enough to cover the entire area of an average wall. They are also available in four foot widths for use in paneling. Upson Strong-Bilt Panels are easy to handle — quick to apply. Save time — save labor — give added dollar value to any home.

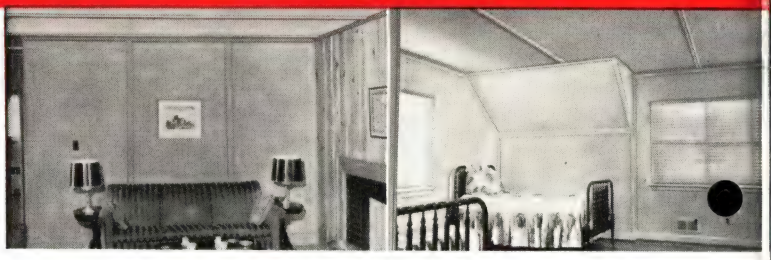
for re-covering cracked plaster ceilings

UPSON KUVER-KRAK PANELS



section **b**

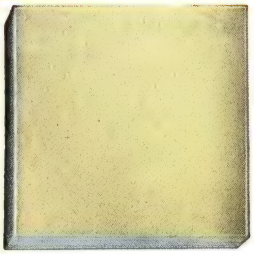
5 PLY



Cracked plastered ceilings have long been a problem. Surveys by impartial agencies show that two out of three homes have cracked plaster in one or more rooms. Patching a cracked ceiling is at best a dirty, mussy job with no guarantee of permanency. Upson KUVER-KRAK Panels were expressly designed to answer this problem. KUVER-KRAK Panels are applied to furring strips, right over the old plaster. The job is done quickly, efficiently, with little muss or fuss. The result is a ceiling of great beauty and permanence —forever CRACKPROOF. A 5 ply panel—a full 1/4" in thickness.

for decorative, washable ceilings

UPSON CEILING TILES



UPSON CEILING TILES

section **c**

6 PLY

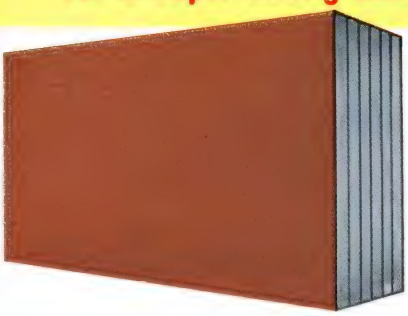


Upson Ceiling Tiles are prefinished, waterproofed and truly washable. The attractive grain found in these tiles produces in the finished job an extremely attractive variegated color tone effect. Upson Ceiling Tiles may be used SAFELY in kitchens, bathrooms, restaurants, stores, basements . . . wherever dust, dampness or steam make it necessary to wash ceilings to keep them bright, clean and attractive.

Upson Ceiling Tiles are applied with KOLOR PINS to furring strips nailed across ceiling joists in either new construction or over existing material in remodeling work.

for a super strong sheathing

UPSON *All Weather* PANELS



UPSON All-Weather PANELS

section **d**

6 PLY

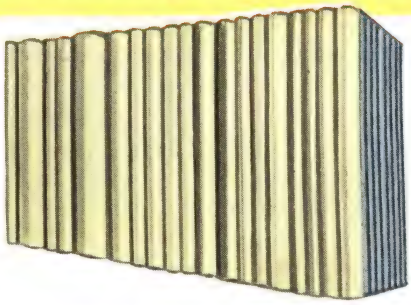




A brand new super-strong, year round weather resistant 3/8" panel expressly engineered for use as a sheathing in house construction. Any type of exterior finish — wood siding, masonry veneer, stucco, wood shakes and asbestos shingles—can be applied over Upson All Weather sheathing. Let-in corner bracing is not required, for Upson All Weather Panels meet and exceed the requirements of FHA Technical Circular No. 12. Also ideal as an exposed exterior finish for soffits, porch ceilings, garages as well as for farm and factory buildings. A single 8' by 20' All Weather Panel covers the interior side of such buildings—no joints—no battens.

for unusual, modern wall effects

UPSON *Striated* PANELS

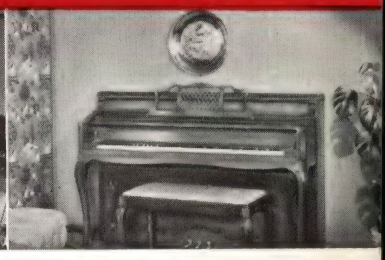


UPSON STRIATED PANELS

section **e**

7 PLY



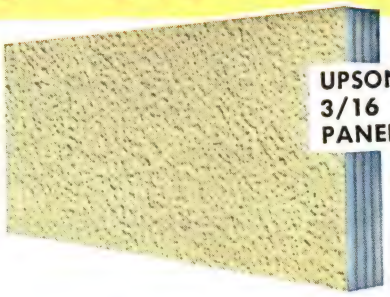


Upson Striated Panels give added sparkle and variety to any room. Use them for wainscotings, paneled effects, around the fireplace — to lend diversification and interest.

The beautiful striated surface is easily painted or stained to achieve really beautiful, colorful effects. Upson Striated Panels are easy to apply, require a minimum of maintenance. With ordinary care will last a lifetime.

a light weight, general utility panel

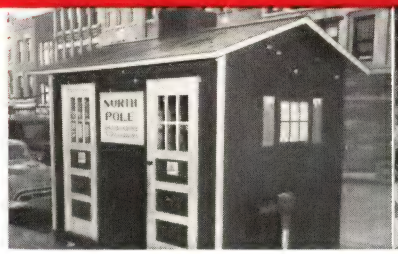
UPSON 3/16" PANELS



UPSON 3/16 PANELS

section **f**

4 PLY

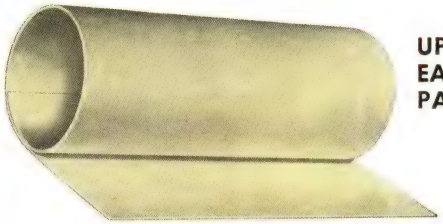




Upson 3/16" Panels possess unusual strength and rigidity. Being surface sized, it is possible to produce true colors with a single coat of paint. Because Upson 3/16" Panels lend themselves to such a variety of uses, many business establishments including stores, theaters and factories always keep a supply on hand. Above is shown two of many ways Upson 3/16" Panels may be used for efficient low cost construction.

for signs, displays

UPSON *Easy-Curve* PANELS



UPSON EASY-CURVE PANELS

section **g**

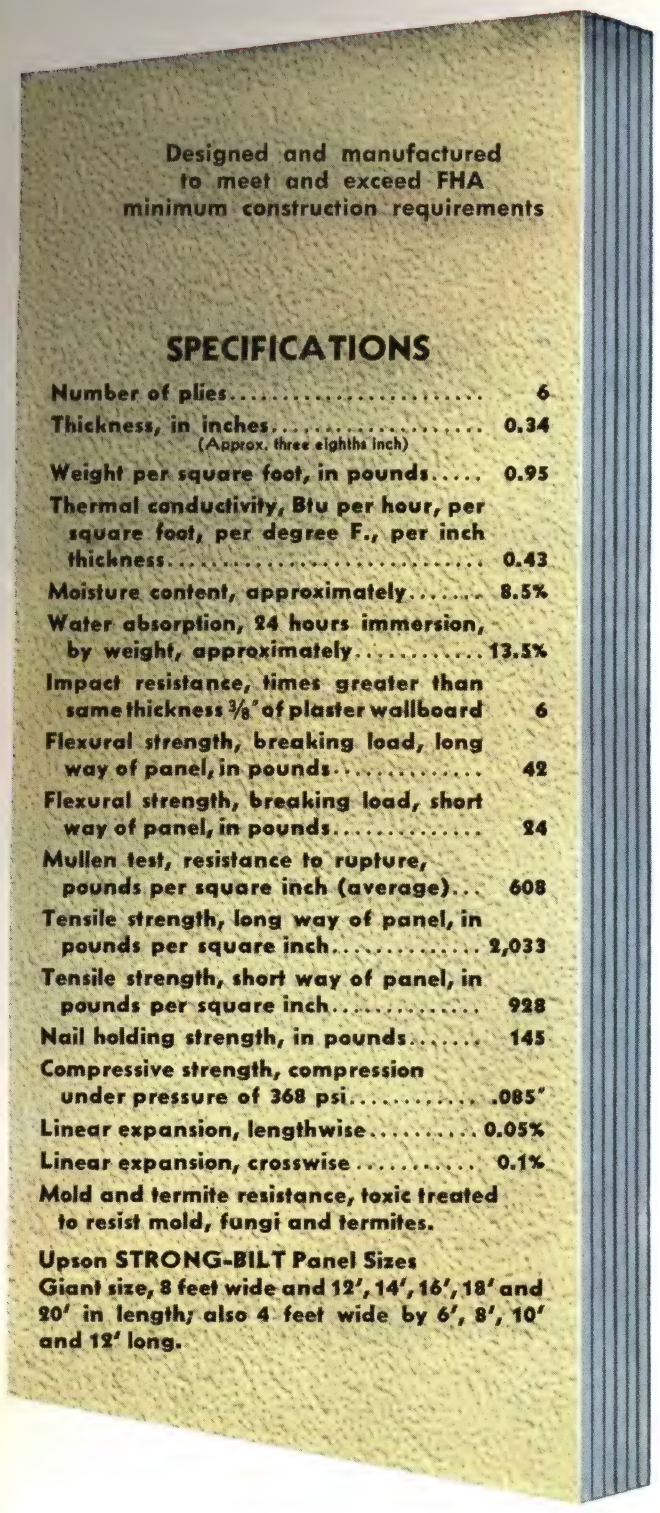




Upson Easy-Curve Panels were especially created for the busy display man. These are long-fibered laminated panels having great flexibility which permits them to be shaped into all manner of curves and columns.

Upson Easy-Curve Panels have a rich pebbled surface on one side—the other superbly smooth. Takes all kinds of paint with equal facility. Especially effective when used in conjunction with other Upson Panels.

UPSON STRONG-BILT PANELS ...the Water-proofed



See Decoration Suggestions on Page 12

Write The Upson Company, Lockport, New York, for detailed application directions for Upson STRONG-BILT Panels (waterproofed).

Physical Characteristics

Upson STRONG-BILT Panels, waterproofed, are rugged, 6 ply panels approximately 3/8" thick, laminated for strength and rigidity. They are impregnated with various gums, resins and oils to make them waterproofed throughout.

STRONG-BILT has a beautifully pebbled surface which is presized at the factory, providing a perfect painting surface.

STRONG-BILT Panels are made in standard sizes 4 foot by 6', 8' 10', and 12' long—full-wall sizes, 8 feet wide and 12' 14' 16' 18' and 20' long.

STRONG-BILT Panels have high insulation value. Independent, authoritative tests show that STRONG-BILT Panels have up to 3.2/1 times the insulation value of plaster board and 2.6/1 that of fir plywood. Thermal conductivity—.43 BTU.

Uses

Upson STRONG-BILT Panels are specifically designed to provide a better, more efficient, CRACK-PROOF wall and ceiling lining for new construction.

They are applied quickly any time of the year. No waiting for plaster to dry. STRONG-BILT Panels are applied direct to studs with the Upson Floating Fastener. (See page 11).

While primarily designed for new home construction, Upson STRONG-BILT Panels have a wide variety of other uses wherever an unusually strong, rigid wall surface is needed.

Industrially, it is used in stores and factories for walls and ceilings, partitions, storage rooms, and many other places.

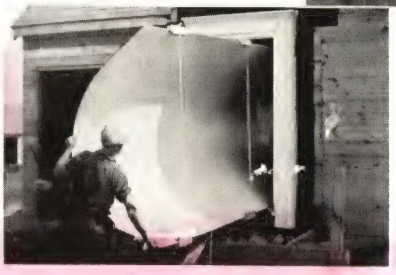
STRONG-BILT may also be found in many schools, churches, and other public institutions.

Easy to Handle

Two Men Handle A Panel Easily

By using wooden U clamps two men can easily handle a large 8' x 20' Upson Strong-Bilt Panel. Strong and Rigid. →





Panel Goes Through An Ordinary Door

Two men carry an 8' x 20' Upson Strong-Bilt Panel through an ordinary door, measuring 2'6" x 6'8". Durable and Permanent. ←

UPSON

ideal wall and ceiling lining for new home construction

Application

Upson STRONG-BILT Panels (waterproofed) can be applied equally well to various types of construction; wood frame, brick veneer, concrete or cinder block, as well as to modern steel frame construction. They are equally suited to conventional, site or factory constructed houses.

FRAMING — It is essential in all types of construction to provide a continuous backing for all edges of STRONG-BILT Panels as well as for all decorative mouldings. By proper planning, practically all of this backing can be installed when framing the building.

Masonry, and concrete or cinder block construction should be furred 16" on centers and the furring so located as to provide a continuous nailing base for all panel edges and mouldings.

No. 2 FASTENERS — Upson No. 2 Floating Fasteners applied 12" apart on studs and joists anchor Strong-Bilt Panels from the back, avoiding face nailing and also provide for normal structural movement of studs and joists. Apply Fasteners to a solid base, not springy, with 3d coated nails. Do not use Fasteners under panel edges or around openings, but nail with 3d coated nails spaced 16" apart and 1/4" back from panel edge.

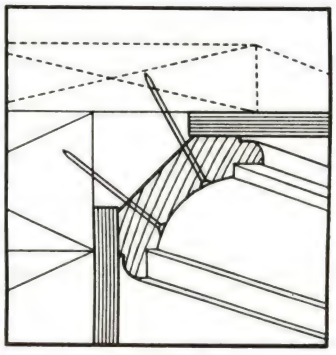


FIGURE 1

PANEL APPLICATION — Apply ceiling panels first. Allow for 1/4" space between all panels. At angle of ceiling and sidewall, leave sufficient space so that when applying cornice, nails can be driven into framing through space between panels, without nailing into edge of either ceiling or sidewall panels, as shown in Figure 1 at left. Wall panels should also be spaced to allow for proper nailing of inside corner moulding. See Figure 2.

Use a piece of 2 x 4 about 8" long to clinch STRONG-BILT Panels onto Fasteners. Face one side of block with a piece of panel, countersinking nails so they will not mar panels being installed. Use a heavy hammer and start clinching Fasteners in center of panel working out from center to each edge. Center the pounding block over one fastener at a time. Hold panel firmly against Fastener prongs. The first blow will then cause Fasteners to enter panel and the second will clinch them.

MOULDINGS — DO NOT PAPER OVER JOINTS OR USE CRACK FILLER. Panel joints should always be covered with a decorative moulding. Upson Shed-O-Line Mouldings, illustrated on Page 12 add interesting high lights and shadows as well as permitting the installation of mouldings before decorating. If standard mouldings are used, STRONG-BILT Panels should be decorated before the mouldings are installed. Nail mou'dings securely, not to exceed 8" apart.

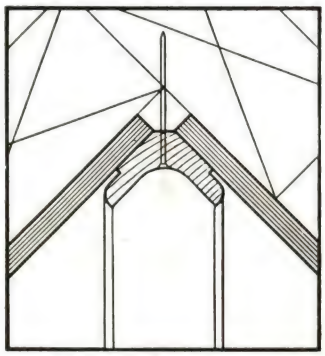


FIGURE 2

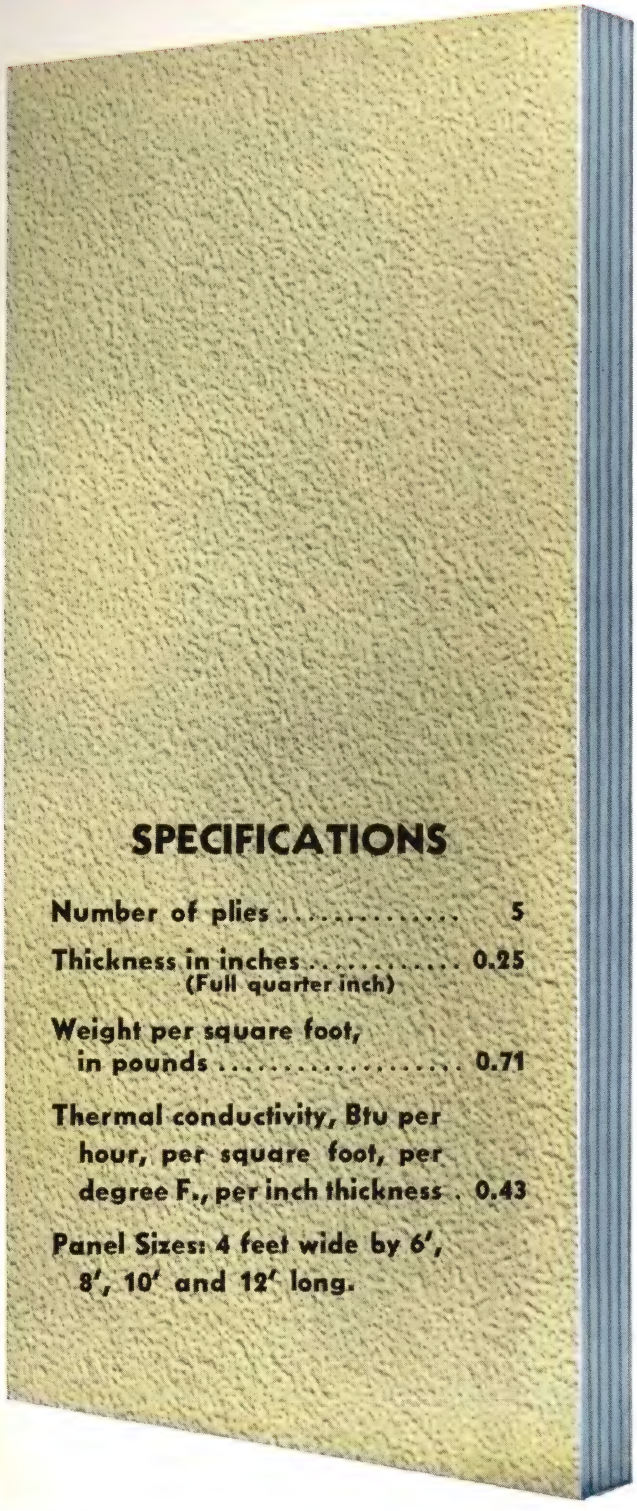








UPSON KUVER-KRAK PANELS *for*



SPECIFICATIONS

Number of plies	5
Thickness in inches (Full quarter inch)	0.25
Weight per square foot, in pounds	0.71
Thermal conductivity, Btu per hour, per square foot, per degree F., per inch thickness	0.43

Panel Sizes: 4 feet wide by 6′, 8′, 10′ and 12′ long.

Detailed Directions for Decorating Upson KUVER-KRAK Panels are shown on Page 12.

Write The Upson Company, Lockport, New York, for more detailed application instructions.

Physical Characteristics

Upson KUVER-KRAK Panels, 5 ply, have identically the same pebbled surface as STRONG-BILT Panels. They are a full quarter-inch in thickness. The Panels come in 4 foot widths by 6′, 8′, 10′, and 12′ long.

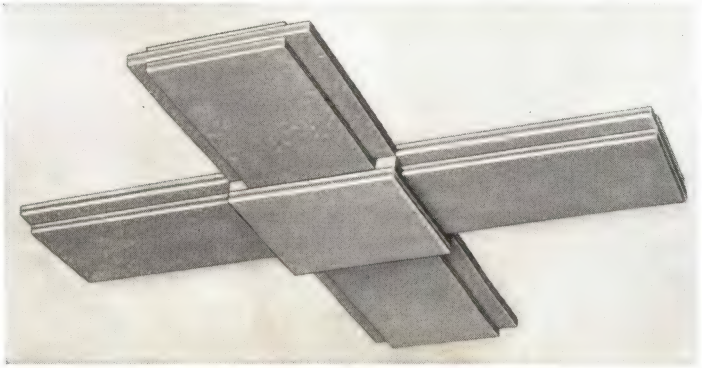
Upson KUVER-KRAK Panels may be obtained waterproofed when ordered in carload quantities.

Uses

While designed primarily for re-covering cracked plaster ceilings, KUVER-KRAK Panels are also used extensively for repairing and remodeling walls of older homes. Wherever there is need for a superior wall and ceiling surface, KUVER-KRAK Panels will serve admirably.

Decorative Accessories

Beauty is added to the appearance of an Upson ceiling installation when Upson Decorative Blocks or Relief Ornament No. 100 are used in conjunction with Upson Shad-O-Line Duplex Mouldings to cover panel joints.



Upson Duplex mouldings are available in 2″ strips mounted on a 3″ base. These mouldings take full advantage of high lights and shadows—a beautiful effect.

re-covering cracked plaster ceilings and sidewalls

Application

Upson KUVER-KRAK Panels can be applied over old cracked plaster ceilings or any type of wall covering to give a modern, fresh interior finish.

PREPARING OLD SURFACE

CRACKED PLASTER — Fur 16" on centers over old plaster, shimming to produce a true and level surface. Plan the paneling design and then apply furring accordingly, providing a continuous nailing base for all panel edges and all mouldings.

BRICK CONCRETE OR CEMENT BLOCKS — Waterproof the walls with asphaltum. Fur horizontally 16" on centers. Cut in vertical furring to provide a continuous nailing base for panel edges and mouldings. Paint edges and back of KUVER-KRAK Panels with a good waterproof paint.

WOOD WAINSCOTING OR BEADED CEILING — It is not necessary to fur if the old surface is level and not springy, otherwise fur 16" on centers.

FASTENERS

Upson No. 2 Floating Fasteners applied 12" apart on furring strips anchor Kuver-Krak Panels from the back avoiding face nailing and also provide for normal structural movement. Apply Fasteners to a solid base, not springy, with 3d coated nails. Do not use Fasteners under panel edges or around openings, but nail with 3d coated nails spaced 16" apart and 1/4" back from panel edge.

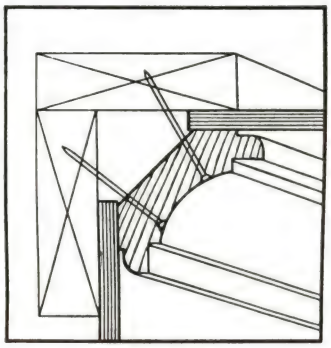


FIGURE 3

PANEL APPLICATION

Never force KUVER-KRAK Panels into place . . . always leave 1/4" space between panel edges.

Leave sufficient space between panels at angle of ceiling and sidewall, so that when applying cornice mouldings, nails can be driven into furring through space between panels . . . without nailing into edge of either ceiling or sidewall panel, as shown in Figure 3 at left. Wall panels should also be spaced for proper nailing of inside corner mouldings. See Figure 4.

To clinch KUVER-KRAK Panels to Fasteners use a piece of 2 x 4 about 8" long. Face one side with a piece of KUVER-KRAK Panel countersinking the nails so they will not injure the panels being installed.

Using a heavy hammer start clinching Fasteners in center of panel, working out to each side. Center the pounding block over one Fastener at a time. Hold the panel against the Fastener prongs, when striking the first blow, thus insuring the prongs entering the panel. The second blow will clinch the prongs. Nail panel edges and around openings.

MOULDINGS

Upson Shad-O-Line Mouldings have been designed to permit the panels to move with normal structural settlement without showing the broken paint lines so common to most panel material installations. Shad-O-Line Moulding designs are illustrated on Page 12.

NOTE—If Shad-O-Line Mouldings are not used, KUVER-KRAK Panels must be painted before applying the standard wood moulding. All mouldings should be nailed securely, not to exceed 8" apart. Use finish nails of sufficient size so they will enter furring far enough for good holding power.

Do not paper over joints or use crack filler.

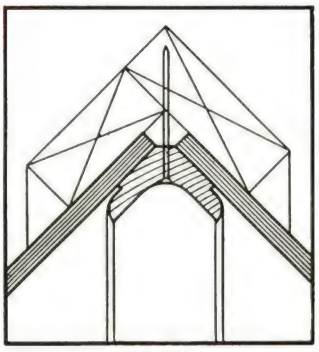


FIGURE 4



UPSON CEILING TILES

For decorative washable ceilings



SPECIFICATIONS

Number of plies	6
Thickness, in inches (Approx. three eighths inch)	0.34
Weight per square foot, in pounds	0.95
Thermal conductivity, Btu per hour, per square foot, per degree F., per inch thickness	0.43
Moisture content, approximately	8.5%
Water absorption, 24 hours immersion, by weight, approximately	13.5%
Impact resistance, times greater than same thickness 3/8" of plaster wallboard	6
Flexural strength, breaking load, long way of panel, in pounds	42
Flexural strength, breaking load, short way of panel, in pounds	24

Physical Characteristics

Upson Ceiling Tiles are 6-ply, laminated fibre panels cut with precision to 12" squares. The edges are moderately beveled — just enough to accentuate the attractive tile pattern.

Upson Ceiling Tiles are truly waterproofed — more than enough, in fact to withstand moisture conditions frequently found in homes, stores, factories and even steam laundries.

Laboratory tests prove that Upson Ceiling Tiles will not absorb more than 13.5% by weight when completely submerged in water for as much as 24 hours. Moisture content is scientifically controlled at 8.5%.

Upson Ceiling Tiles are prefinished with the exclusive Upson SYNTHO finish. This special finish equal to at least two coats of aged lead and oil paint gives to these tiles a truly washable surface which will last indefinitely. Soap and water — even gasoline, will not mar this amazing finish. While beautiful in their natural finish, Upson Ceiling Tiles may be finished in any color. Their SYNTHO surface makes a perfect bond for oil base paints.

Upson Ceiling Tiles are extremely sturdy, having a breaking strength of 630 pounds per square inch. They are many times stronger, in fact, than most 1/2" insulating tile. Corners will not break in handling.

Uses

Upson Ceiling Tiles add a decorative and practical touch to the ceilings of home, office, store, church or school — in fact, any type of private or public structure where a permanent, easy to clean, prefinished ceiling is desired.

Because they are waterproofed, Upson Ceiling Tiles are particularly suited to the ceilings of buildings where unusual moisture conditions prevail — baths, kitchens, basements, restaurants, stores — even steam laundries, porches and breezeway ceilings.

Application

APPLYING FURRING STRIPS — Applying furring strips 12 inches on centers, opposite the direction of the joists. Be sure one furring strip is directly against each side wall.

Use only straight, well seasoned 1" x 3" lumber, preferably white pine. Apply furring strips so that they fall directly under the edges of the Ceiling Tiles.

APPLYING CEILING TILES —Tack a straight edge on the furring strip in the center of the ceiling, against which the Tiles can be butted. Start at center point and work toward one end of the room.

Upson Kolorpins should be used in each of the four corners of each Tile. Place them 1/2" in from the edge. Drive flush with Tile surface.

CUTTING CEILING TILES — Upson Ceiling Tiles may be cut to fit at the border of the Ceiling. Use a fine tooth saw or a Stanley Fibre Board Knife No. 199.

MOULDINGS — Apply cove or cornice moulding around the Ceiling. Any stock moulding obtainable from a lumber dealer is satisfactory.







UPSON

For sheathing of homes

Excellent nailing base for wood shakes and asbestos shingles.

UPSON *All Weather* PANELS

Physical Characteristics

Upson All Weather Panels (waterproofed) are 6 ply, laminated fiber, super-strong 3/8" panels expressly engineered for use as sheathing or for exposed exterior finish. Toxic treated to resist mold, fungi and termites. Smooth surface is easy to paint—base color will not bleed through oil base paint—no special sealer is required.

SIZES
2'-0" wide — 8' long.
4'-0" wide — 8' 9' 10' and 12' long.
8'-0" wide — 12', 14', 16', 18' and 20' long.

Uses

In addition to use as a superstrong sheathing for house construction Upson All Weather Panels have almost unlimited uses for:—

Soffits	Farm Buildings	Hog Houses
Porch Ceilings	Poultry Houses	Fruit Storage Buildings
Garages	Storage Sheds	Milk Houses

as well as a multitude of uses around the farm, the home and factory.

Application

GENERAL—4'-0" WIDE PANELS

Erect framing 16" on centers. Apply panels with long edges parallel to studs. Leave a 1/8" space between panels. Use 6d cement coated nails. Nail to intermediate studs first, spacing nails 6" apart. Then nail all panel edges, spacing nails 3" apart and 3/8" from panel edges.

The proper adjustment in dimensioning ordinary window and door jambs should be made with a filler strip to compensate for 3/8" sheathing.

Install 2 x 4 nailing pieces where a support other than studs is needed to fasten light wires, shutters or other structural attachments.

See application directions for use of 8' wide panels.

EXTERIOR FINISH OVER ALL WEATHER SHEATHING

WOOD SIDING — Apply siding directly over All Weather Panels, butting the ends over studs.

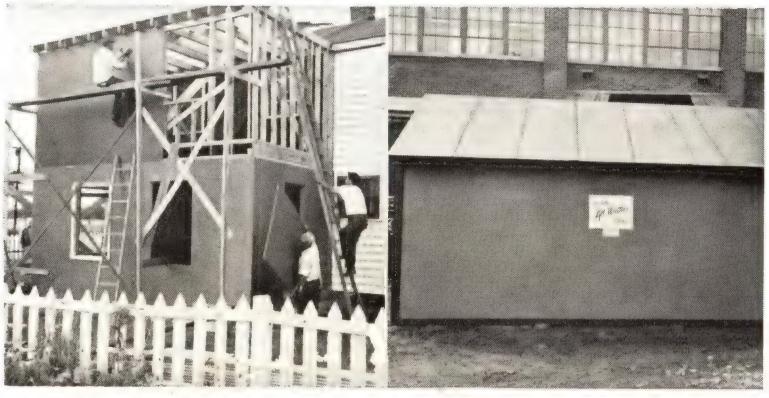
MASONRY VENEER — Follow standard procedure, using metal ties and leave 1/2" air space between masonry veneer and sheathing.

STUCCO — Self-furring stucco can be applied directly over All Weather Sheathing and nailed to studs. If non-furring stucco base is used apply to wood furring over the sheathing.

SHINGLES — Both wood and asbestos shingles can be applied by the standard double coursing method using shingle backer and grooved nail like the Stronghold nail.

Asbestos shingles can be applied directly to All Weather Sheathing without the use of shingle backer by using Loc-Nail (Size ST) manufactured by E. G. Building Fasteners Corporation, 101 Park Ave., New York 17.

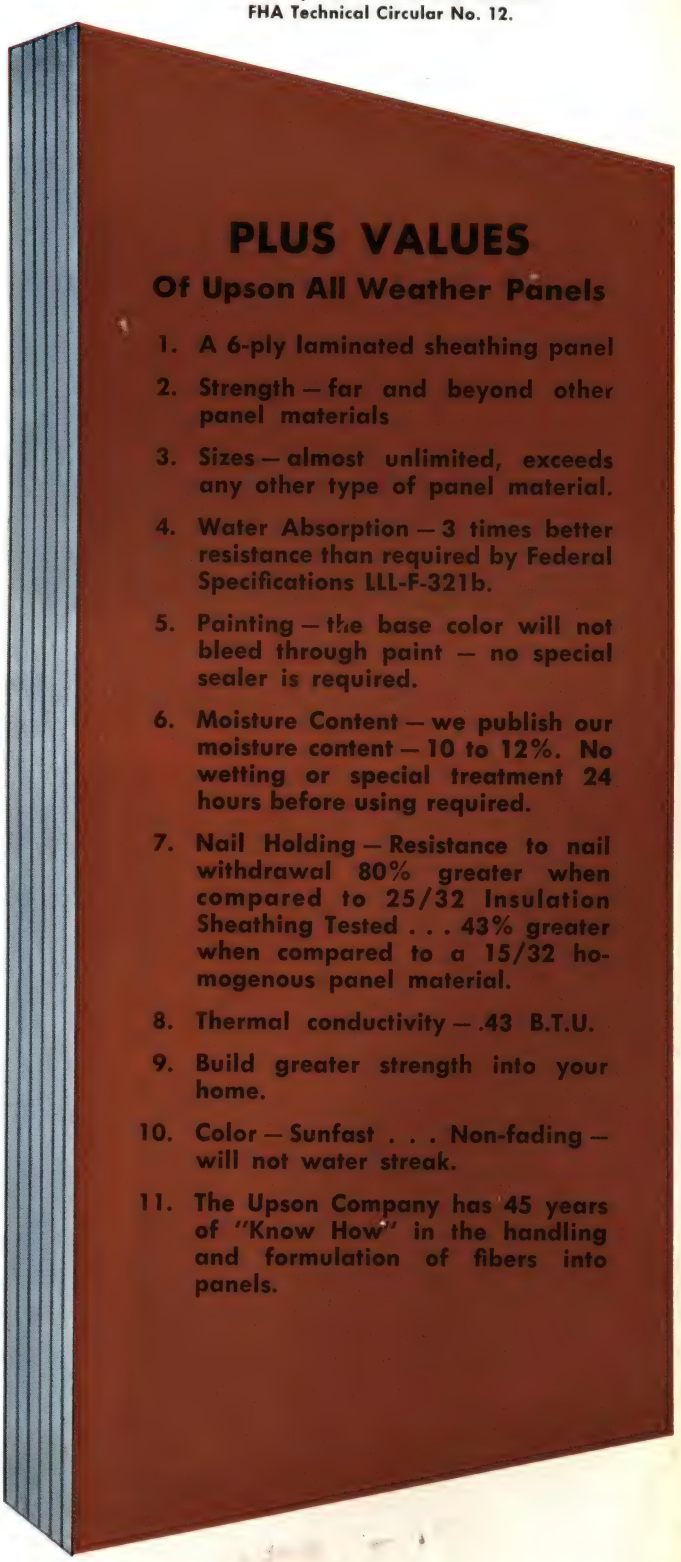
NOTE—Any type of exterior finish can be used over Upson All Weather Sheathing. Write for detailed Application Directions.



4' Widths For Sheathing

8' x 20' For Garage Exterior

FHA accepted, as meets and exceeds FHA Technical Circular No. 12.



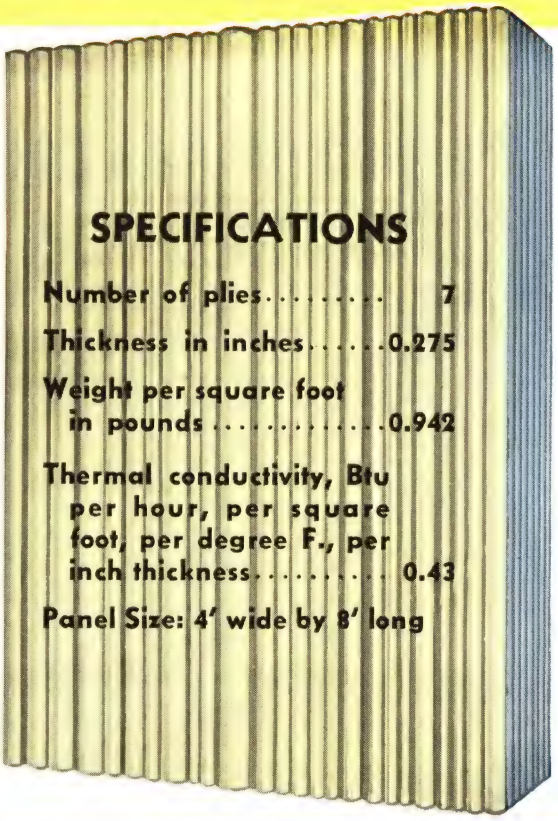
PLUS VALUES

Of Upson All Weather Panels

1. A 6-ply laminated sheathing panel
2. Strength — far and beyond other panel materials
3. Sizes — almost unlimited, exceeds any other type of panel material.
4. Water Absorption — 3 times better resistance than required by Federal Specifications LLL-F-321b.
5. Painting — the base color will not bleed through paint — no special sealer is required.
6. Moisture Content — we publish our moisture content — 10 to 12%. No wetting or special treatment 24 hours before using required.
7. Nail Holding — Resistance to nail withdrawal 80% greater when compared to 25/32 Insulation Sheathing Tested . . . 43% greater when compared to a 15/32 homogenous panel material.
8. Thermal conductivity — .43 B.T.U.
9. Build greater strength into your home.
10. Color — Sunfast . . . Non-fading — will not water streak.
11. The Upson Company has 45 years of "Know How" in the handling and formulation of fibers into panels.

UPSON *Striated* PANELS

For Unusual Modern Wall Effects



SPECIFICATIONS

Number of plies..... 7

Thickness in inches.....0.275

Weight per square foot in pounds.....0.942

Thermal conductivity, Btu per hour, per square foot, per degree F., per inch thickness..... 0.43

Panel Size: 4′ wide by 8′ long

Physical Characteristics

In the new Upson Striated Panel is combined for the first time the sturdy, long wearing and high insulating qualities of laminated wood fibre with a beautiful, smart looking striated finish. The panels are 7 plies tightly compressed to approximately one quarter inch in thickness.

Uses

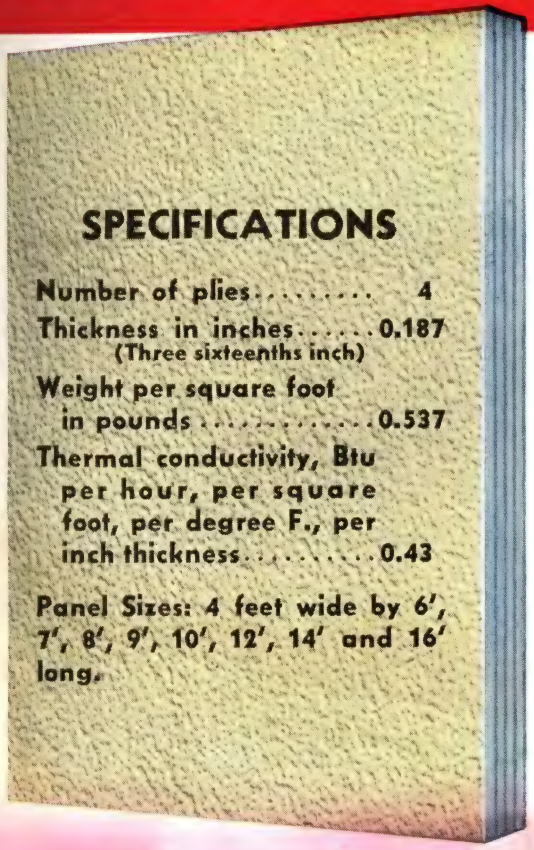
Extremely attractive, modern wall effects are now achieved at modest cost in home, office or commercial establishment with the use of this exciting new panel material. Variety may be given to regular wall installations by using Upson Striated Panels for wainscotings, around the fireplace or on a single wall for contrast.

Application

Upson Striated Panels are applied in exactly the same manner as Upson Strong-Bilt Panels using the No. 2 Upson Floating Fasteners. Be sure to cover all joints with an attractive moulding. Standard wood mouldings for this purpose are available at any lumber dealer.

UPSON 3/16" PANELS

A Lightweight, General Utility Panel



SPECIFICATIONS

Number of plies..... 4

Thickness in inches.....0.187
(Three sixteenths inch)

Weight per square foot in pounds.....0.537

Thermal conductivity, Btu per hour, per square foot, per degree F., per inch thickness.....0.43

Panel Sizes: 4 feet wide by 6′, 7′, 8′, 9′, 10′, 12′, 14′ and 16′ long.

Physical Characteristics

Upson 3/16" Panel is a lighter weight 4 ply panel with the same beautiful pebbled surface as Upson heavier weight panels. Upson 3/16" Panel, as the name implies, is a full 3/16" in thickness. These panels are available in 4 foot widths by 6, 7, 8, 9, 10, 12, 14 and 16 feet in length. Upson 3/16" Panels may be obtained waterproofed when ordered in carload quantities.

Uses

Upson 3/16" Panels are widely used in various kinds of construction, signs, displays, window trims, drawer and mirror backs—anywhere, in fact, where the greater strength of Upson Strong-Bilt and Kuverkrak Panels is less essential.

Upson 3/16" Panels do, however, possess surprising strength and rigidity. Being surface sized they make it possible to produce true colors with a single coat of paint.

Application

Because of the many diversified uses of Upson 3/16" Panel no attempt is made here to discuss detailed application instructions. It is suggested however that where it is desirable to eliminate face-nailing in either construction or displays that the Upson No. 1 Fastener be used.

For signs, displays

UPSON Easy-Curve PANELS

3d Up

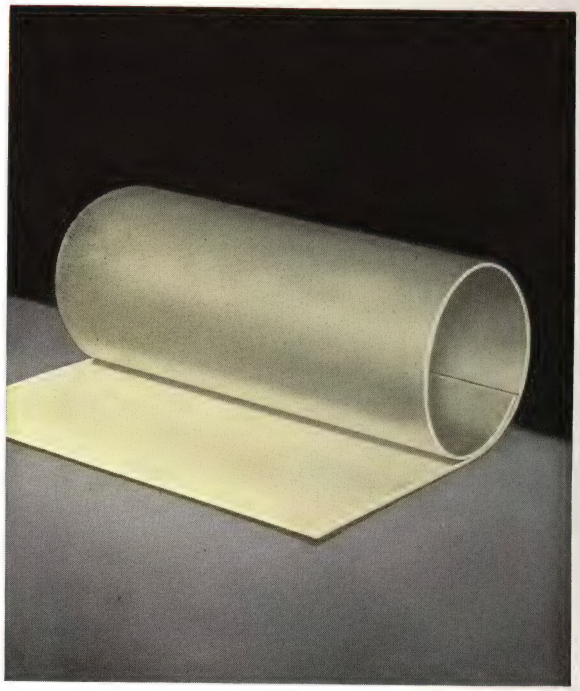
Physical Characteristics & Uses

A light flexible board approximately 1/8" thick that may quickly be formed into "S" curves, irregular curves, reverse curves — in fact in any kind of curve.

Despite great flexibility however Upson Easy-Curve Panels are strong. Upson Easy-Curve Panels have two useable surfaces. One side in superbly smooth—the other a richly pebbled surface. Either side takes oil, tempera or lacquers with equal facility. Panels come 4' by 8' long. Upson Easy-Curve Panels are specially created for the display field. Columns and curves are easy to make with this versatile material. With Easy-Curve better looking window and store displays can be constructed more quickly and at less cost.







SPECIAL SIZES AND FINISHES OF UPSON PANELS

Where an order for Upson Panels is in carload lots or better, arrangements can frequently be worked out to provide special sizes and finishes. It is suggested that you write our Technical Division outlining your requirements.

SPECIAL SIZES: If the standard lengths and widths of the various Upson Panels listed in this catalog do not meet your requirements and your order is for a carload or more, we shall be glad to provide panels cut to your specified size.

SYNTHO SURFACE: A factory applied synthetic coating to Upson STRONG-BILT Panels. Light ivory in color. Abrasion tests prove it equal to two coats of aged oil base paint. Can be washed to remove dirt, finger marks, and even oil or grease can be removed with gasoline. Provides a finished panel, eliminating field painting. However, SYNTHO surface can be painted or papered if variation in color is desired. Available on orders for a carload or better.

VAPOR BARRIER: If faced with a water vapor transmission problem, The Upson Company can supply on carload orders Upson STRONG-BILT Panels (Waterproofed) to which Vapor Barrier coatings have been factory applied. Moisture vapor transmission .20 grains sq. ft. (in. hg).

Upson STRONG-BILT Panels with Vapor Barrier provide a continuous unbroken vapor barrier with extremely high installed efficiency.



UPSON FLOATING FASTENER

Upson No. 2 Floating Fasteners are to be used with Upson Strong-Bilt Panels, Upson Kuver-Krak Panels and Upson Striated Panels. For Upson 3/16" Panels use Upson No. 1 Fasteners.



Aside from Upson Panels themselves probably no contribution to dry-built construction is of greater importance than the Upson No. 2 Floating Fastener.

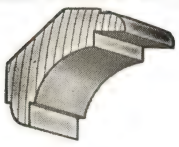
This fastener is designed to be used exclusively with Upson Strong-Bilt Panels and Upson Kuver-Krak Panels. Avoids face nailing and eliminates visible nails and nail holes. Saves time and labor.

The Upson Floating Fastener applied direct to studding or furring, 12" apart, anchors the panels securely from the back. The fastener is so constructed as to permit movement of the panel, due to normal structural settlement, both vertically and horizontally. The Upson No. 2 Floating Fastener has proven itself in literally tens of thousands of Upson Panel installations. The safety factor in the weight of the panel in the use of the fastener is 12½ to 1 in holding power.

MOULDINGS for use with UPSON STRONG-BILT and KUVER-KRAK PANELS

UPSON SHAD-O-LINE MOULDINGS

Upson Shad-O-Line Mouldings are available from The Upson Company to lumber dealers.
Upson Shad-O-Line Mouldings are designed to prevent unsightly paint cracks so common to ordinary panel materials.
Carefully paint under the recessed edge of all Shad-O-Line Mouldings. See illustration below. Do not attempt to fill Shad-O-Line or allow paint to accumulate in the recessed edges.



Cornice
7/8" x 2 1/2"



Inside Corner
1 1/4" x 1 1/4"



Outside Corner
1 5/8" x 1 5/8"



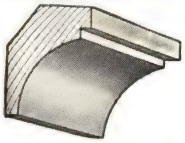
Duplex Panel Moulding
2" on 3"



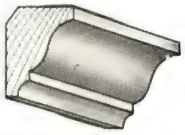
Panel Moulding
3/8" x 1 5/8"

OTHER TYPES OF WOOD MOULDINGS

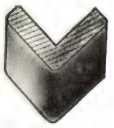
Other mouldings adapted to Upson installations but obtainable only through moulding manufacturers are illustrated below.
Always paint Upson Panels before applying these other types of wood mouldings. Otherwise, a slight paint crack will show along edge of mouldings as a result of seasonal movement of framing or panels.



Cornice Mouldings
3/4" x 2"
8532



3/4" x 1 5/8"
8625



Outside Corner
1 3/8" x 1 3/8"
8238



Panel Moulding
1/2" x 2 1/4"
8176



Inside Corner
3/4" x 3/4"
8052



Panel Moulding
5/8" x 2 3/4"
8187

DECORATING UPSON STRONG-BILT and KUVER-KRAK PANELS

PAINTING — Use a quality paint for best results. The surface of Upson Panels is ideal for any standard type of finish, flat, semi-gloss, high gloss or enamel.

For a satisfactory, washable finish, oil base paints are recommended. Some paint manufacturers suggest that their products will finish in one coat but for a better job we recommend two coats of high grade paint.

When applying two or more coats, it is advisable to tint the undercoating to match the finish coat for greater hiding power. Follow the paint manufacturer's directions.

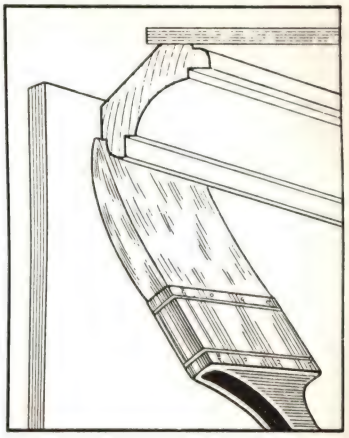
Do not attempt to fill joints between panels but cover all joints with an attractive, decorative moulding.

PAPERING—It is possible to paper over Upson Panels as on any flat surface, but never paper over panel joints. Wallpaper should always be applied to panels before mouldings are installed.

Before papering, apply one coat of flat oil base paint cut one half with mineral spirits, or one coat of good varnish size. Use a standard prepared wheat paste. By following this procedure, paper can be removed from Upson Panels when redecorating.

Do not attempt to fill joints between panels when papering or painting, but cover all joints with an attractive, decorative moulding.

PAINT STANDARD MOULDINGS BEFORE INSTALLING — When standard mouldings are used, Upson Panels should be finished before the mouldings are installed. Apply the final coat to mouldings after they have been nailed in place.



PAINTING UPSON SHAD-O-LINE MOULDINGS — Upson Shad-O-Line Mouldings are designed to prevent unsightly paint cracks so common to ordinary panel materials.

Be sure to paint carefully under the recessed edge of all Shad-O-Line Mouldings. Do not attempt to fill Shad-O-Line or allow paint to accumulate in the recessed edges.

PREFAB CONSTRUCTION

The versatility and all-around high performance of Upson STRONG-BILT Panels (waterproofed) make them especially adapted for use in multiple housing construction, whether it be factory prefabrication, site prefabrication or conventional construction.

Full-wall size, great strength, high insulating value, waterproofed, light weight and a perfect painting surface are a few of the features of standard Upson STRONG-BILT Panels that appeal to builders of housing projects.

Many of the nation's foremost home prefabricators are using Upson Strong-Bilt Panels for interior linings. Not only do these panels save production time but add great beauty and durability to the home.

Upson Strong-Bilt Panels have been used in over 50,000 homes built by National Homes Inc.

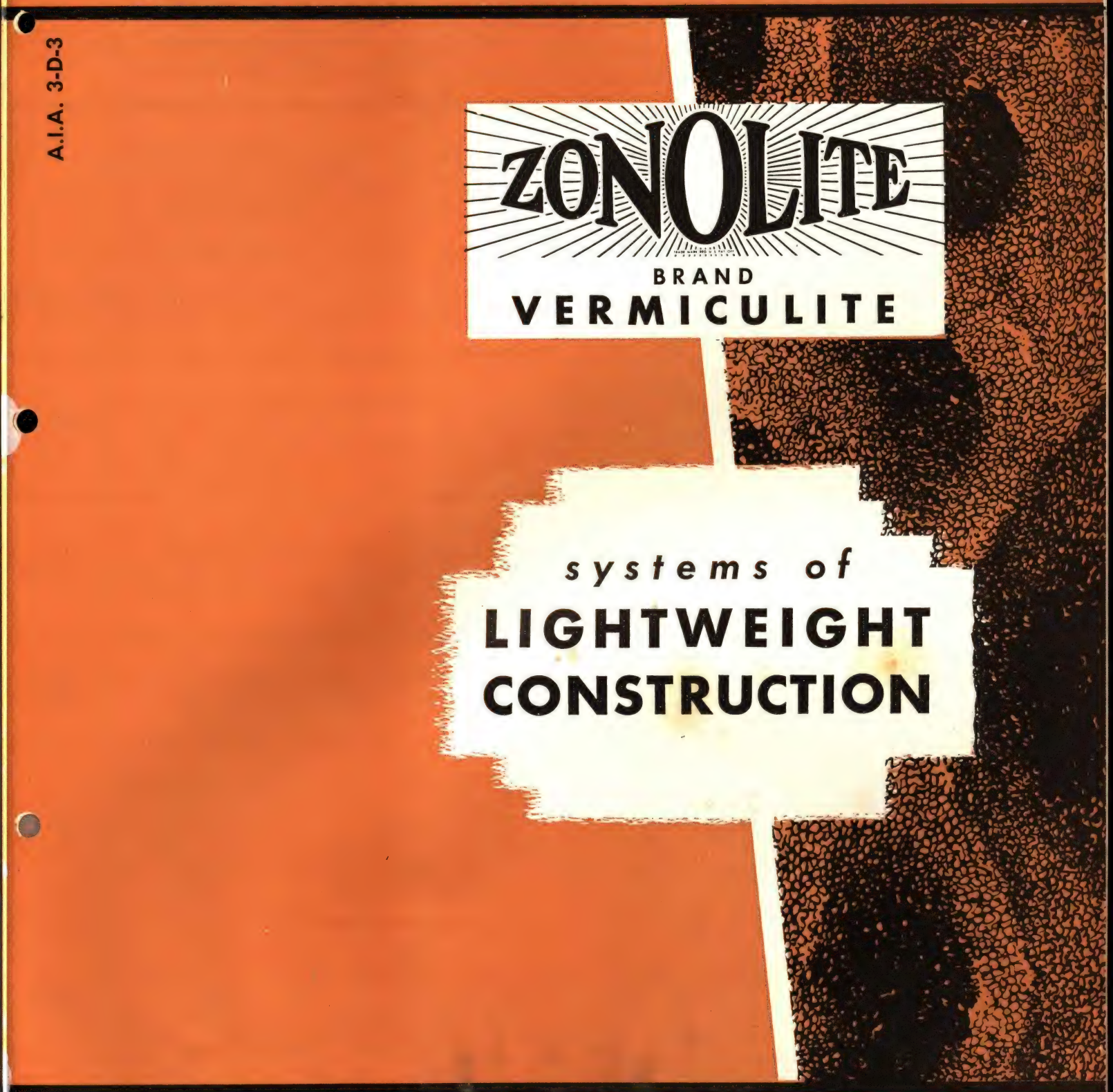




Upson Srong-Bilt Panels have strength, efficient insulating value and are forever CRACKPROOF.

THE UPSON COMPANY LOCKPORT, NEW YORK

FORM NO. [illegible] PRINTED IN U.S.A.



ZONOLITE COMPANY • 135 South La Salle Street • Chicago 3, Illinois

A.I.A. 3-D-3

ZONOLITE

BRAND

VERMICULITE

what it is

Zonolite brand vermiculite may be simply defined as a form of mica that expands when heated. Strip-mined in Montana and South Carolina, it is shipped to over 40 processing plants in the U.S., Canada and other countries, where the expansion process takes place. The material emerging from the expanding furnace is light in weight, fireproof, and relatively inert. It is comprised of many dead air cells which give the product inherent insulating properties. Being mineral, Zonolite vermiculite will not rot, mildew, or deteriorate.



Magnified view of vermiculite granule after expansion.

what it is used for

In the building industry, vermiculite's chief uses are as lightweight aggregates in plaster and concrete; in acoustical material; as a loose-fill insulation; for refrigeration insulation; in pre-cast roof tile; for high-temperature cement; and as an insulating material around underground heated piping.

aggregate requirements for lightweight construction

The tremendous growth of lightweight construction calls for study of the basic materials used in this type building. Vermiculite is one of these.

1 **light weight** Structural steel requirements are greatly reduced when a light weight material replaces concrete or plaster made from heavy aggregate.

2 **insulation value** One inch of insulating concrete has a "U" value equal to 12 to 16 inches of structural concrete. This permits sizeable reduction of thicknesses in many types of construction.

3 **durability** The chief precaution in the selection of a lightweight aggregate with respect to durability should be the relative inertness of the material and its lack of chemical reaction to binders with which it will be used.

4 **gradation** Maintenance of proper gradation and quality control is one of the single most important attributes of good lightweight aggregate.

5 **economy** Initial cost of light weight aggregate, as with most building materials, should be taken into consideration. However, the more important economy factor is the record of performance of the aggregate, its adherence to quality standards, and the integrity and service of the manufacturer behind the product.

6 **flexibility** Recent research developments in connection with lightweight aggregates reveal that densities, insulation value, and strengths of lightweight materials can be controlled and varied over a wide range of design requirements. A lightweight aggregate should provide this flexibility.

7 **incombustibility** Most aggregates are inherently incombustible. Variations in fire resistive ratings may occur, however, when aggregates are combined with portland cement, gypsum, or other materials. A good lightweight aggregate should meet the highest possible standards for fire-safe construction of walls, ceilings, floors, etc.

how Zonolite Vermiculite meets these requirements

Zonolite aggregates have earned the name, "Light-weight Champion", through 20 years of reliable performance. Recent outstanding structures employing Zonolite products include Lever House in New York City, which won the AIA Gold Medal Award; the Prudential Insurance Company building in Chicago; and Denver's highest building, the new Denver Club.

Zonolite Stabilized Vermiculite Concrete Aggregate makes concrete weighing 25 to 45 pounds per cubic foot. Mixes and physical properties may be varied according to the requirements of the job.

Typical "U" values for various thicknesses and mixes of Zonolite Concrete are shown in the tables elsewhere in this folder. A roof deck consisting of a 1:4 mix of Zonolite Concrete, (one bag of portland cement and one bag of Zonolite Concrete Aggregate), over paper-backed welded wire lath, has a "U" value of 0.15 for a 3 inch thickness, as an example.

Zonolite Plaster provides a hard, durable wall and ceiling surface, tough but resilient. Zonolite Concrete is impervious to attack from vermin or rodents, and is highly resistant to deterioration from water leakage or chemical fumes.

Zonolite aggregates conform to ASTM Specification for Aggregates — C35-52T for plaster and C33-49 for concrete. Zonolite aggregate is regularly subjected to the re-examination service of Underwriters' Laboratories.

In addition to its competitive initial price, Zonolite aggregate delivers a plus value to users, which should not be overlooked in the initial choice of an aggregate. Zonolite Plaster and Concrete Aggregates provide uniformly high yield, whether placed by hand methods or through machine placement methods. The long-term record performance of Zonolite in big and small jobs is the final measure of economy.

The possible variations of systems of construction offered by the combination of a cementing material and Zonolite cannot be equaled by any other material offered to the architect, engineer, and builder.

Zonolite vermiculite has been accorded the highest attainable fire ratings in tests by many outstanding laboratories. A complete summary of fire tests on various systems of construction is contained on pages 10 and 11. Vermiculite itself has a fusion point in excess of 2500 degrees.

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ZONOLITE

ZONOLITE POURED CONCRETE ROOF DECKS

The possible combinations of materials in lightweight Zonolite roof construction are innumerable. Zonolite Concrete roof decks may be used in conjunction with many existing forming materials to provide roof decks with many benefits.

advantages

- Roof systems involving Zonolite Concrete are extremely light in weight as shown in the table of weights with the various systems on the right.
- Good "U" values are obtainable with these systems, as shown in the tables. A 4 inch thickness of 1:4 Zonolite Concrete over form board (see Fig. 4) has a "U" factor of .12.
- These roof systems are designed to cover a range of from two to four hour fire protection.
- Zonolite roof decks are designed to carry a 50 pound load with a safety factor of 5.
- These decks consist of portland cement and Zonolite aggregate, which will not burn, rot or decay.
- Systems involving decks without form boards usually have an underside appearance which is entirely acceptable. Form boards, where used, offer a variety of finishes to meet the demands of the architect.
- Cost of in-place Zonolite roof decks is low. Savings in steel often are possible, adding to the economy.
- The variety of possible systems employing Zonolite is limitless. Any type of ceiling construction and finish can be used in conjunction with the roof designs at the right.

ZONOLITE POURED CONCRETE ROOF INSULATION

The permanent insulating benefits of a Zonolite Concrete fill-type roof have been provided on many of the best known large structures built in recent years. In addition, many small commercial, industrial, and institutional buildings employ Zonolite for roof insulation.

Zonolite Concrete may be used as roof fill over a variety of surfaces including concrete, steel, corrugated iron, wood, or other materials.

advantages

- Zonolite fill-type roofs combine good insulating properties with suitable strength.
- Cants, crickets, and saddles are easily formed with Zonolite Concrete and may be poured monolithically with the roof itself.
- Zonolite Concrete forms a highly suitable base on which to lay built-up roofing.
- Zonolite Concrete roofs are monolithic, providing a uniform, joint-free surface.
- Zonolite Concrete is fireproof and cannot rot or decay.

ZONATILE PRECAST CONCRETE ROOF DECKS

Zonatile is a reinforced lightweight roof slab developed for installation over bar joists and bulb tees. It combines insulation and structural strength. Each Zonatile measures 18 inches wide, 36 inches long, and 3 inches in thickness. The approximate weight is 10½ pounds per square foot. Zonatile has an insulation "U" value of .22, and consists of mineral or inorganic materials. It is permanent, rotproof, and fireproof.

The underside of each Zonatile is finished with an attractive swirl effect so the tile may be left exposed if desired.

details

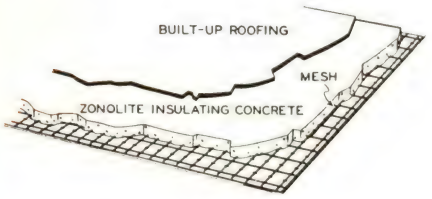


Fig. 1 — Zonolite Concrete over paper-backed welded wire lath.

Paper-backed lath should be stretched taut over steel members before placement of Zonolite. When concrete is poured, paper-backing falls away from lath, embedding wire in Zonolite Concrete.

ZONOLITE THICKNESS	RECOMMENDED SPAN	"U" VALUE*	WT. LBS./ SQ. FT.
2"	32"	.28	6.21
2½"	32"	.25	7.67
3"	36"	.22	9.13
3½"	36"	.20	10.59
4"	36"	.18	12.05

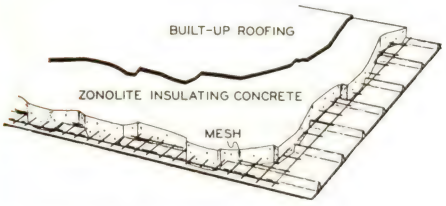


Fig. 5 — Zonolite Concrete over metal deck.

Metal decking, as produced by a number of manufacturers, forms another suitable base for light-weight insulating Zonolite Concrete.

1:6 MIX

ZONOLITE THICKNESS	"U" VALUE*	WT. LBS./ SQ. FT.
2"	.26	10.29
2½"	.22	11.32
3"	.19	12.37

1:4 MIX

ZONOLITE THICKNESS	"U" VALUE*	WT. LBS./ SQ. FT.
2"	.30	11.83
2½"	.26	13.29
3"	.23	14.75

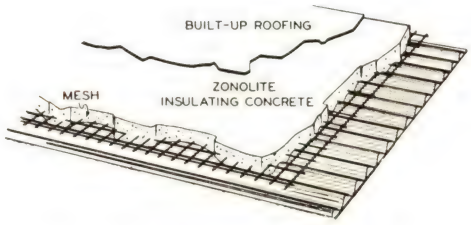


Fig. 2 — Zonolite Concrete over corrugated metal deck.

Clips are frequently employed with corrugated metal decks which provide an air space between the sections of corrugated metal, this air space serving as a vent after the concrete and built-up roofing have been installed.

ZONOLITE THICKNESS	RECOMMENDED SPAN	"U" VALUE*	WT. LBS./ SQ. FT.
2"	36"	.29	7.02
2½"	36"	.25	8.48
3"	36"	.22	9.94
3½"	36"	.20	11.40
4"	36"	.18	12.85

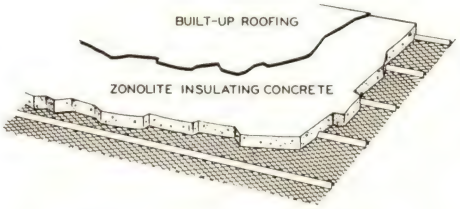


Fig. 3 — Zonolite Concrete over ribbed metal lath.

High-ribbed lath, is another type structural frame over which thousands of square feet of Zonolite concrete have been applied. Standard built-up roofing is employed over any Zonolite deck.

ZONOLITE THICKNESS	RECOMMENDED SPAN	"U" VALUE*	WT. LBS./ SQ. FT.
2"	24"	.30	6.23
2½"	24"	.26	7.69
3"	24"	.23	9.15
3½"	24"	.20	10.61
4"	24"	.18	12.07

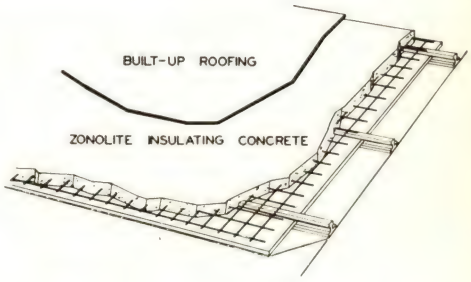


Fig. 4 — Zonolite Concrete over board forms.

Zonolite Concrete may be poured over a variety of board forms such as ¼ inch cement asbestos board, ½ inch gypsum board, or 1 inch rigid insulating form board. Three tables below show properties for various supporting forms.

ZONOLITE THICKNESS	RECOMMENDED SPAN	"U" VALUE*	WT. LBS./ SQ. FT.
2"	32¾"	.29	9.53
2½"	32¾"	.25	10.99
3"	32¾"	.23	12.45
3½"	32¾"	.20	13.91
4"	32¾"	.18	15.37

Over ¼" Cement Asbestos Board

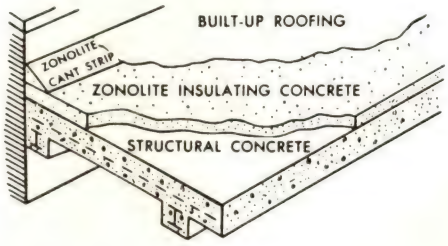


Fig. 6 — Zonolite Insulating Roof Fill over structural concrete.

Where Zonolite is poured over existing structural decks for insulation a 1:6 mix* may be employed for higher insulating value. In addition to concrete, Zonolite Roof Fill Insulation has been used over steel, corrugated iron, and wood. Where poured over materials subject to excessive expansion or contraction, such as wood decks, a slip-sheet of treated paper is first laid down to prevent bond of the insulating concrete to the deck.

*NOTE: In Southern states and other areas where the temperature during the pouring and curing period is 50 degrees F. or above, a 1:8 mix may be employed (1 cubic foot of portland cement to 8 cubic feet of Zonolite Stabilized Concrete Aggregate).

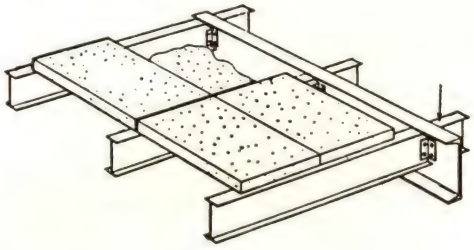


Fig. 7 — Zonatile Precast Concrete Roof Tile over bulb tees.

Zonatile, described in the column at the far left, may be applied over sub-purlins and rail sections, or over standard structural members. Over joists or purlins, the tile are anchored with a special clip. Joists spacing is 3 feet on centers.



Fig. 8

ZONOLITE THICKNESS	RECOMMENDED SPAN	"U" VALUE*	WT. LBS./ SQ. FT.
2"	32¾"	.27	7.83
2½"	32¾"	.24	9.29
3"	32¾"	.21	10.75
3½"	32¾"	.19	12.22
4"	32¾"	.17	13.66

Over ½" Gypsum Form Board

ZONOLITE THICKNESS	RECOMMENDED SPAN	"U" VALUE*	WT. LBS./ SQ. FT.
2"	32¾"	.16	8.52
2½"	32¾"	.15	9.92
3"	32¾"	.14	11.44
3½"	32¾"	.13	12.90
4"	32¾"	.12	14.36

Over 1" Rigid Insulating Formboard

*NOTE: "U" values based on the following densities of Zonolite Concrete:

1:4 mix	35 p.c.f
1:6 mix	25 p.c.f
1:8 mix	20 p.c.f.

ZONOLITE

ZONOLITE PLASTER FOR CEILINGS AND WALLS

In plaster, Zonolite aggregate replaces sand or other aggregates, and is combined with gypsum and water. Zonolite Plaster Aggregate is packaged in lightweight four cubic foot bags. Complete data and specifications are contained on pages 13 and 15.

advantages

- Zonolite aggregate for plaster is a standard uniform material that meets rigid ASTM Specifications. The product is uniform wherever purchased.
- Zonolite aggregate weighs less than one-tenth as much as sand, which it replaces. In plaster, Zonolite aggregate eliminates tons of dead weight in a building. Lightness results in easier application.
- Fire tests involving over 30 different types of construction with Zonolite aggregate have been conducted by recognized national laboratories. Zonolite Plaster regularly provides highest attainable fire ratings.
- Zonolite Plaster has a "K" value of .95, giving it about 3½ times more insulating value than ordinary plaster. It supplies additional insulation to walls and ceilings, to minimize the possibility of condensation.
- Zonolite Plaster is easily applied by hand or machine methods. It is non-abrasive — won't damage machines.
- Zonolite Plaster is backed by over 20 years of successful application in major buildings. It was the first lightweight aggregate material and is the largest selling brand of lightweight aggregate in use today.

ZONOLITE ACOUSTICAL PLASTIC FINISH CEILING

Zonolite Acoustical Plastic combines high sound absorption with maximum fire protection. Available in two colors, natural buff or off-white, Zonolite Acoustical Plastic is conveniently packaged in two-and one-half cubic foot bags, which require only the addition of water to prepare the material for use.

advantages

- Zonolite Acoustical Plastic sticks to any clean, firm surface such as brown coat plaster, exposed concrete ceilings, oil painted surfaces, etc.
- Various textures are easily obtained with Zonolite Acoustical Plastic, through trowelling or stippling, or through the use of plaster placing equipment.
- Irregular surfaces are easily sound treated with Zonolite Acoustical Plastic.
- Hand applied Zonolite Acoustical Plastic has a noise reduction coefficient of 0.65 for ½" finished thickness, as tested by a nationally known laboratory, placing it among the best sound-absorbing materials.
- Zonolite Acoustical Plastic is proved by Underwriters' Laboratories to be incombustible. In addition, it protects underlying combustible materials.
- In many cases, Zonolite Acoustical Plastic has proved to be the most economical noise reducing material that can be applied. It often permits sound-conditioning to be used where other materials would be prohibitive in cost.
- This sound-conditioner is easily applied by hand or machine application methods. Zonolite Acoustical Plastic does not set chemically so unused mix may be left standing overnight.

details

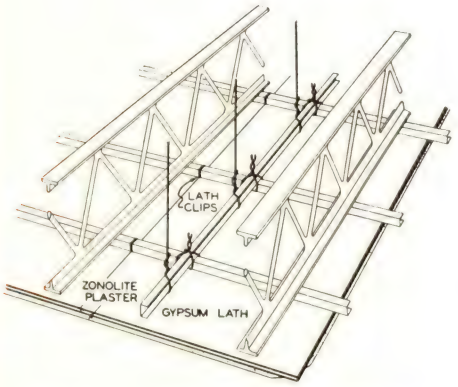


Fig. 9 — Hung ceiling Zonolite Plaster on Gypsum Lath.

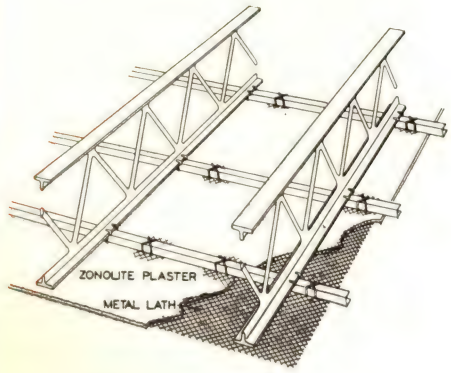


Fig. 11 — Furred ceiling Zonolite Plaster on Metal Lath.

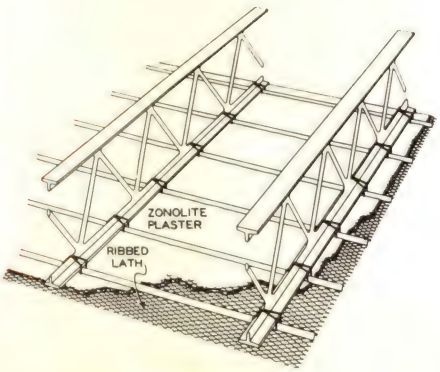


Fig. 13—Attached ceiling Zonolite Plaster on Ribbed Metal Lath.

COMPLETE VERSATILITY OF DESIGN AND CONSTRUCTION

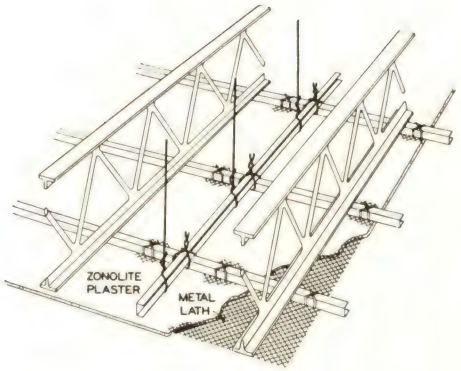


Fig. 10 — Hung ceiling Zonolite Plaster on Metal Lath.

At the left are six representative types of ceiling construction, which provide the fire safe advantages to be found in Zonolite Plaster. These are only representative, of course. Zonolite Plaster may be applied over any acceptable lath base under any type of framing member.

The architect has at his disposal an endless variety of systems of construction with Zonolite Plaster and Concrete Aggregates. Any of the ceiling constructions shown here may be used together with any of the roof assemblies shown on pages 4 and 5. The choice is left to the preference of the architect and designer. With Zonolite Plaster in the ceiling construction and Zonolite Concrete in the roof, all of the advantages previously discussed are realized in one assembly.

The addition of Zonolite Acoustical Plastic as shown in Figure 14 affords maximum sound conditioning at very little additional cost. Many of these systems of construction have been fire tested by leading laboratories and accorded outstanding fire ratings. Representative fire tests are shown on pages 10 and 11.

PLASTER FINISH COATS

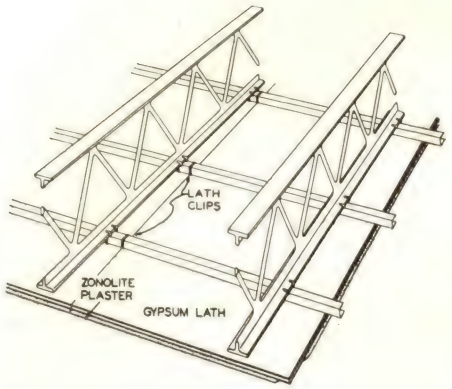


Fig. 12 — Furred ceiling Zonolite Plaster on Gypsum Lath.

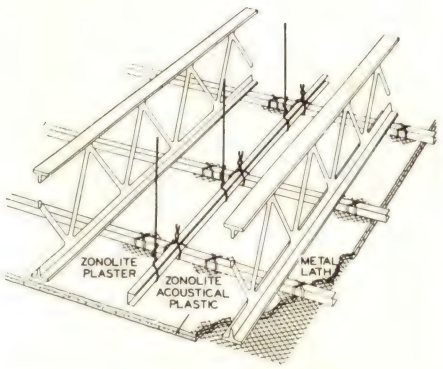


Fig. 14 — Hung ceiling Zonolite Plaster and Zonolite Acoustical Plastic on Metal Lath.

Zonolite base coat plaster as used in walls and ceilings may be covered with a wide variety of finishes. For complete instructions consult, "Standard Specifications for Vermiculite Plastering", Vermiculite Institute, March 1954.

Finishes include: *Gypsum Lime Putty Trowel Finish* MIXED in the proportions of one (1) part of gauging plaster (calcined gypsum) to not more than three (3) parts of lime putty by volume.

Keene's Cement-Lime Putty Finish may be medium hard or hard finish.

*Medium Hard Finish shall be mixed in the proportion of 100 pounds of Keene's cement to not more than 50 pounds of dry hydrated lime. When mixed mechanically the water shall be put in the mixer first; then the lime, the sand, if used, and finally the Keene's cement.

*Hard Finish shall be mixed in the proportions of 100 pounds of Keene's cement to not more than 25 pounds of dry hydrated lime. When mixed mechanically the water shall be put in the mixer first; then the lime, the sand, if used, and finally the Keene's cement.

Keene's Cement — Lime-Sand Float Finish shall be mixed in the proportions of 2 parts of lime putty, 1½ parts of Keene's cement, and 4½ parts of sand by volume.

Prepared Finishes shall be mixed with water to the proper consistency in accordance with the manufacturer's directions.

Zonolite Vermiculite Finish Coat shall be mixed in the proportions of 100 pounds of unfibered gypsum plaster or gypsum gauging plaster to one (1) cubic foot of Zonolite vermiculite Finish Aggregate. The plaster shall be placed in water and mixed. Zonolite vermiculite Finish Aggregate shall then be added and the material *thoroughly mixed*. More water should be added to obtain workable consistency.

Note–For best results, the mixed plaster should have a setting time of 1 to 3 hours.

Zonolite Acoustical Plastic may be applied over any Zonolite Plaster base coat. Specifications are shown on page 15.

*Note–To either of the above proportions may be added 10 pounds of fine white sand for each 100 pounds of Keene's cement.

ZONOLITE

ZONOLITE POURED CONCRETE FLOOR SLABS AND FILL

Zonolite vermiculite Concrete Aggregate may be used two ways in insulating floor construction. In one case, this aggregate completely replaces sand and gravel in the concrete mix, resulting in an extremely lightweight product called, Zonolite vermiculite Insulating Concrete. In its other application, called Zonolite Vermiculite-Sand Concrete, Zonolite aggregate is used *together with sand* to form a light weight concrete floor or fill over structural metal or concrete floors.

advantages

1. ZONOLITE VERMICULITE INSULATING CONCRETE:
- High insulation value, one inch being equal to twelve to sixteen inches of ordinary concrete.
- Lightweight, only 25-50 pounds per cubic foot, depending on the mix.
- Consistently high yields.
- Easy mixing and application
- Permanence. Zonolite Insulating Concrete is rotproof, verminproof, lasts the life of the building.

2. ZONOLITE VERMICULITE-SAND CONCRETE:
- Approximately 4½ times the insulating value of ordinary concrete.
- ½ the weight of ordinary concrete.
- Elimination of necessity for topping. Asphalt, ceramic tile, carpeting, etc., can be laid directly on surface.
- Resilience approaching wood floors.
- Approximately ½ the thermal capacity of regular sand concrete —temperature of floor ordinarily assumes room temperature.

ZONOLITE INSULATING FILL FOR WALLS AND CEILINGS

Zonolite Insulating Fill is a granular form of vermiculite extensively used in home insulation, commercial and farm buildings, cold storage structures, etc. It pours freely from the bag into attic and sidewall sections, and is extensively used for filling cores of concrete blocks.

advantages

- Zonolite Insulation is completely fireproof.
- Zonolite flows readily around pipes, wiring, braces, or other obstructions. It leaves no voids to leak heat.
- Zonolite Insulation greatly increases insulating efficiency of wall and ceiling sections as shown in figures 19 through 26.
- Zonolite settles to a uniform, tamper-proof density on installation, cannot be fluffed up and will not mat down.
- All mineral Zonolite is rotproof and verminproof.
- Zonolite's extreme light weight contributes to its ease of handling and rapid installation.

ZONOLITE PLASTER PARTITIONS

Zonolite vermiculite plaster partitions may be constructed on either gypsum or metal lath bases, and offer many advantages to architects and owners alike.

advantages

- In every five lineal feet, a two-inch Zonolite partition provides one extra square foot of usable space over conventional partitions.
- Zonolite 2½ inch partitions earn a two-hour fire retardant rating, as compared to one-hour for sand plaster partitions.
- Zonolite plaster partitions provide good sound reduction.
- Zonolite partitions are strong, yet weigh only ½ as much as sand plaster partitions.
- Cost is comparable to conventional partitions plastered on both sides.

details

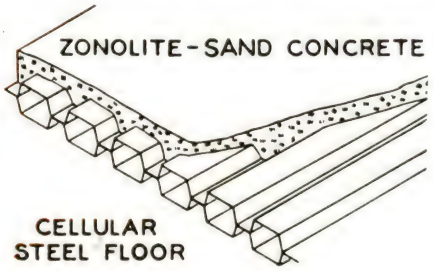


Fig. 15 — Zonolite-Sand Concrete Fill over structural floors.

The proper proportioning of Zonolite-Sand Concrete for all floor applications is 1:3:2 (one cubic foot cement; three cubic feet Zonolite Stabilized Concrete Aggregate; two cubic feet sand). Over steel flooring or reinforced concrete floors, Zonolite-Sand Concrete provides a highly suitable floor fill material. A table of physical properties is shown on page 12, and specifications on page 14.

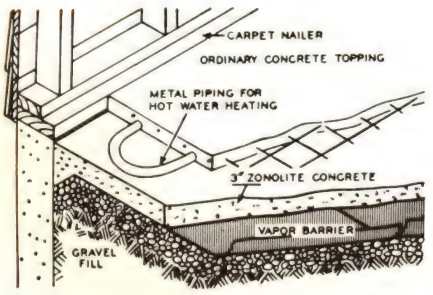


Fig. 18 — Zonolite Insulating Concrete as base for radiant heating coils.

This method of construction provides maximum insulating value essential to economical operation of radiant heating systems. The hard concrete topping is applied to a minimum thickness of 1 inch over the tops of the heating coils. Zonolite floors permit rapid response to thermostatic control, eliminating undesirable "heat lag." Lower water temperatures are needed to bring desired heating results, thus saving fuel. This system is equally adaptable for electric heating systems.

Send for booklet CA-4 "Floor-Slabs and Floor-Fill" which gives complete information on Zonolite vermiculite floor construction.

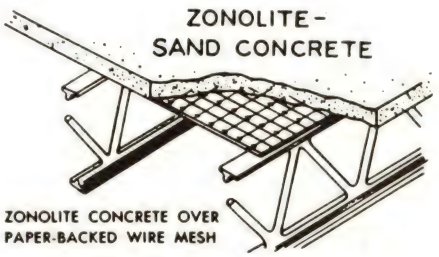


Fig. 16 — Zonolite-Sand Concrete Floor Slabs over closely-spaced joists.

Where joists do not exceed 24 inches on centers, Zonolite-Sand Concrete can be employed as a floor slab over steel, concrete or timber joists. Minimum recommended thickness is 3 inches. Zonolite-Sand Concrete should be used with suitable floor covering. Zonolite-Sand Concrete develops sufficient compressive and indentation strengths to withstand normal traffic loads of light industry or commercial use.

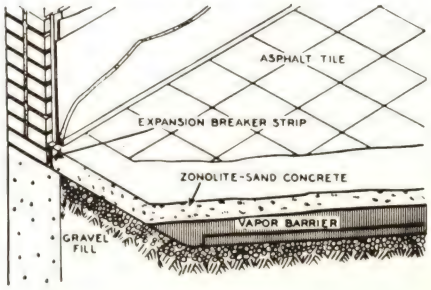


Fig. 17 — Zonolite-Sand Concrete Floors on ground.

The construction above provides a concrete floor with 4½ times the insulating properties of structural concrete. It serves as a suitable base for asphalt tile, ceramic tile, carpeting, or other type floor coverings. It is not recommended that Zonolite-Sand Concrete be left exposed to wear. When required, because of ground water conditions, membrane waterproofing should be applied over the gravel fill base as shown in diagram.

The addition of Zonolite Insulating Fill in typical wall and ceiling sections provides outstanding benefits. "U" values of uninsulated versus insulated sections are shown in the diagrams below.

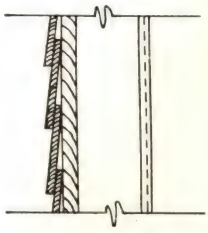


Fig. 19 U = .25
Siding
Building Paper
25/32" Fir Sheathing
Air Space
½" Gypsum Wallboard

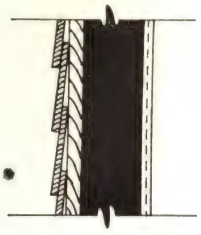


Fig. 20 U = .087
Siding
Building Paper
25/32" Fir Sheathing
3 5/8" Zonolite Insulating Fill
½" Gypsum Wallboard

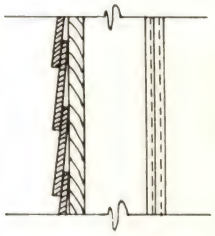


Fig. 21 U = .25
Lapsiding
Building Paper
25/32" Fir Sheathing
Air Space
½" Plaster on 3/8" Gypsum Lath

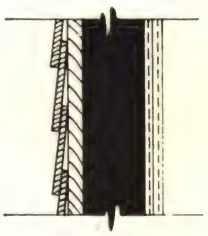


Fig. 22 U = .086
Lapsiding
Building Paper
25/32" Fir Sheathing
3 5/8" Zonolite Insulating Fill
½" Plaster on 3/8" Gypsum Lath

Fig. 23 U = .60
½" Gypsum Wallboard to ceiling joists
Attic Space

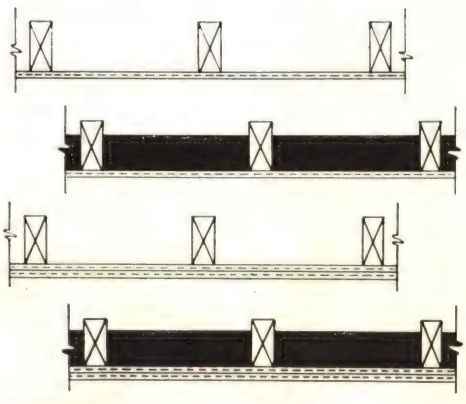


Fig. 24 U = .13
½" Gypsum Wallboard to ceiling joists
3" Zonolite Insulating Fill
Attic Space

Fig. 25 U = .61
½" Plaster on 3/8" Gypsum Lath to ceiling joists
Attic Space

Fig. 26 U = .13
½" Plaster on 3/8" Gypsum Lath to ceiling joists
3" Zonolite Insulating Fill
Attic Space

ZONOLITE CONCRETE SPANDREL WALL CONSTRUCTION

In tests recently completed at Underwriters' Laboratories in Chicago, Zonolite Concrete for spandrel back-up was awarded a five-hour fire rating.

In the tests, Zonolite Concrete was machine-applied to a thickness of 4 inches, with suitable reinforcing as shown in the illustration.

advantages

- Underwriters' Laboratories Retardant No. 3653, Aug. 18, 1954 rates this construction 5 hours.
- 35 pounds per square foot wind loading, more than adequate for multi-story building construction. Compressive strength rated at 700 pounds per square inch.
- The Zonolite wall weighed only 21 pounds per square foot, including steel. Conventional construction weighs 80 to 90 pounds.
- Great savings in structural steel are possible due to weight reduction of Zonolite spandrel construction.
- Zonolite spandrel walls occupy only 50% of the space of ordinary masonry construction. Rentable floor space in commercial buildings greatly increased.
- Up to 3 cubic yards of Zonolite Concrete per hour can be applied by machine methods.
- Construction can be completed from the inside reducing scaffolding costs and providing added safety for workers.
- Construction is monolithic, free of joining, providing added strength and durability, and better interior appearance.
- Zonolite spandrel walls lend themselves to the use of modern facing materials, such as steel and aluminum.
- Interior concrete walls can be plastered, painted, tiled, or finished in any desired manner.
- Where normal masonry spandrel walls have a "U" value of .35, a four inch Zonolite spandrel has a .20 value. An air space in the construction can reduce this value to .17, and plaster reduces it further to .15.

Further details are available on request.

ZONOLITE

PLASTER FIREPROOFING

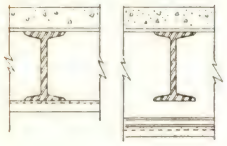
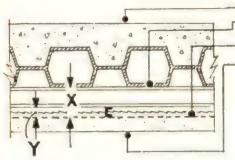
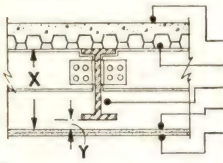
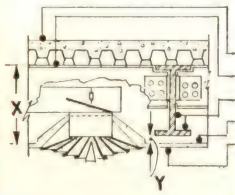
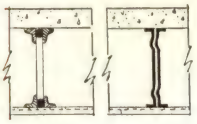
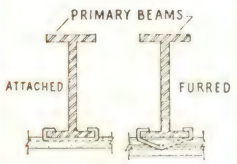
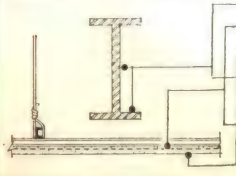
The Mercantile National Bank Building in Dallas, Texas, completed in the early 1940's, was the first major commercial building fireproofed with lightweight aggregates in place of conventional, heavy fireproofing materials. The tremendous savings in structural steel made possible by these lighter weight materials has revolutionized fireproofing practices. Since this first building, innumerable other structures have been fireproofed in this manner. The range of lightweight fireproofing applications extends from columns and beams, to floors, ceilings, trusses, walls, etc. Fireproofing is used to protect structural members from direct attack by fire and to keep the temperature of the members below the critical temperature at which failure is likely to occur, for the duration of the fire.

advantages

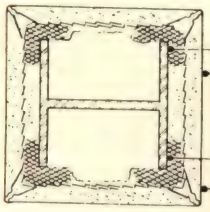
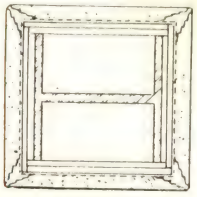
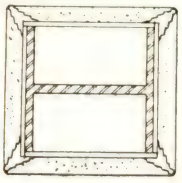
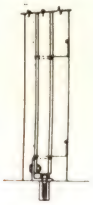
- Protection — The Summary of Fire Tests shown at the right indicates that Zonolite fireproofing has been accorded the highest attainable fire ratings for a wide variety of systems of construction.
- Lightweight—Where structural concrete is used to obtain a four-hour rating as protection for steel beams, the concrete weighs approximately 190 lbs. per linear foot for a 15 inch "I" beam. This same beam protected with lath and Zonolite Plaster weighs about 19 lbs., or 90% less. In the Mercantile Bank Building, weight reduction in the fireproofing materials amounted to over 14,000,000 lbs. (94%), and a saving of 1880 tons (30%) of structural steel in the entire building. Similar weight reductions occur in all types of lightweight fireproofing.
- Space Saving — Because over-all thicknesses of fireproofing materials are reduced, rentable floor space is often increased through Zonolite fireproofing.
- Lower Cost—Fireproofing with Zonolite vermiculite eliminates the cost of the concrete, reinforcing, labor of placing, dismantling forms and providing an additional plaster finish — all of which must frequently be done with conventional fireproofing methods.
- Acceptance — Leading buildings like the AIA Gold Medal Award winning Lever House in New York City, the General Petroleum Building in Los Angeles, and the new Mile-High Center in Denver, are fireproofed with Zonolite Plaster. Building code acceptance of the systems of constructions shown at the right is virtually universal.

partial summary of fire tests

SUMMARY OF FLOOR AND CEILING FIRE TESTS

		CONSTRUCTION	AVERAGE TEMPERATURE AT RATING INDICATED	DESCRIPTION	RATING
FLOOR AND ROOF ASSEMBLIES	STEEL PLATE CONSTRUCTION			2½" sand concrete topping. Attached or suspended ceiling of vermiculite plaster on metal lath. 1" ..... ¾"	4 hrs. 3 hrs.
	CELLULAR STEEL CONSTRUCTION		239°F 796 1009 2000	Minimum of 2" cinder concrete fill. Furred ceiling of ⅞ inch vermiculite plaster over face of metal lath. Distance x = 2¼" or more.	4 hrs.
				Minimum of 2" sand concrete fill. Furred ceiling of 1" vermiculite plaster on metal lath. Distance x = 2" or more.	4 hrs.
			233°F 656 853 913 2000	Minimum of 2½" sand concrete fill. Suspended ceiling of ⅝" vermiculite plaster plus ½" of vermiculite acoustical plastic over the face of metal lath. Distance x = 7¼" or more. Distance y = 2½" or more.	4 hrs.
			266°F 720 837 878 1925	Minimum of 2" sand concrete fill. Suspended ceiling of ⅞" vermiculite plaster over the face of metal lath. Distance x = 15⅜" or more. Distance y = 3½" or more. Ceiling had openings for two duct outlets as shown and for two electrical outlet boxes; aggregate area of openings did not exceed 100 square inches in each 100 square feet of ceiling area. Duct openings protected by fire dampers as shown.	3 hrs.
	STEEL JOIST AND LIGHT STEEL CONSTRUCTION			2½" sand concrete fill. 1" vermiculite plaster on metal lath.	4 hrs.
				2½" sand concrete fill. ¾" vermiculite plaster on metal lath.	3 hrs.
				2" sand concrete fill. ¾" vermiculite plaster on metal lath.	2½ hrs.
	CORRUGATED METAL			Corrugated Steel floor (Cofar) protected by undercoating of Zonolite Acoustical Plastic applied to thickness of ½" below depth of corrugation, and thickness of 2¼" on beams.	4 hrs.
CEILING FIREPROOFING WITH INCOMBUSTIBLE MATERIALS ABOVE	ATTACHED or FURRED			Ceiling of 1" of vermiculite plaster on metal lath attached to or furred from the lower flange of supporting primary beams.	4 hrs.
				Ceiling of ¾" of vermiculite plaster on metal lath attached to or furred from the lower flange of supporting primary beams.	3 hrs.
				Ceiling of ¾" of vermiculite plaster on metal lath attached to or furred from the lower flange of supporting primary beams.	2½ hrs.
	SUSPENDED		975°F 1142 2000	Ceiling of 1" of vermiculite plaster over the face of metal lath. At least 2½" air space between structural members and back of metal lath.	4 hrs.
			853°F 913 2000	Ceiling of ⅝" of vermiculite plaster plus ½" of vermiculite acoustical plastic over the face of metal lath. At least 2½" air space between structural members and back of metal lath.	4 hrs.

SUMMARY OF COLUMN, PARTITION, AND SPANDREL WALL FIRE TESTS

		CONSTRUCTION	AVERAGE TEMPERATURE AT RATING INDICATED	DESCRIPTION	RATING	AUTHORITY
COLUMNS	METAL LATH		785°F 2000	Column protected with 1½" vermiculite plaster over the face of metal lath. Lath spaced 1¼" from column flanges. Space behind lath on flange faces filled with plaster, as shown.	4 hrs.	Underwriters' Laboratories, Inc. Ret. 2851—5/10/49
			802°F 1925	Same protection as above except 1" vermiculite plaster over face of metal lath.	3 hrs.	
				Same as above, for self-furring lath.		
	GYPSUM LATH			Column protected with 1½" vermiculite plaster applied over two layers of ½" thick long length plain gypsum lath wrapped with one layer of hexagonal mesh poultry netting.	4 hrs.	National Bureau of Standards Test 294
				Same protection as above except 1" vermiculite plaster applied over gypsum lath.	3½ hrs.	
				Column protected with 1" vermiculite plaster applied over one layer of ⅜" thick perforated gypsum lath.	2 hrs.	National Bureau of Standards Test 294
SPANDREL WALL	SPANDREL WALL			Zonolite Concrete Spandrel Wall back-up machine-applied to 4¼" thickness.	5 hrs.	Underwriters' Laboratories, Inc. 4/8/54
PARTITIONS	GYPSUM LATH			1" of vermiculite plaster applied to each face of ½" thick long length plain gypsum lath. No studs. Overall thickness of partition 2½".	2 hrs.	National Bureau of Standards Tests 300 & 301
				¾" of vermiculite plaster applied to each face of ½" thick long length plain gypsum lath. No studs. Overall thickness of partition 2".	1 hr.	
	METAL LATH			Vermiculite plaster applied on metal lath fastened to incombustible studs spaced 16" on centers. Overall thickness of partition 2½".	2 hrs.	National Bureau of Standards Tests 298 & 299
				Vermiculite plaster applied on metal lath fastened to incombustible studs spaced 16" on centers. Overall thickness of partition 2".	1 hr.	

AUTHORITY
National Bureau of Standards BMS92—Table 44
Underwriters' Laboratories, Inc. Ret. 2689—12/18/39
National Bureau of Standards BMS92—Table 45
Underwriters' Laboratories, Inc. Ret 2773—11/29/50
Underwriters' Laboratories, Inc. Ret. 2689—12/13/49 Submitter (floor manufacturer) stopped test at 3 hours. In test of similar floor construction without openings in ceiling (see item No. 3 above) average temperatures at 3 hours were: unexposed surface 190°F cellular floor 700° unexposed side of lath 920° exposed plaster surface 1925°
National Bureau of Standards BMS92—Table 43
Underwriters' Laboratories, Inc. 5/24/54
National Bureau of Standards BMS92—Tables 43 & 44 and Para. 1, Page 41 & Para. 4, Page 42
Underwriters' Laboratories, Inc. Ret. 2773—1/20/47
Underwriters' Laboratories, Inc. Ret. 2773—11/29/50

ZONOLITE

ZONOLITE INSULATING CONCRETE

use. Lightweight concrete fill for floor and roof construction, insulating roof deck systems, and floor slabs on-the-ground, cavity wall insulation.

materials. Zonolite vermiculite Concrete mix shall consist of Zonolite vermiculite Stabilized Concrete Aggregate, portland cement and water.

Vermiculite shall be Zonolite brand vermiculite Stabilized Concrete Aggregate.

Portland cement shall conform to ASTM Designation C-150 (Standard Specifications for Portland Cement) and shall be type I, II and III.

Water shall be clean and free from deleterious acids, alkalies and organic materials.

mixing. Mixing of Zonolite vermiculite Concrete shall be accomplished in a mechanical mixer. The water, then all the cement, then all the aggregate shall be added in turn. Additional water shall be added if necessary to obtain the desired slump. Period of mixing shall be limited to the minimum time which will accomplish complete uniformity and a flowable mixture and this time shall be closely adhered to throughout the job.

Do not over mix. Note: Observe the following sequence when transit-mixed Zonolite vermiculite Concrete is used:

1. Place all aggregate, cement and water for required batch in the mixer.
2. Only turn at plant sufficient to obtain uniform mix.
3. *Do not turn drum while driving from plant to job.*
4. At job, turn drum for 1 minute, add reserve water from mixer tank if necessary to obtain required slump.

MIXING PROPORTIONS

MIX	CEMENT SX	ZONOLITE VERMICULITE (CU. FT.)	Water U. S. GAL.
1:4(A*)	1	4	11-13‡
1:6(B*)	1	6	17-19‡
1:8(C*)	1	8	23-25.

Note: British Imperial Gallons required for above mixes: 1:4 9-11 gals. 1:6 14-15 gals

MATERIALS REQUIRED PER YD.

MIX	CEMENT SX	ZONOLITE VERMICULITE 4 CU. FT. BAGS	WATER U. S. GAL.
1:4(A*)	7.5	7.5	85-95‡
1:6(B*)	5.	7.5	85-95‡
1:8(C*)	3.75	7.5	85-95‡

‡71-79—British Imperial Gallons

PROPERTIES

MIX	UNIT WEIGHT LBS. CU. FT.	APPROX. COMPRESSIVE STRENGTH 28 DAYS	INDENTATION STRENGTH 1 SQ. IN. 28 DAYS
1:4(A*)	35-45	500	620
1:6(B*)	25-35	250	295
1:8(C*)	20-25	125	150

A*—Roof Decks B & C*—Roof Insulation
B*—Floors on-the-ground

ZONOLITE-SAND CONCRETE

use. Fill over structural floors, floor slabs over closely spaced joists, or for floor slabs on-the-ground.

materials. Mix shall consist of Zonolite Stabilized Concrete Aggregate, *sand,* portland cement and water. All ingredients shall have properties as shown in materials section above. Sand shall be clean, well graded and free from organic material. It shall conform to ASTM Designation C-33.

mixing. Mixing of Zonolite-Sand Concrete shall be accomplished in a mechanical mixer. Sand, cement and approximately 10 gallons of water per sack of cement shall be mixed for about ½ minute before adding the Zonolite Concrete Aggregate. After adding the Zonolite Aggregate, the concrete shall be mixed for an additional two minutes, adding more water if necessary to obtain the desired slump. NOTE: Observe the following sequence when transit mixing Zonolite-Sand Concrete:

1. Place sand aggregate, water, and cement, and finally Zonolite for required batch in the mixer.
2. Only turn drum at plant sufficient to obtain uniform mix.
3. *Do not turn drum while driving from plant to job.*
4. At job, turn drum for 2-3 minutes, add reserve water from mixer tank if necessary to obtain 3-inch to 5-inch slump.

MIXING PROPORTIONS

MIX	CEMENT SX	ZONOLITE VERMICULITE 4 CU. FT. BAGS	SAND CU. FT.	WATER U. S. GALS.
1:3:2*	1	3	2	10

MATERIALS REQUIRED PER YD.

MIX	CEMENT SX	ZONOLITE VERMICULITE 4 CU. FT. BAGS	SAND CU. FT.	WATER U. S. GALS.
1:3:2*	6.2	4.65	12.5	62

PROPERTIES

MIX	UNIT WEIGHT LBS. CU. FT.	COMPRESSIVE STRENGTH 28 DAYS	INDENTATION STRENGTH 1 SQ. IN. 28 DAYS	THERMAL CONDUCTIVITY
1:3:2*	80	620	1412	2.50

*Floors above grade — Floor fill

ZONOLITE INSULATING FILL

use. Insulation of flat ceiling and sidewall areas in homes; ceiling, wall and floor insulation of commercial and institutional buildings, fill for cores of cement block construction, and cold storage insulation (for low temperature work, a special grade, Zonolite Refrigeration Fill is employed).

APPROXIMATE COVERAGE ZONOLITE INSULATING FILL

Thickness	2"	3"	3⅝"	4"	5⅜"
Coverage per bag in square feet	26	17	14	13	9

ZONOLITE PLASTER AGGREGATE

Note: For complete specifications on vermiculite plastering, write us for the Vermiculite Institute publication, "Standard Specifications for Vermiculite Plastering and Vermiculite Acoustical Plastic."

These specifications are based on the ASA Specifications for Gypsum Plastering No. A42.1-1954, departing only in respects where particular reference to vermiculite is necessary.

Zonolite Plaster provides a suitable base for any standard finish coat, as shown in the schedule of finishes on page 7.

Materials required per hundred square yards over Gypsum Lath are approximately six bags of Zonolite vermiculite to nine 100 lb. bags of Gypsum.

BASE COAT PROPORTIONS

	Maximum Number of Cubic Feet of Zonolite Aggregate per 100# Bag of Gypsum Neat Plaster
Two-Coat Work	
Over Gypsum Lath	2½
Over Masonry	3
Three-Coat Work	
Scratch Coat over Laths	2*
Scratch Coat over Masonry	3
All Brown Coats	3*

*In lieu of above, proportions may be 100 pounds of gypsum neat plaster to not more than 2½ cubic feet of aggregate, if used for both scratch and brown coats.

ZONOLITE ACOUSTICAL PLASTIC

The base for Zonolite Acoustical Plastic on new work shall be a standard thickness of Zonolite Plaster or Sand-Plaster, or clean concrete slabs. Any exposed metal, such as chairs and reinforced concrete slabs and tie-wires shall be covered to prevent rust from such material coming through the plastic.

mixing. Pour water into a clean mixing box or mechanical mixer. Add Zonolite Acoustical Plastic and mix, adding enough additional water to obtain soft consistency. (Note 1)

When waterproofing admix is to be employed, it shall be added to the mixing water before adding the plastic in the proportion of two quarts of admix to each bag of plastic. (Note 2).

application. Zonolite Acoustical Plastic shall be applied in two coats. Grounds shall be ⅝ inches. The first coat shall be applied ⅜ inches thick, and the second coat shall be applied flush to the grounds.

The first coat shall be dry before applying the second coat. Darby in one direction only. Desired textures may be obtained by floating or stippling, after which the plastic shall be allowed to dry without any further manipulation, except that any loose material shall be pressed back in place by troweling lightly.

Note 1 — One bag of Zonolite Acoustical Plastic will cover approximately 4 square yards ½ inch thick when mixed with 10 gallons of water when trowel applied, and 3½ square yards per bag when machine applied.

Note 2 — The inclusion of water-proofing admix is recommended when acoustical plastic is used above swimming pools, when applied directly to cold surfaces where condensation may occur, and for other places where damp conditions exist. The ad mix may be obtained from the manufacturer of the acoustical material.

Note 3 — To avoid joinings, use sufficient plasterers to complete entire room or area in one operation. If dry joinings are unavoidable, thoroughly wet previous application three feet back from end of joint and join as though application were continuous.

Note 4 — Zonolite Acoustical Plastic may be painted to obtain any desired color without loss of sound absorption. A non-bridging, water-thinned resin emulsion or casein paint may be used. Paint may be brushed on but spray painting is preferable.

ZONATILE PRECAST CONCRETE ROOF TILE

Zonatile is a lightweight roof slab developed for installation over standard structural members, sub-purlins, and rail sections.

material. Tile shall be furnished by Zonolite Company or one of its licensee affiliates. Tile shall be 18 inches wide by 36 inches long by 3 inches thick. All tile shall be as nearly perfect as good workmanship will permit. The completed deck must present a plain surface for the application of the roofing. For complete specifications, send for Zonatile folder No. G-50.

DESIGN INFORMATION

Weight: Approximately 10½ pounds per square foot.

Strength: Capable of supporting a total load of 50 pounds per square foot with safety factor of 4.

Insulation: "U" value for Zonatile roof construction is .26.

DESIGN INFORMATION FOR SUB-PURLINS AND RAIL SECTIONS

	Trussed Tee	#178 Bulb Tee Section	#214 Bulb Tee Section
WL 8 Maximum Span for #40 Total Load	7'	5'8"	7'6"
WL 8 Maximum Span for #50 Total Load	7'	5'0"	6'8"
WL 10 Maximum Span for #40 Total Load	7'	6'4"	8'6"
WL 10 Maximum Span for #50 Total Load	7'	5'8"	7'6"

For spans in excess of 8'6", use Standard A.S.C.E. Rails of size required. The center spacing is dependent upon size of A.S.C.E. Rails used.

ZONOLITE

INSULATING SPECIFICATIONS

ROOFS

Zonolite concrete roof decks

The use, materials, and mixing shall be as noted on page 12. The construction shall consist of a structural frame over which is to be placed a reinforced monolithic slab of Zonolite Concrete, to provide a roof deck, and a final weather-proofed membrane of built-up roofing. The thickness and slope shall be as shown on the plans.

Reinforcement and forms—Reinforcing shall be placed over the supporting members as called for in the plans.

Proportioning — The proportions shall be 1:4, as shown in the table on page 12.

Placing and Finishing — The Zonolite Concrete shall be transported and placed immediately after mixing is completed. No mixtures which have been delayed in placing until the consistency has changed shall be allowed. The Zonolite Concrete shall be poured in panels of a width capable of being screeded and finished to desired sections.

Concrete shall be set to the level of the surface desired, and the mix leveled by means of a straight edge of approved design.

Curing and Protection—The surface of the freshly finished Zonolite Concrete roof shall be prevented from drying out for not less than three days, or sufficiently long to allow the concrete to develop the desired strength. The Zonolite Concrete shall be protected from freezing during and after placing.

Application of Built-Up Roofing—The built-up roofing shall be laid according to manufacturers' directions.

Note: For complete specifications governing application of Zonolite Concrete roofs see the Vermiculite Institute "Specifications for Vermiculite Concrete Roof Decks and Roof Insulation"

Zonolite concrete roof fill

Materials and mixing shall be as noted on page 12.

Description — The construction shall consist of a roof deck over which is placed a monolithic slab of Zonolite Concrete for the purpose of insulation and/or drainage, and of final waterproof membrane of built-up roofing. The thickness and slope shall be as indicated on the plans.

Base Preparation — The roof deck shall be designed to carry the full superimposed load. The surface of the deck shall be clean and free from loose material, which would interfere with the placing of the vermiculite concrete.

Note: A lightweight wire mesh may be used for temperature reinforcement in Zonolite concrete roof fill jobs. When placed over materials subject to excessive expansion and contraction, a slip-sheet of treated paper should be used to prevent the concrete from bonding to the deck.

Proportioning — Proportions shall be 1:6 as noted in the table on page 12.

Note: For Southern States and other areas where the temperature during the pouring and curing period is 50°F., or above, the proportions shall be 1:8.

The same instructions on placing and finishing, curing and protection, and application of built-up roofing apply for concrete roof fills as are noted above under the section on concrete roof decks.

Zonatile precast concrete roof decks

Zonatile shall be applied according to manufacturer's directions contained in folder G-50, publication of Zonolite Company. The tile shall be erected in a workman-like manner and matched evenly at the joints.

FLOORS

For complete specifications on Zonolite Concrete Floor applications, refer to Vermiculite Institute "Specifications for Vermiculite Concrete Floors."

Zonolite-sand concrete fill over structural floors

The construction shall consist of steel flooring or reinforced concrete floor of required section and strength to carry the dead and live loads for the spans shown on the drawings. Over this structural floor shall be placed Zonolite-Sand Concrete, to provide a base for tile (ceramic or composition), linoleum, terrazzo finish, or carpeting. The thickness and slope of the Zonolite-Sand Concrete shall be as shown on the drawings.

Note to Architect: The *minimum* thickness of the Zonolite-Sand Concrete Fill shall be 2 inches.

A welded wire mesh is desirable for minimizing size of cracks due to temperature changes or shrinkage.

(See "General" for remainder of specification.)

Zonolite-sand concrete floor slabs over closely spaced joists

The construction shall consist of steel, concrete or timber joists of required section and strength to carry the dead and live loads for the spans shown on the drawings. Spacing of joists shall not exceed 24 inches O.C. Over these supports shall be placed suitable form work, reinforcing and a Zonolite-Sand Concrete floor slab to provide a base for tile, (ceramic or composition), linoleum, terrazzo finish, or carpeting.

The *minimum* thickness of the Zonolite-Sand slab shall be 3 inches and the maximum live load to be carried on it shall be 80 pounds per square foot. Consult Vermiculite Institute "Specifications" if the floor slab is to be placed in two separate operations.

Welded wire mesh reinforcing shall be placed in upper half of the slabs. (See "General" for remainder of specification).

Zonolite-sand concrete floors on ground

The construction shall consist of a stable, well-drained and properly graded earth base, a gravel fill, a membrane waterproofing when required, and a reinforced, Zonolite-Sand Concrete slab to provide a base for tile (ceramic or composition), linoleum, terrazzo finish, or carpeting. The concrete shall be reinforced with welded wire mesh placed 1 inch from the bottom of the slab.

The *minimum* thickness of Zonolite-Sand Concrete shall be 4 inches. (See "General" for remainder of specification).

Zonolite Vermiculite concrete floors on ground

(In Which Radiant Heating Units are Installed or, When an Exposed Concrete Floor is Desired)

The construction shall consist of a stable, well-drained and properly graded earth base, a gravel fill, a membrane waterproofing when required, and a vermiculite concrete slab with a sand-concrete topping. Heating units, when used, shall be placed on the Zonolite Concrete and covered with the sand concrete to the finished floor level.

The *minimum* thickness of the Zonolite Insulating Concrete shall be 3 inches.

GENERAL

The use, materials, mixing, and proportioning of Zonolite Concrete and Zonolite-Sand Concrete for floor construction shall be as noted on page 12.

Zonolite-sand concrete floor construction

Placing and Finishing — The Zonolite-Sand Concrete shall be transported and placed immediately after mixing. No concrete that has hardened or been contaminated by foreign materials shall be used, nor shall re-tempered concrete be used.

The Zonolite-Sand Concrete shall be placed in panels capable of being screeded and finished to desired sections.

After placing the concrete, it shall be screeded to required level or slope, and left without further working of the surface until the concrete is ready for finishing.

Finishing shall consist of steel troweling to exact level and smoothness to receive tile when specified; broom finish for terrazzo topping where specified.

Curing and protection in hot weather — In hot weather the finished surface of the Zonolite Sand Concrete shall be prevented from drying out for three days.

Cold weather protection — In cold weather, adequate protection shall be given the Zonolite-Sand Concrete to prevent its freezing while placing and setting. Whenever the temperature of the surrounding air is below 40°F., all concrete placed shall have a temperature between 70°F. and 80°F. Protection against freezing shall be maintained for three days after the concrete has been placed.

Protection from construction damage — General contractor shall exercise reasonable care to prevent gouging, scuffing or other damage to the Zonolite-Sand Concrete between the time it's placed and the floor covering is applied.

Concrete to be dry before covering — No floor covering shall be laid over the Zonolite-Sand Concrete base until the concrete is dry.

ZONOLITE INSULATING CONCRETE

Placing—Zonolite Concrete shall be transported and placed immediately after mixing. Retempered concrete shall not be used, nor any concrete that has hardened or been contaminated by foreign material.

The concrete shall be placed in panels of a width capable of being screeded and finished to desired sections.

After placing the concrete, it shall be screeded to required level or slope, and left without further working of the surface.

Cold weather protection—In cold weather, adequate protection shall be given the concrete to prevent its freezing while placing and setting. Whenever the temperature of the surrounding air is below 40°F., all concrete placed shall have a temperature of 70°F. or above.

The temperature of 40°F. or above shall be maintained for three days after the concrete has been placed.

Concrete to be dry before covering — The Zonolite Concrete shall be dry before the application of the topping.

Sand concrete topping — A sand concrete topping in the proportions of one cubic foot portland cement, three cubic feet of sand, and two cubic feet of pea gravel shall be applied over the surface of the Zonolite Insulating Concrete.

The *minimum* thickness of the sand concrete shall be two inches except when radiant heating units are used, when the minimum thickness over the top of the heating units shall be 1½ inches.

Adequate provision shall be made for expansion of the topping. The topping shall be troweled to a true and uniform surface. It shall be prevented from drying out for three days.

Adequate protection shall be provided against freezing in cold weather.

No floor covering shall be laid over the topping until the concrete is dry.

CEILINGS, WALLS, PARTITIONS

Zonolite plaster base coat

Three-coat work—Scratch coat of Zonolite Plaster shall be applied with sufficient material and pressure to form good full keys or bond on lath, then be scratched to rough surface.

Brown coat of Zonolite Plaster shall be applied after the scratch coat has set firm and hard, brought out to grounds and straightened to a true surface and left rough, ready to receive the finish coat.

For complete plaster specifications, refer to Vermiculite Institute folder, "Standard Specifications for Vermiculite Plastering and Vermiculite Acoustical Plastic", March, 1954.

Zonolite plaster partition base coat

See pages 6 and 7 of the above mentioned Vermiculite Institute publication.

Zonolite plaster finish coat

Zonolite Finish Coat shall be mixed in the proportions of 100 lbs. of unfibered gypsum plaster or gypsum gauging plaster to 1 cu. ft. of Zonolite Finish Aggregate. The plaster shall be placed in water and mixed. Zonolite Finish Aggregate shall then be added and material *thoroughly mixed*, (3 to 5 minutes). More water should be added as necessary to obtain workable consistency.

Note — For best results, the mixed plaster should have a setting time of 1 to 3 hours.

Application

The finish coat shall be applied to a partially dry base coat or to a thoroughly dry base coat which has been evenly wetted by brushing or spraying. The use of excessive water shall be avoided.

ZONOLITE INSULATING FILL

Attics

Unfloored—Zonolite vermiculite fill shall be poured into joists spaces and leveled off to the proper depth. **Note** — For floored attics, the same procedure of application may be used, after floor boards have been removed at convenient intervals.

Flat roofs

Zonolite vermiculite shall be applied between the joists to the thickness indicated in the plans and/or specifications. **Note** — If clearance under lowest portion does not allow sufficient working space from the inside of the building, openings may be made through the roof about 2 feet in width, at right angles to the joists. Roof openings should be carefully re-sealed.

Exterior walls

If stud spaces are open at the top, Zonolite may be easily poured down stud openings. For best results, walls should be vibrated with a mallet or short 2 x 4.

Existing walls may be checked for fire stops, headers, etc., by dropping a weight on a line into the stud spaces. If obstructions exist, the space below such members should be filled from outside after removing a portion of the exterior finish.

Acoustical specifications

The mixing and application of Zonolite Acoustical Plastic shall be as indicated on page 13.

Fireproofing specifications

The fireproofing of floor, ceiling, beam, truss, columns, or girders, shall be as indicated in the plans and/or specifications.

Note — For summary of typical fireproofing applications of Zonolite Plaster, refer to fire tests summaries on page 10 and 11.

ZONOLITE

TECHNICAL BULLETINS

Technical folders on the Zonolite product applications described in this folder are available, as well as circulars on other Zonolite products. Please order by form number.

CA-2 — Roof Decks and Room Insulation
CA-4 — Floor Slabs and Floor Fill
CA-10 — Blo-Crete Air Placed Vermiculite Concrete
Z-2 — Z-Crete Underground Pipe Insulation
G-18 — Zonolite High Temperature Cement
G-45 — "How to Do It" Manual
G-50 — Zonatile Short Span Insulating Roof Tile
G-55 — Insulpave Asphalt-Bound Vermiculite
G-81 — Chemical and Physical Properties Booklet
G-84 — Mixing and Coverage Data Sheets
G-87 — Firesafe Schools
HI-48 — Insulation Data Book
PA-2 — Zonolite Plaster
PA-5 — Zonolite Acoustical Plastic
PA-12 — Summary of Fire Tests
PA-15 — Zonolite Finish Aggregate
PA-19 — Zonolite Plaster Partitions

The following Vermiculite Institute publications may also be secured from your Zonolite office.

"Vermiculite Plaster Fireproofing"
"Standard Specifications for Vermiculite Plaster and Vermiculite Acoustical Plastic"
"Specifications for Vermiculite Concrete Roof Decks and Roof Insulation"
"Specifications for Vermiculite Concrete Floors"
"Recommended Building Code Requirements"

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ALABAMA, Birmingham
Southern Zonolite Company
2800 Fifth Ave., S., Ave. "E"

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Ari-Zonolite Company
1100 East Glendale Avenue

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CALIFORNIA, Sacramento
California Zonolite Company
208 Jibboon Street

CALIFORNIA, San Francisco
California Zonolite Company
666 Mission Street

COLORADO, Denver
Western Mineral Products Co.
111 South Navajo Street

DISTRICT OF COLUMBIA, Washington
Carolina Vermiculite Company
P. O. Box 5120, Benning Station

FLORIDA, Jacksonville
Southern Zonolite Company
1530 East Adams Street

FLORIDA, Tampa
Southern Zonolite Company
35th Street and Third Avenue

GEORGIA, Atlanta
Southern Zonolite Company
P. O. Box 3281 — Station F

ILLINOIS, Chicago
Zonolite Company
12300 South Ashland Avenue

KANSAS, Wichita
Dodson Manufacturing Co., Inc.
1463 Barwise Avenue

KENTUCKY, Wilder
Zonolite Company
P. O. Box 232

LOUISIANA, New Orleans
Zonolite Company
P. O. Box 3193

MASSACHUSETTS, North Billerica
Zonolite Company
P. O. Box 117

MICHIGAN, Dearborn
Zonolite Company
14300 Henn Avenue

MINNESOTA, Minneapolis
Western Mineral Products Co.
1720 Madison Street, N. E.

MISSOURI, Kansas City
Zonolite Company
515 Madison Street

MISSOURI, St. Louis
Zonolite Company
1705 Sulphur Avenue

MONTANA, Great Falls
Robinson Insulation Company
P. O. Box 1419

MONTANA, Libby
Zonolite Company

NEBRASKA, Omaha
Western Mineral Products Co.
36th and "I" Streets

NEW JERSEY, Trenton
Zonolite Company
P. O. Box 2124

NEW MEXICO, Albuquerque
Southwest Vermiculite Company
1822 North First Street

NEW YORK, Albany
Zonolite Company
North Ferry and Water Streets

NEW YORK, New York
Zonolite Company
122 East 42nd Street

NORTH CAROLINA, High Point
Carolina Vermiculite Company
P. O. Box 1308

NORTH DAKOTA, Minot
Robinson Insulation Company
P. O. Box 1782

OREGON, Portland
Vermiculite-Northwest, Inc.
2303 North Harding Avenue

PENNSYLVANIA, Ellwood City
Zonolite Company
12th and Factory Avenue

SOUTH CAROLINA, Travelers Rest
Zonolite Company
P. O. Box 217

TENNESSEE, Nashville
Zonolite Company
P. O. Box 601, Old Classification Center

TEXAS, Austin
Texas Vermiculite Company
813 Airport Blvd., P. O. Box 307

TEXAS, Dallas
Texas Vermiculite Company
2651 Manila Road

TEXAS, Houston
Vermiculite Products, Inc.
P. O. Box 7327

UTAH, Salt Lake City
Intermountain Insulation Company
P. O. Box 2398

WASHINGTON, Seattle
Vermiculite-Northwest, Inc.
2107 North 34th Street

WASHINGTON, Spokane
Vermiculite-Northwest, Inc.
1318 North Maple Street

WISCONSIN, Milwaukee
Western Mineral Products Co.
525 West Oregon Street

CANADIAN

Alberta, Calgary
Insulation Industries, Ltd.
1235 Tenth Avenue, W.

Alberta, Edmonton
Insulation Industries, Ltd.
8602 — 16a Avenue

British Columbia, Vancouver
Insulation Industries, Ltd.
475 Industrial Avenue

British Columbia Vancouver
Insulation Industries, Ltd.
1305 West Georgia Street

Manitoba, Winnipeg
Insulation Industries, Ltd.
760 Wall Street

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94 Woodworth Street

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F. Hyde & Company, Ltd.
3349A Bloor Street, W.

Ontario, Toronto
F. Hyde & Company, Ltd.
3540 Dundas Street

Quebec, Montreal
F. Hyde & Company, Ltd.
2315 Cote de Liesse Road
P. O. Box 119, Station 0

Saskatchewan, Regina
Insulation Industries, Ltd.
P. O. Box 548

Saskatchewan, Saskatoon
Insulation Industries, Ltd.
P. O. Box 553

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doors

section 4

metal, glass a

wood b

folding c

garage d

sidewalk, hatchways e

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★ ECONOMICAL INSTALLATION

★ MINIMUM MAINTENANCE

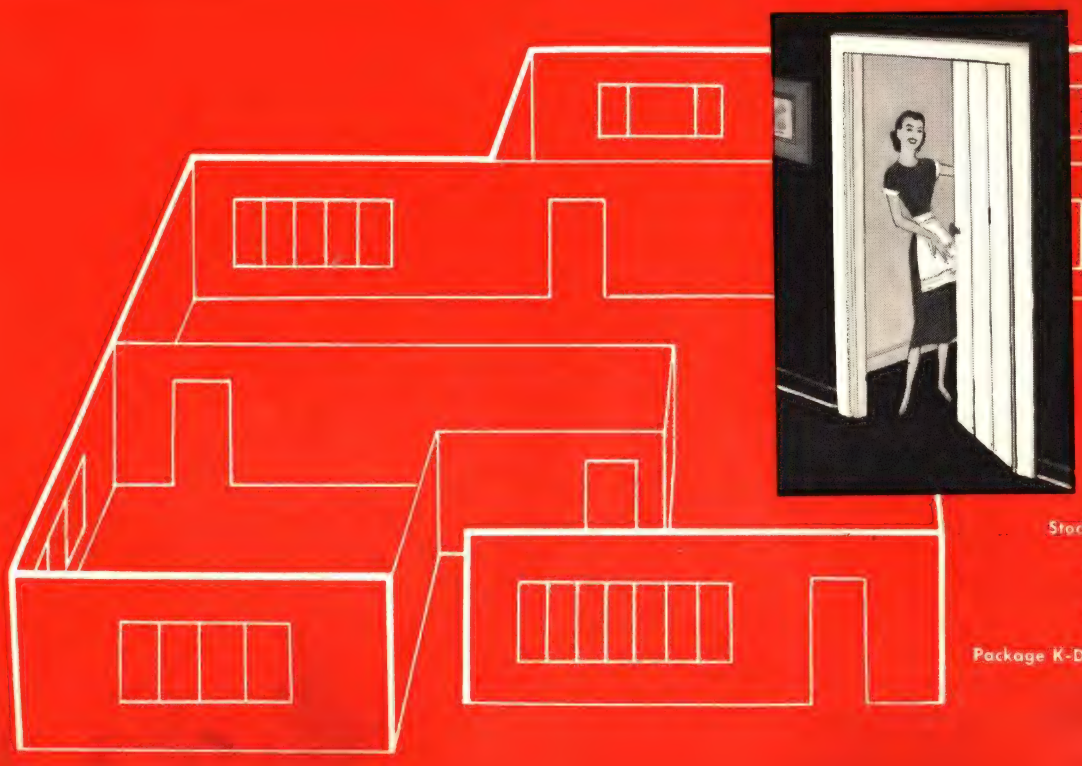
★ POPULAR IN USE

UNITED METAL PRODUCTS DIVISION

Diebold

INCORPORATED

CANTON 2, OHIO



Stock Metal Frame 150-75 | 2
Stock Metal Swing Door 150-78 | 3
Sliding Pocket Door 151-24 | 4
Sliding Closet Door 151-19 | 5
Package K-D Sliding Closet Door 151-18 | 6
Standard Metal Doors | 6
Standard Metal Frames | 7

Here's how you profit with Diebold Metal Doors and Frames



Builder

Installation is quick, sure and easy. Builder saves times and labor. No costly maintenance calls are necessary after completion. Doors are stocked by dealers and are ready for use. Satisfied customers are Builders' best advertisements.



Building Supply Dealer

Diebold doors are a continuous source of profit. They can be stocked in relatively small space and sold to builders as needed. In addition to the large new construction market, the "do it yourself" market is growing larger and more profitable every day.

ARCHITECT'S AND CONTRACTOR'S SPECIFICATIONS

SPECIFICATIONS FOR DIEBOLD FLAT TRIM STOCK HOLLOW METAL FRAME

TYPE: Frames shall be Model No. (s) (Refer to Diebold stock catalog for types.)

MATERIALS: Hollow Metal frames to be of furniture grade, 18 gauge, U. S. Standard sheet steel.

CONSTRUCTION: Frames are all-welded construction, double rabbeted, mitered at the head and rigidly held in position by double tenons locking head jambs to side jambs. Miters are arc-welded on inside intersections after aligning in jigs.

HARDWARE REINFORCEMENTS: Each frame shall be provided with one pair of Diebold standard 3½" x 3½" weld-on hinges. The 3-knuckle leaf of the hinge is projection welded to the hinge jamb, with the pin and 2-knuckle leaf shipped loose for attaching to doors. Three standard rubber bumpers are provided with each frame. Lock jambs are mortised and reinforced to receive stock series hardware. Strike plate reinforcements are of 14 gauge steel projection-welded to the lock jamb. Twenty four gauge strike covers welded to the reinforcement prevent dust and mortar from interfering with the strike plate. Frames for double acting doors are mortised and reinforced for top pivots. Each frame shall be equipped with six 16 gauge stud anchors. If frames are erected in masonry walls six loose "T" anchors are supplied when specified. Each frame is equipped with 16 gauge floor anchors spot-welded to side jamb.

SHIPMENT: Frames are nested and banded in pairs for protection during shipment.

SPECIFICATIONS FOR DIEBOLD 1⅜" FLUSH-TYPE STOCK HOLLOW METAL DOOR

TYPE: Doors shall be Model No. (s) (Refer to Diebold stock catalog for types.)

MATERIALS: Hollow Metal doors to be of furniture grade, 20 gauge U. S. Standard sheet steel.

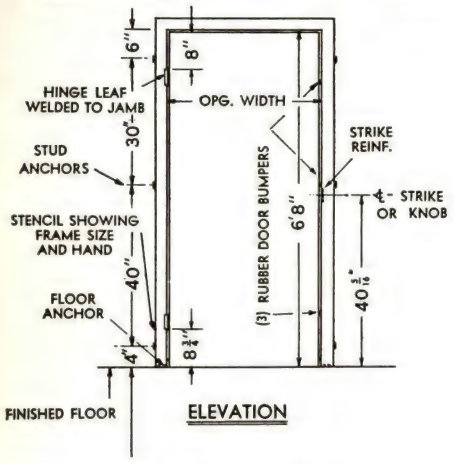
CONSTRUCTION: All doors will be of Diebold patented construction with recessed center panels. Vertical channel stiffeners welded within the doors provide maximum flatness and vertical rigidity. Top and bottom die-formed filler channels provide horizontal rigidity and close top and bottom of the door. Doors are reversible for right or left hand swing.

HARDWARE REINFORCEMENTS: Hinge reinforcements shall be of 11 gauge steel projection-welded to the stile to receive one pair of Diebold standard 3½" x 3½" hinges. Lock reinforcements are of 16 gauge steel projection-welded to the stile. All reinforcements are drilled and tapped to receive stock type hardware.

SHIPMENT: All Hollow Metal doors are to receive top and bottom wood shipping ends, securely fastened with steel screws, carefully loaded and blocked in car or truck for shipment.

FINISH ON DOORS AND FRAMES: All Hollow Metal frames and doors are to be mechanically cleaned, degreased, and provided with a metallic phosphate coating that assures lasting, chip-resistant finish. All Hollow Metal frames and doors are then to be sprayed with a coat of Diebold standard primer, baked on.

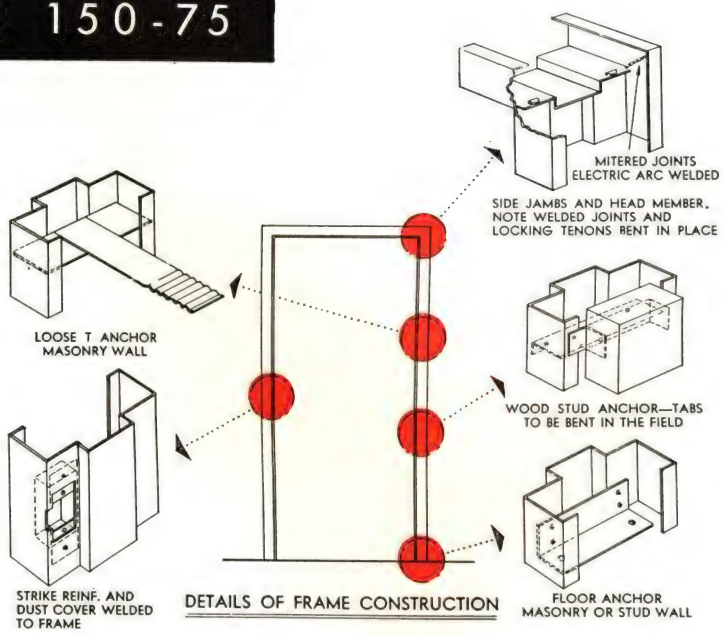
STOCK METAL FRAME 150-75



NOTE: If frames are to be set on rough floor, erector is required to shim frames to finished floor grade.

STANDARD OPENING SIZES

Width	Height
1'-6"	6'-8"
2'-0"	6'-8"
2'-2"	6'-8"
2'-4"	6'-8"
2'-6"	6'-8"
2'-8"	6'-8"
2'-10"	6'-8"
3'-0"	6'-8"



SPECIFICATIONS

STEEL

18 gauge cold rolled steel

FINISH

All surfaces—prime finish—Baked on

ASSEMBLY

One piece, all welded construction. Hinge butts are welded to frame.

HARDWARE

One pair 3½" x 3½" butt hinges with loose pins, and 3 rubber bumpers are furnished. Frames mortised and reinforced to receive Lockwood series SB-300 or Schlage series "A" strikes.

ANCHORS

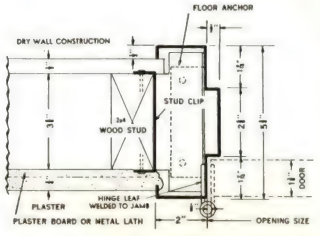
Six stud anchors are welded to each frame. Three each side. Adjustable tee anchors can be furnished for installation in masonry walls.

FLOOR ANCHOR

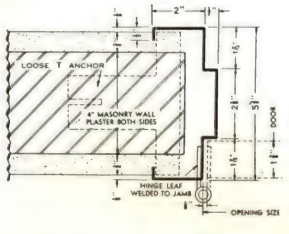
Two floor anchors are welded to each frame. One each side.

IDENTIFICATION

Each frame is clearly stencilled with swing and size for easy identification.



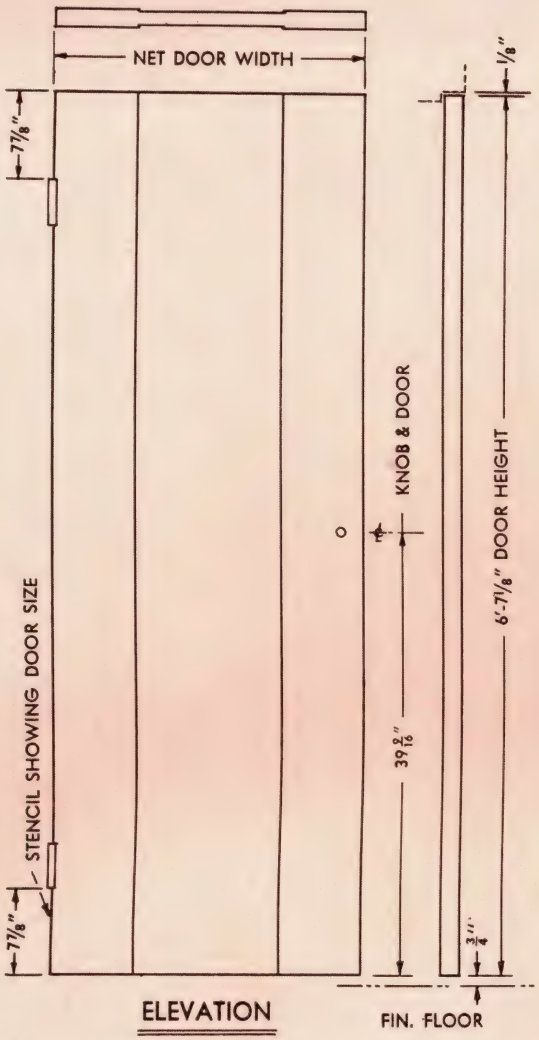
2" x 4" Wood stud wall adaptable to ½" thick dry wall construction or conventional Plaster Both Sides



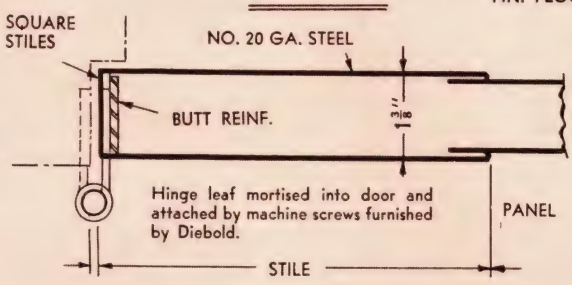
4" Masonry Wall Plaster Both Sides

Frames also available—5' pairs, 2'6" double acting and 2'6" and 3'0" cased opening.

Stock Metal Door 150-78



ELEVATION



STANDARD DOOR SIZE

Width	Height
1'-6"	6'-8"
2'-0"	6'-8"
2'-2"	6'-8"
2'-4"	6'-8"
2'-6"	6'-8"
2'-8"	6'-8"
2'-10"	6'-8"
3'-0"	6'-8"

SPECIFICATIONS

STEEL

20 gauge cold rolled, stretcher leveled—furniture grade.

FINISH

All surfaces prime finished—Baked on

HARDWARE

Mortised to receive 1 pr. 3½" x 3½" butt hinges. Mortised and reinforced to receive Lockwood "SB 300" series or Schlage "A" series hardware with 2⅜" backset. Diebold furnishes (6) 10-24 x ⅜" machine screws to apply hinges to door.

Also available 5' pairs, 2'6" double acting, 2'8" louvres

The following hardware can be specified:

Model No. 152-16 Pin Tumbler Cylinder Lock (Lockwood SB330)

Model No. 152-17 Disc Tumbler Cylinder Lock (Lockwood SB320)

Model No. 152-18 Latch set (Lockwood SB310)

Model No. 152-19 Bedroom set (Lockwood SB310-⅓)

Model No. 152-20 Bathroom set (Lockwood SB310-¼)

All hardware sets are wrought brass finished in bright brass; except Bathroom set 152-20 which is polished brass one side and polished chrome on bath side.

SWING DOOR 150-78

4a
Di



These high quality economical doors are designed with a modern styling that literally assures you a lifetime of satisfaction. They meet the interior requirements of all types of residential construction.

UNITED METAL PRODUCTS DIVISION

Diebold

INCORPORATED

CANTON 2, OHIO

SLIDING POCKET UNIT 151-24



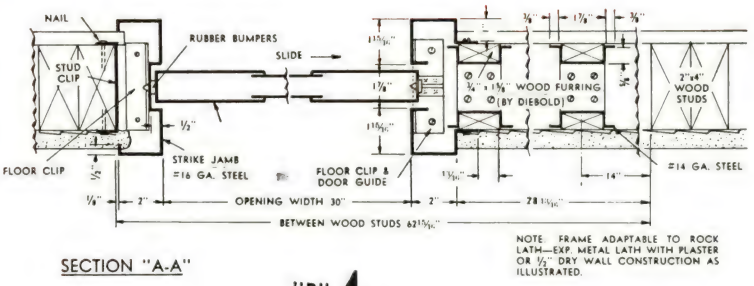
Door and Frame

Diebold Model 151-24 is a package unit consisting of 1⅜" thick door, flat trim frame and hardware. Made of best quality furniture grade sheet steel, Diebold patented design. Each frame is one piece all welded construction. The pocket jamb is of split design allowing for proper entrance of the door into the wall pocket. This unit comes complete with all necessary parts to form wall pocket and a 14 gauge header channel. Doors #20 gauge steel and frames #16 gauge steel. Hardware consists of overhead track with nylon carriers. A stock sliding door latch made of polished brass is provided to complete hardware requirements.

Wherever space is essential...

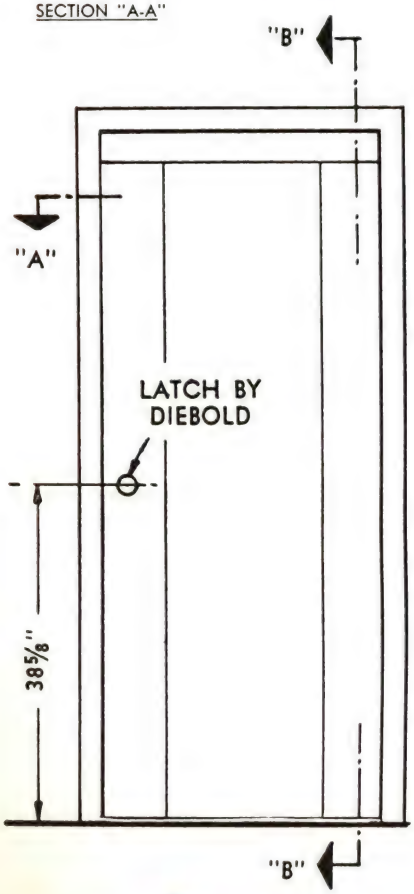
More usable space is available in new and remodeled homes with Diebold Metal Sliding Pocket Doors. Home owners and buyers can't afford to pay for space that can't be put to use. Sliding pocket doors are the answer to the problem and are becoming more and more popular throughout the country.

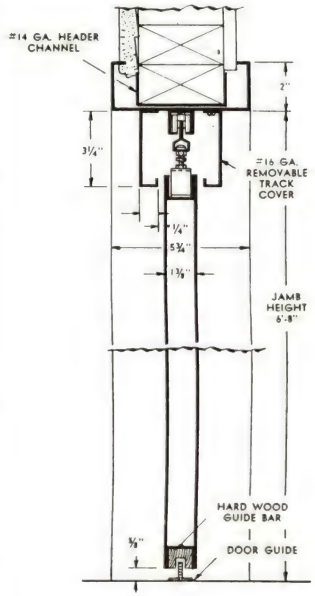
Stock Sliding Pocket Unit 151-24



SECTION "A-A"

NOTE: FRAME ADAPTABLE TO ROCK LATH—EXP. METAL LATH WITH PLASTER OR ½" DRY WALL CONSTRUCTION AS ILLUSTRATED.



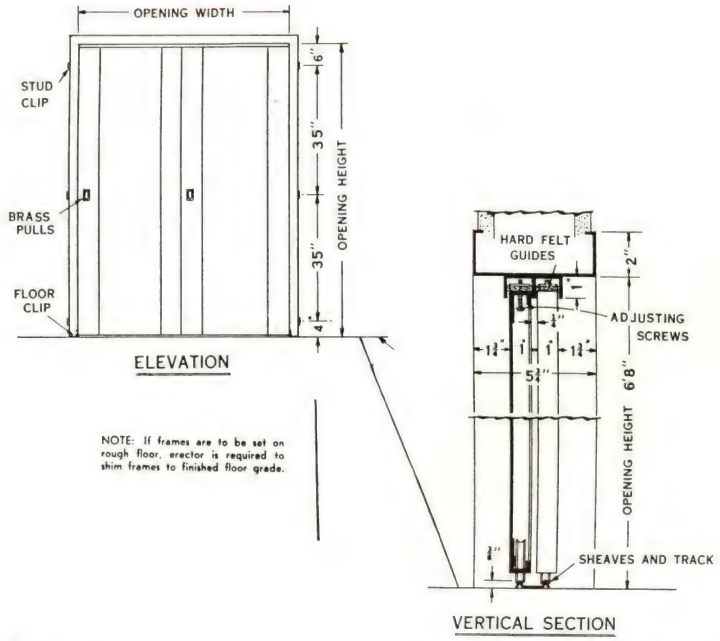


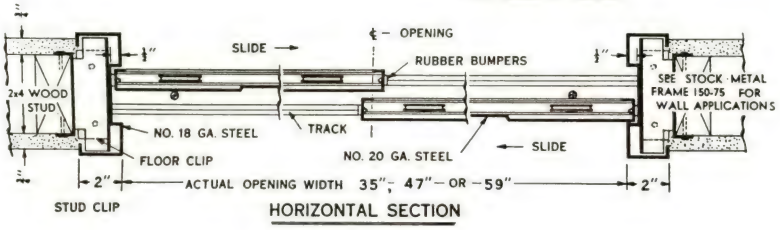
SECTION "B-B"



SLIDING CLOSET DOOR 151-19

Stock Sliding Closet 151-19





STANDARD OPENING SIZES

NOM. WIDTH	HEIGHT
3'-0"	6'-8"
4'-0"	6'-8"
5'-0"	6'-8"



Doors and Frame

Diebold metal doors offer maximum strength, ease of operation, and a lifetime of service. They will not crack, warp, shrink, or swell. Furthermore, great economies can be effected by specifying Diebold metal Sliding Closet Doors. Their use completely eliminates the material and labor required to furnish and fit conventional wood frame, swing door and hardware. Added savings are made by the elimination of material and labor required to construct and plaster approximately one-half the area occupied by the full width of the Sliding Door opening.

For Closets in any Size Home

Smart, durable Diebold Sliding Closet Doors are striking in design, with semi-flush surfaces matching swing units in appearance. There's no scratching or marring of door surfaces caused by scraping. A floor guide prevents any contact between doors and door and frame. Rubber bumpers assure quiet, easy operation, eliminate jarring and bumping. See page 6 for K-D packaged sliding closet unit 151-18 for use in wood jambs and trim.

UNITED METAL PRODUCTS DIVISION

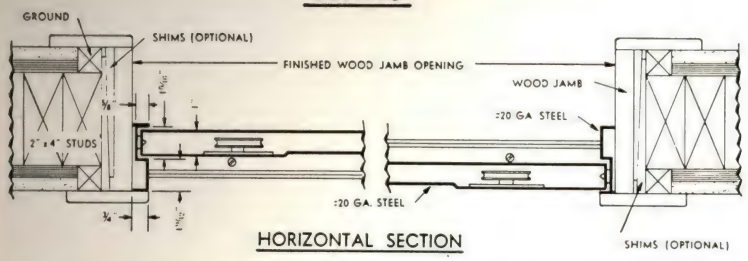
Diebold

INCORPORATED

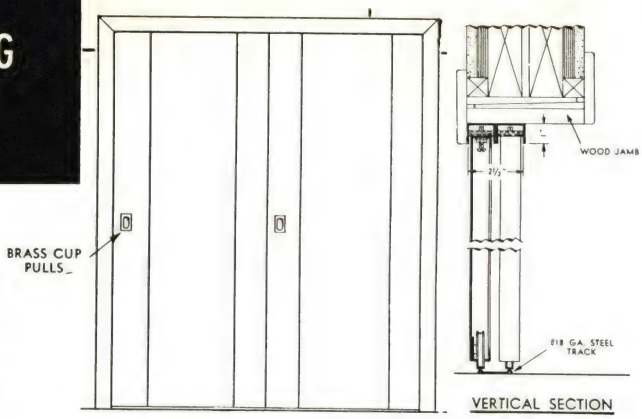
CANTON 2, OHIO

STOCK PACKAGE K-D SLIDING CLOSET UNIT 151-18

DETAILS



HORIZONTAL SECTION



VERTICAL SECTION

★ Shipped knocked down ★ Packaged and identified

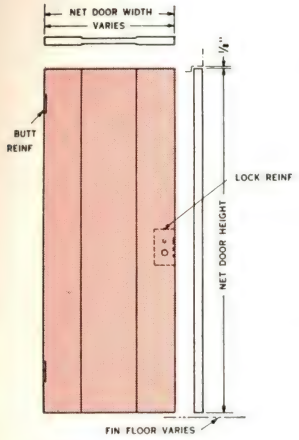
★ Ideal for modernization ★ Low cost installation

Wood Studding and Finished Wood Trim (by others)

SIZE OF OPENINGS WIDTH	HEIGHT
3'-0"	6'-8"
4'-0"	6'-8"
5'-0"	6'-8"
6'-0"	6'-8"

Standard Metal Doors for Contract Work

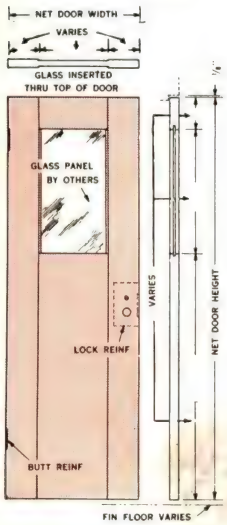
These doors are not carried in stock but are engineered to architect's specifications.



1 3/8" and 1 3/4" Semi Flush

STANDARD OPENING SIZES

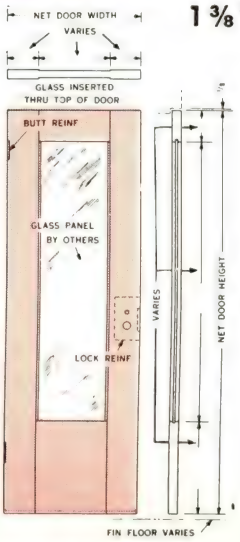
1 3/8" Model No.		1 3/4" Model No.
150-45		150-52
WIDTH	(6" STYLES)	HEIGHT
1'-6"		6'-8"
2'-0"		6'-10"
2'-2"		7'-0"
1 3/8" Model No.		1 3/4" Model No.
150-46		150-53
WIDTH	(8" STYLES)	HEIGHT
2'-4"		6'-8"
2'-6"		6'-10"
		7'-0"
1 3/8" Model No.		1 3/4" Model No.
150-47		150-54
WIDTH	(10" STYLES)	HEIGHT
2'-8"		6'-8"
2'-10"		6'-10"
3'-0"		7'-0"



1 3/8" and 1 3/4" Upper Glazed Panel Vision Light

STANDARD OPENING SIZES

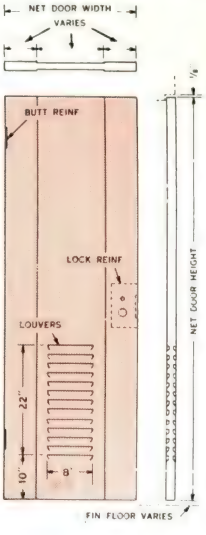
1 3/8" Model No.		1 3/4" Model No.
150-56		150-50
WIDTH	(6" STYLES)	HEIGHT
1'-6"		6'-8"
2'-0"		6'-10"
2'-2"		7'-0"
1 3/8" Model No.		1 3/4" Model No.
150-57		151-05
WIDTH	(8" STYLES)	HEIGHT
2'-4"		6'-8"
2'-6"		6'-10"
		7'-0"
1 3/8" Model No.		1 3/4" Model No.
150-58		151-06
WIDTH	(10" STYLES)	HEIGHT
2'-8"		6'-8"
2'-10"		6'-10"
3'-0"		7'-0"



1 3/8" and 1 3/4" Full Glazed Panel

STANDARD DOOR SIZES

1 3/8" Model No.		1 3/4" Model No.
150-59		150-51
WIDTH	(6" STYLES)	HEIGHT
1'-6"		6'-8"
2'-0"		6'-10"
2'-2"		7'-0"
1 3/8" Model No.		1 3/4" Model No.
150-60		151-03
WIDTH	(8" STYLES)	HEIGHT
2'-4"		6'-8"
2'-6"		6'-10"
		7'-0"
1 3/8" Model No.		1 3/4" Model No.
150-61		151-04
WIDTH	(10" STYLES)	HEIGHT
2'-8"		6'-8"
2'-10"		6'-10"
3'-0"		7'-0"



1 3/8" and 1 3/4" with Louvre

STANDARD DOOR SIZES

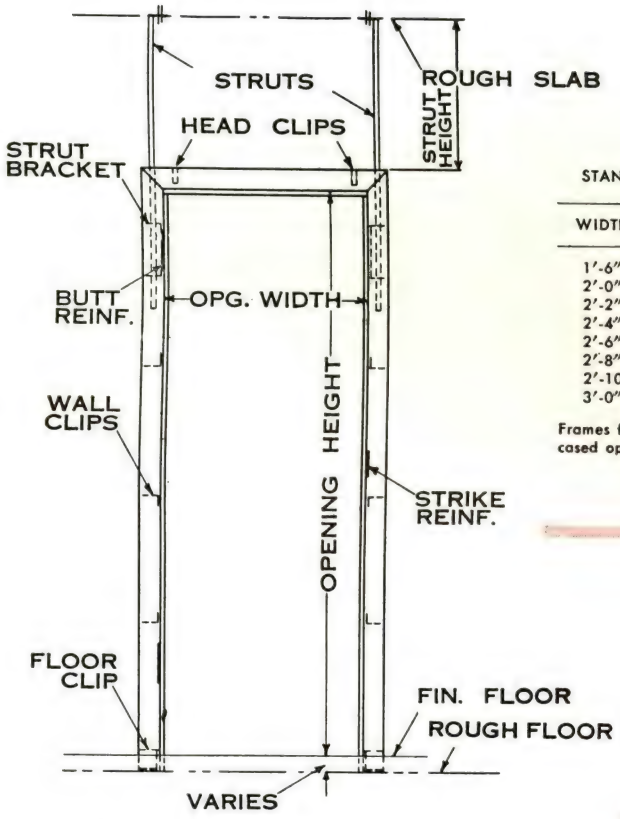
1 3/8" Model No.		1 3/4" Model No.
150-62		150-49
WIDTH	(6" STYLES)	HEIGHT
1'-6"		6'-8"
2'-0"		6'-10"
2'-2"		7'-0"
1 3/8" Model No.		1 3/4" Model No.
150-63		151-07
WIDTH	(8" STYLES)	HEIGHT
2'-4"		6'-8"
2'-6"		6'-10"
		7'-0"
1 3/8" Model No.		1 3/4" Model No.
150-64		151-08
WIDTH	(10" STYLES)	HEIGHT
2'-8"		6'-8"
2'-10"		6'-10"
3'-0"		7'-0"

Doors bearing Underwriters' B, C, D, and E labels also available. Consult nearest Diebold Representative for further information.

Semi-flush doors type 150-45-46-47 1 3/8" thick are available with 45 minute fire test ratings and semi-flush doors types 150-52-53-54 1 3/4" thick are available with 60 minute fire test ratings. These doors do not carry any label but are manufactured to meet A.S.T.M. requirements.

STANDARD METAL FRAMES FOR CONTRACT WORK

These frames are not carried in stock but are engineered to architect's specifications.



STANDARD OPENING SIZES

WIDTH	HEIGHT
1'-6"	6'-8"
2'-0"	
2'-2"	
2'-4"	
2'-6"	
2'-8"	
2'-10"	
3'-0"	

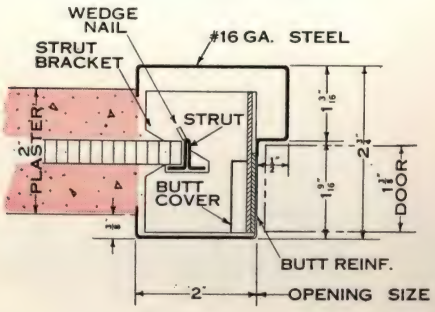
Frames for pairs, double acting and cased openings also available.

Other frame types

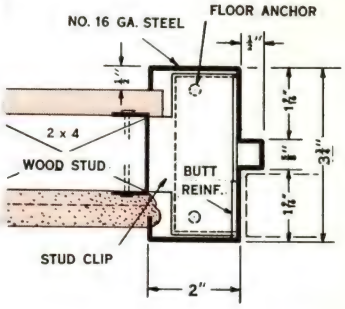
In addition to the frame types shown here, Diebold offers frames for 1⅜" and 1¾" doors in masonry and in plaster and stud wall construction.

The frames shown here cover the most common requirements for projects such as low cost housing, garden type apartments, multiple dwellings and other jobs of this nature. Diebold has specialized in work involving high production runs. You are invited to contact our engineering department who will work with you to produce the most economical unit for your specific needs.

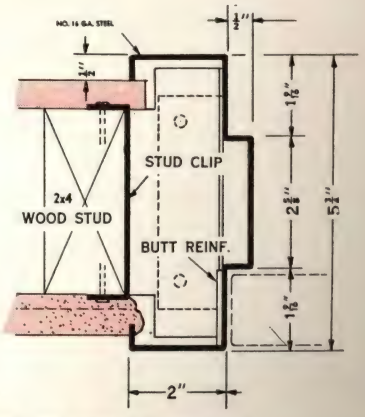
METAL FRAME 150-02



METAL FRAME 150-72

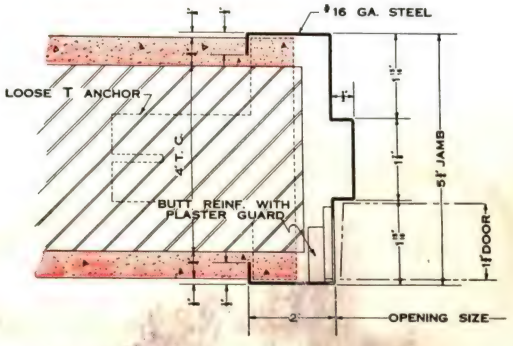


METAL FRAME 150-73

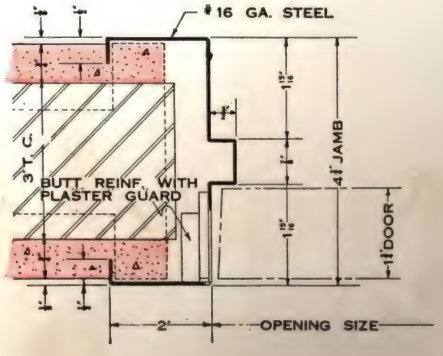


These frames are illustrated in both dry wall and plaster construction.

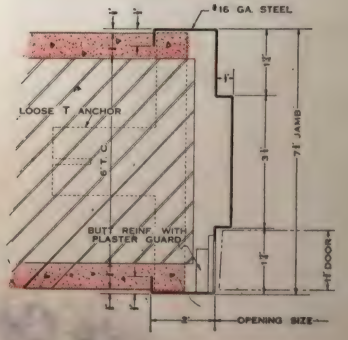
METAL FRAME 150-04



METAL FRAME 150-03



METAL FRAME 150-06













SPECIAL MESSAGE

to Building Supply Dealers

This insert is part of a comprehensive sales and advertising plan to bring profitable Diebold stock metal doors to the attention of the builders. You can become a part of this rapidly growing business by writing today for details concerning a Diebold dealership

UNITED METAL PRODUCTS DIVISION

Diebold

INCORPORATED

CANTON 2, OHIO

AL 3925 1054

PRINTED IN U.S.A.

SL 0019-002

LUDMAN

sliding glass doors

made by the makers of world famous

SEALS LIKE A REFRIGERATOR

LUDMAN Auto-lok AUTOMATIC LOCKING PATENTED





PRODUCERS COUNCIL

Catalog SGD 1955

AUTO-LOK ALUMINUM AWNING WINDOWS and LUDMAN INTERMEDIATE PROJECTED ALUMINUM WINDOWS

See SWEETS Section 5a/Lu

AUTO-LOK WOOD AWNING WINDOWS

See SWEETS Section 5c/Lu

sliding glass doors

LUDMAN LEADS THE WORLD IN WINDOW ENGINEERING

LUDMAN *all-Weather*
ALUMINUM SLIDING GLASS DOORS

GIVE YOUR HOUSES THE "VALUE LOOK" THAT MEANS MORE SALES . . . . FASTER!

LUDMAN Aluminum Sliding Glass Doors will make the houses you build look bigger . . . . sell faster! And they'll add the "Value Look" that means more profit . . . . and adds to your reputation, too. LUDMAN Aluminum Sliding Glass Doors will do all this . . . . with real economy all the way. You can buy premium quality LUDMAN Aluminum Sliding Glass Doors without paying premium prices. They're less expensive to use than conventional wall construction for the same area. They're the easiest Sliding Glass Doors to install ever designed.

Designed with the builder in mind

There is no equal to LUDMAN Aluminum Sliding Glass Doors. Study the check-list and see for yourself why LUDMAN Aluminum Sliding Glass Doors are superior. Even though some . . . . but not all . . . . of the LUDMAN features will be found dis-

A GOOD DOOR MUST HAVE ALL THESE ESSENTIAL

FEATURES	LUDMAN	DOOR "A"	DOOR "B"	DOOR "C"	DOOR "D"	DOOR "E"	DOOR "F"	DOOR "G"
DISTINCTIVE BEAUTY								
Balanced Sight Lines . . . . Exposed jambs and head dimensionally equal.	√		√					
Flush sill does not project above floor level.	√	√					√	√
Graceful door sections give maximum glass exposure and trim beauty.	√	ONLY LUDMAN HAS THIS FEATURE						
All exposed aluminum parts in beautiful "Satin Finish".	√	√	√		√			
Frame head and jamb leg supports and finishes off ¾" plaster coat . . . . assuring attractive flush finish.	√			√				
RIGID CONSTRUCTION								
Top and bottom rails telescope into stiles . . . . are secured with large die-cast aluminum corner lock and 4 screws per corner.	√	ONLY LUDMAN HAS THIS FEATURE						
All extruded aluminum parts are 63ST5 aluminum alloy.	√	√	√		√			
Door stiles and top and bottom rails are tubular extruded aluminum.	√		√					
NO ADJUSTMENT NEEDED								
Overlapping Pile Type weatherseal and compressible Vinyl Bulb Type weatherseal design and placement assures unit that remains weathertight, and needs no adjustment, even if building settles.	√	ONLY LUDMAN HAS THIS FEATURE						
EFFORTLESS OPERATION								
Non-metallic, silent bottom rollers contain grease-sealed ball bearings.	√	ONLY LUDMAN HAS THIS FEATURE						
Free, quiet movement assured by frictionless Pile Type weatherseal.	√			√				√
SIMPLE MAINTENANCE								
Sill tracks and all moving parts may be easily removed and replaced.	√	ONLY LUDMAN HAS THIS FEATURE						
Bottom rollers and brackets, and door pile weatherseal strips, may be removed without disassembling door.	√			√				
COMPLETELY WEATHERSEALED								
Vinyl Bulb type weatherseal at jambs and by-passing door stiles.	√	ONLY LUDMAN HAS THIS FEATURE						
Double pile weatherseal at bottom of each door.								
Double pile weatherseal in frame head.								

persed among doors produced by other manufacturers, there is no single door that includes all of the LUDMAN features. Furthermore, there are a number of exclusive features that are found in no other door. Among features designed especially for builders are . . . a two-piece sill that permits placing of sub-sill before laying finish floor, and installation of flush top sill track after all floor work is completed, preventing jamming and flattening of the sill track by workmen, and assuring lifetime, trouble-free operation of doors . . . . unit available from dealer either assembled or knocked-down, without glass, with illustrated simple assembly instructions . . . . two-piece corner post (exclusive with LUDMAN) for modern corner door installations . . . . maximum glass economy through LUDMAN'S exclusive "even inch" dimensioning — glass width and height in even inches . . . almost unlimited combinations — inside or outside doors — from basic stock units.

Only LUDMAN Aluminum Sliding Glass Doors were designed to have every one of the features that is essential to a Sliding Glass Door that can be easily installed and satisfactorily operated under all climatic conditions. Your dealer will show you why LUDMAN Sliding Glass Doors are superior . . . and he'll show you, too, how many features are exclusive with LUDMAN.

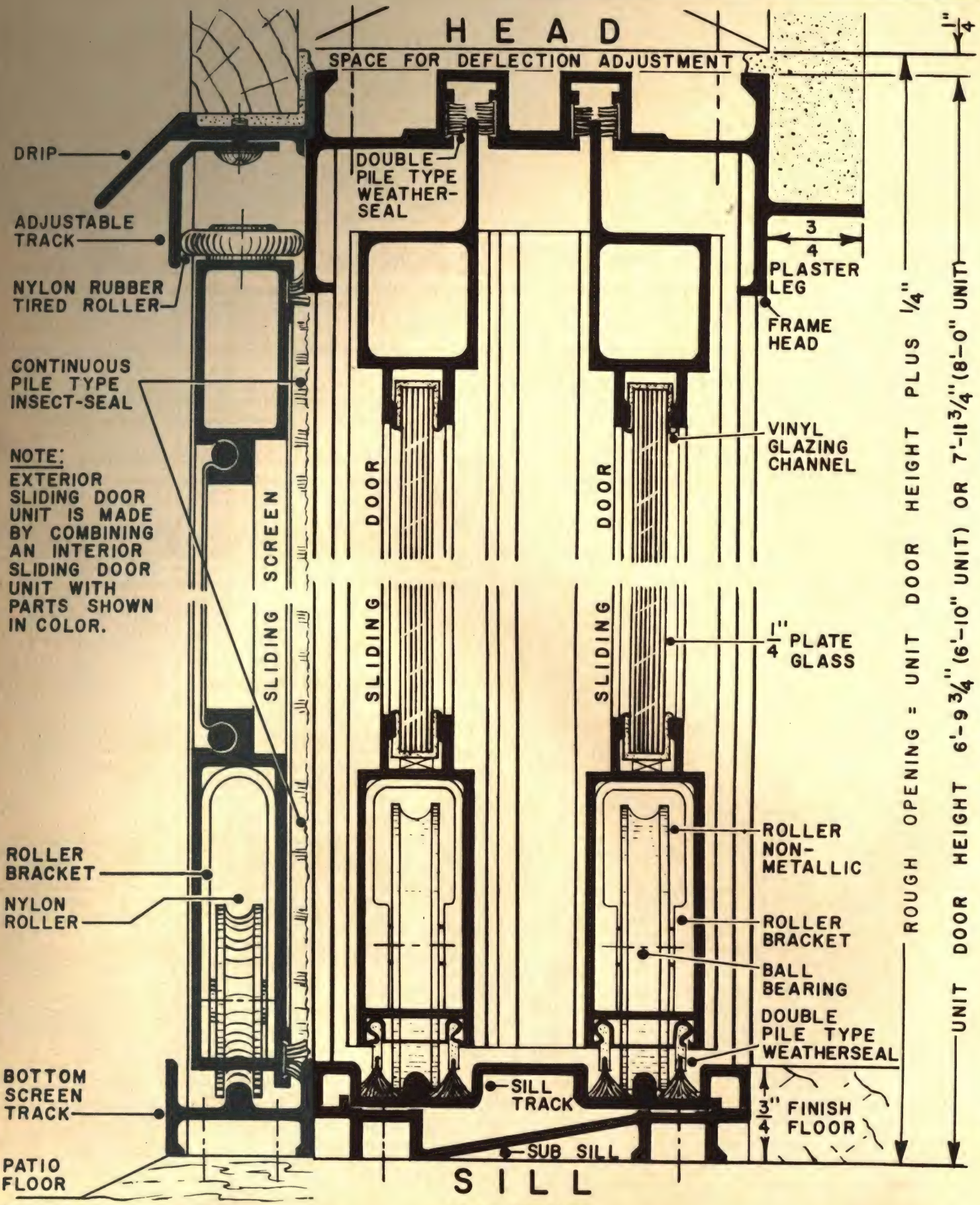
You'll be a pace-setter

LUDMAN Aluminum Sliding Glass Doors will go a long way towards establishing your reputation as a pace-setter in building truly modern homes . . . . homes that meet the public's clamor for Indoor-Outdoor Living! It's an unbeatable combination . . . . lower-cost construction . . . . better-looking homes . . . . bigger-looking homes . . . . faster-selling homes. See your dealer today for all the information that will put you 'way out front in your area . . . . 'way out front in more and quicker sales!

FEATURES....only LUDMAN has them all....

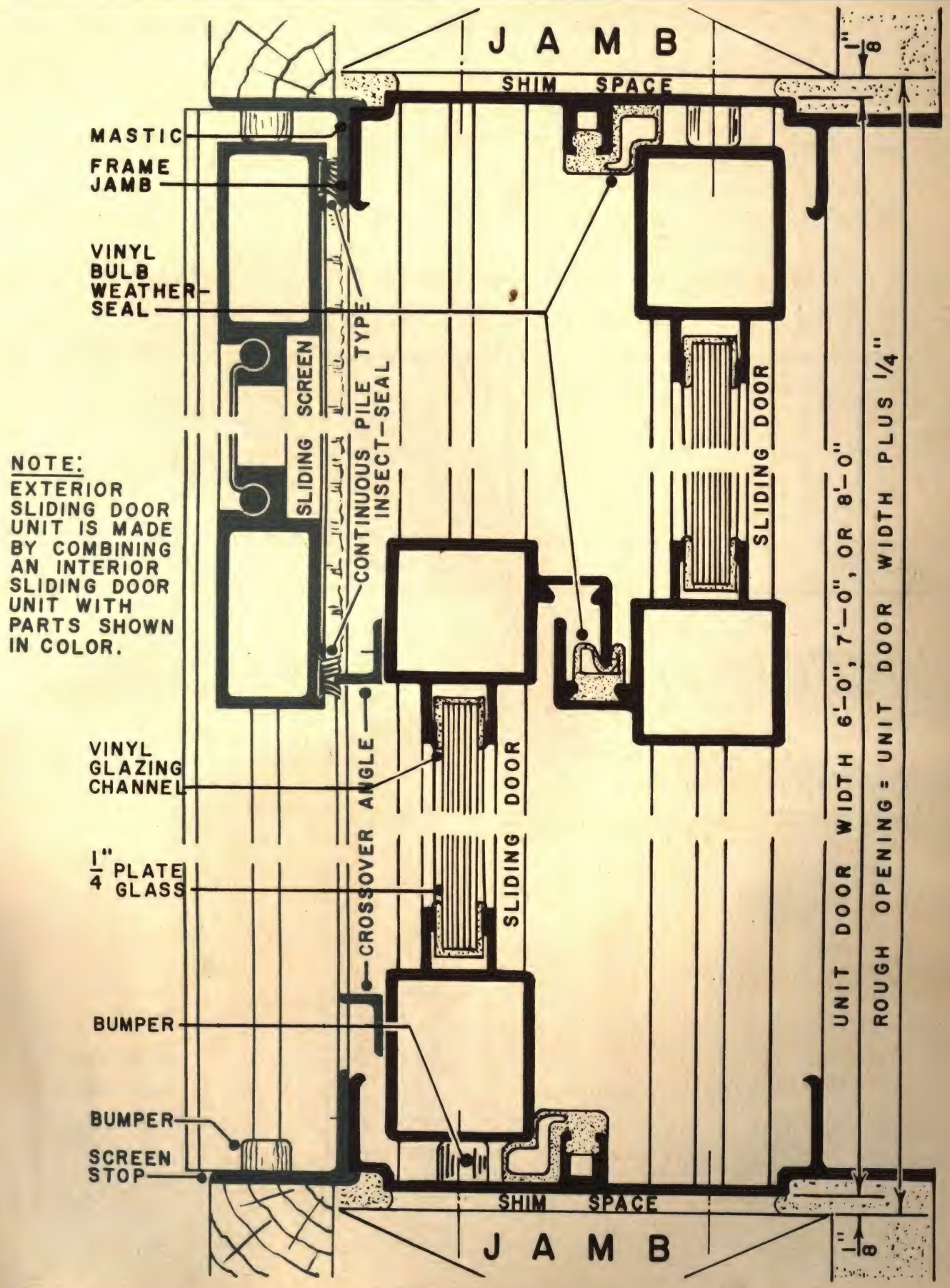
FEATURES	LUDMAN	DOOR "A"	DOOR "B"	DOOR "C"	DOOR "D"	DOOR "E"	DOOR "F"	DOOR "G"
POSITIVE LATCHING AND LOCKING								
Semi-Automatic Latch . . . . located on both sides of door . . . . Door Pull, and Night Lock are standard equipment.	√	ONLY LUDMAN HAS THIS FEATURE						
Exterior keyed cylinder lock available on request.	√	√	√	√	√	√	√	√
GREATER FLEXIBILITY								
Both doors by-pass . . . . either may be locked in fixed position.	√	√		√				
Drip cap, screen stop, screen tracks, and sloping threshold may be attached to standard unit for exterior use.	√	ONLY LUDMAN HAS THIS FEATURE						
HAZARD-FREE								
No "Stumble-hazard" . . . . sill flush with floor.	√	√				√		√
No tearing of clothes . . . . no parts of hardware project.	√	√				√	√	√
No danger of "Lock-out" . . . . Door latches on both inside and outside of door.	√			√	√	√		√
Night lock standard equipment.	√			√		√		√
CUSTOM-DESIGNED SCREENS								
Single sliding screen seals either door opening.	√	ONLY LUDMAN HAS THIS FEATURE						
Positive closure at all points . . . . Continuous pile-type insect seal completely surrounds screen door.	√	ONLY LUDMAN HAS THIS FEATURE						
All screen members extruded aluminum tubular sections. No warping. No Twisting.	√	√	√	√	√			
Latch and Night Lock standard equipment on all screens.	√	ONLY LUDMAN HAS THIS FEATURE						
Top screen track adjustable.	√	ONLY LUDMAN HAS THIS FEATURE						
Frame members neatly joined and corners firmly secured with special die-cast aluminum corner locks, and 4 screws per corner.	√	ONLY LUDMAN HAS THIS FEATURE						
Screen has self-lubricating, silent, nylon bottom rollers . . . . rubber-tired, nylon top rollers.	√	ONLY LUDMAN HAS THIS FEATURE						
GREATER DESIGN ADAPTABILITY								
Door units can be mulled with picture window sections, jalousies, and awning windows.	√	ONLY LUDMAN HAS THIS FEATURE						
Two door units may be mulled together with structural extruded aluminum tubular mullion.	√	√	√	√	√			
MADE FOR STANDARD OR DOUBLE GLAZING								
Door units furnished standard for ¼" plate glass.	√	√	√	√	√	√	√	√
Door units available for ½" double glazing.	√	√	√	√		√	√	√

Obviously, it was impossible to rate every door on the market in this comparison, but 7 of the leading brands were selected for comparison.



SILL

Vertical Section



Horizontal Section

COMBINATIONS AND OPTIONAL ITEMS



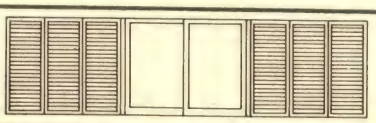
PICTURE WINDOW | DOOR UNIT | PICTURE WINDOW

LUDMAN PICTURE WINDOWS



WINDOW | DOOR UNIT | WINDOW

LUDMAN AWNING WINDOWS



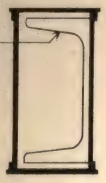
JALOUSIE | DOOR UNIT | JALOUSIE

LUDMAN GLASS JALOUSIES

ANY COMBINATION OF THESE PRODUCTS MAY BE MULLED TOGETHER

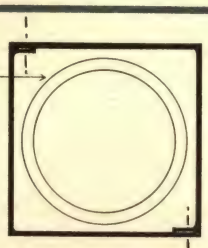
OPTIONAL ITEMS

3"x1⅜" STEEL CHANNEL — IF REQUIRED. (By Others)

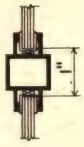


DOOR MULLION

3½" DIA. COLUMN (By Others)



TWO PIECE CORNER MULLION



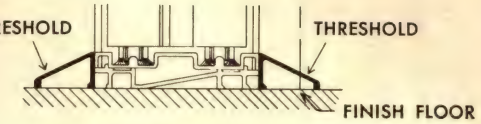
DOOR MUNTIN ¼" PLATE GLASS



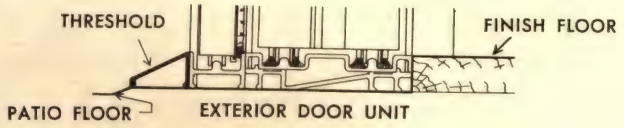
DOOR MUNTIN ½" DOUBLE GLASS



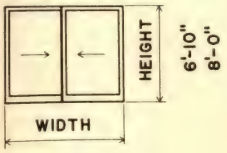
SCREEN MUNTIN



THRESHOLD
INTERIOR DOOR UNIT ON TOP OF FINISH FLOOR (REMODELING, ETC.)



THRESHOLD
APPLIED ADJACENT TO SCREEN TRACK



6'-0"
7'-0"
8'-0"

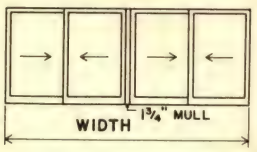
Standard Sizes For ¼" Plate Glass

GLASS SIZES ¼" PLATE GLASS

UNIT SIZE	GLASS SIZE
6'-0"X6'-10"	34"X76"
7'-0"X6'-10"	40"X76"
8'-0"X6'-10"	46"X76"
6'-0"X8'-0"	34"X90"
7'-0"X8'-0"	40"X90"
8'-0"X8'-0"	46"X90"

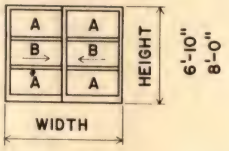
EXAMPLE

Mulling two or more units



12'-1¾" (2-6'-0" WIDE UNITS)
14'-1¾" (2-7'-0" WIDE UNITS)
16'-1¾" (2-8'-0" WIDE UNITS)

OR ANY COMBINATION OF 2 OR MORE UNITS - ADDING 1¾" FOR EACH MULLION.



6'-0"
7'-0"
8'-0"

Standard Sizes For Double Glazing

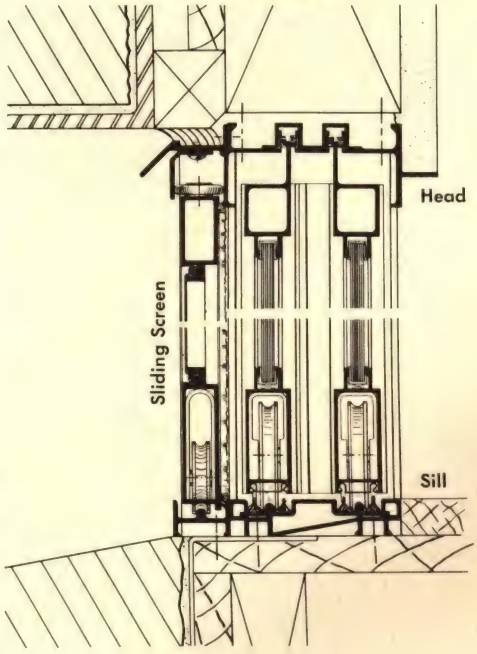
GLASS SIZES ½" DOUBLE GLAZING

UNIT SIZE	GLASS SIZE	
	A	B
6'-0"X6'-10"	34"X22½"	34"X29½"
7'-0"X6'-10"	40"X22½"	40"X29½"
8'-0"X6'-10"	46"X22½"	46"X29½"
6'-0"X8'-0"	34"X29½"	34"X29½"
7'-0"X8'-0"	40"X29½"	40"X29½"
8'-0"X8'-0"	46"X29½"	46"X29½"

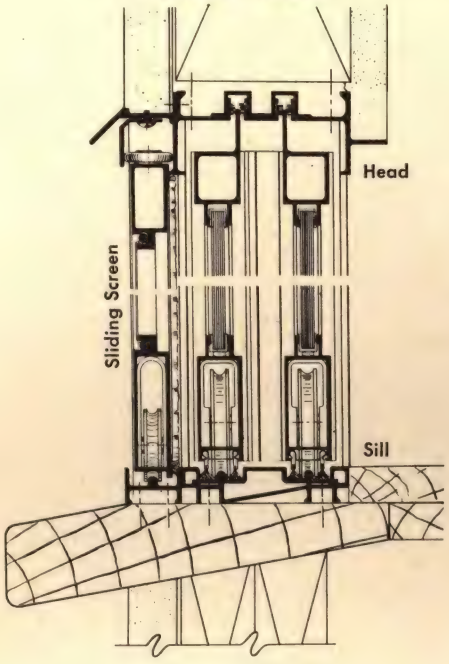
sliding glass doors

installation details

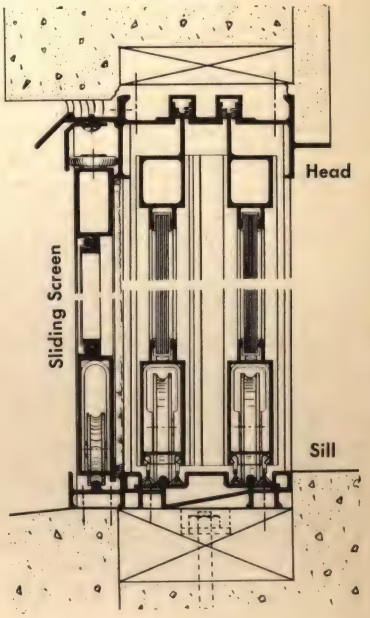
Brick Veneer

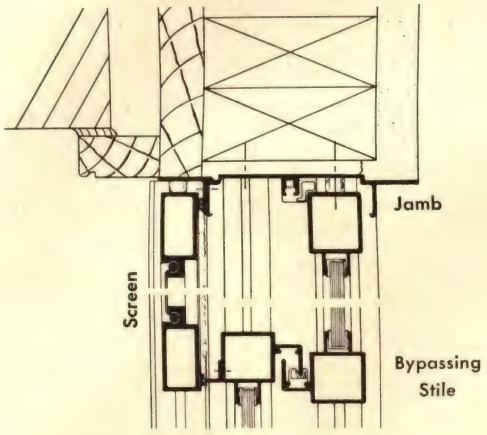


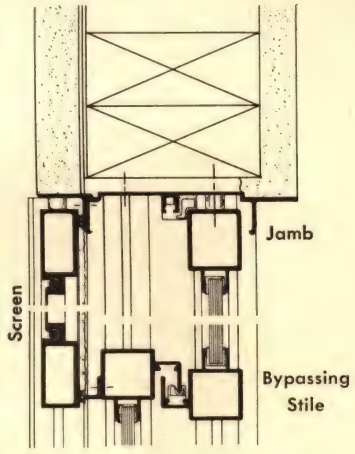
Frame & Stucco

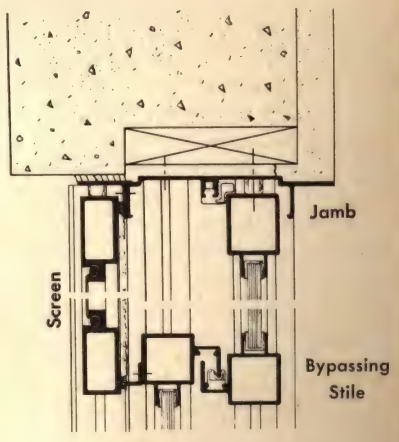


Concrete

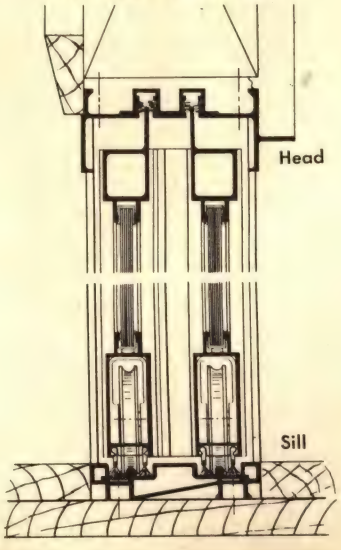


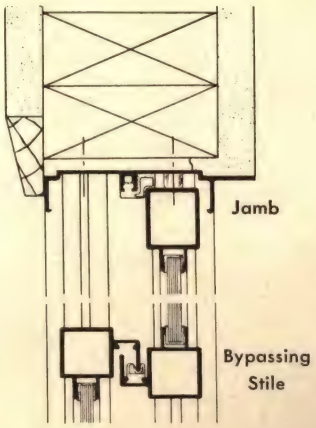






Interior Partition





Scale: 3" 1'-0"

NOTE: Shim Space at Head = 1/4"

Shim Space at Jambs = 1/8" (each side)

specifications

GENERAL — Aluminum sliding door units shown on plans shall be Ludman doors as manufactured by the Ludman Corporation, North Miami, Florida.

MATERIAL AND CONSTRUCTION — Ludman sliding door units shall be fabricated from Ludman quality controlled extruded 63S-T5 aluminum alloy. Corner locks to be Ludman die cast aluminum. All metallic parts (latch, keeper, roller studs, screws, etc.) other than aluminum shall be stainless steel or cadmium plated steel. All screws to have Phillips type head.

UNIT FRAME—Standard frame shall consist of sub-sill, replaceable top sill track, head and jambs. Head and jambs to contain ¾ inch interior plaster stop. Exterior sliding door unit frame to include in addition to standard frame members a bottom screen track, head drip, adjustable top screen track, jamb screen stops and door crossover angles. These are detachable extruded sections added to the standard or interior frame to create an exterior door using a sliding screen.

SLIDING DOOR—Stiles and rails to be hollow extrusions. Rails to nest neatly inside of stiles at corners and be secured with large die cast corner locks and four flush type Phillips screws at each corner. Bottom rail to contain replaceable roller assemblies consisting of extruded roller bracket, non-metallic laminated quiet roller and precision double shielded and grease sealed ball bearing.

SLIDING SCREEN—All four screen frame members to be hollow extrusions. Each mated corner to contain large die cast corner lock and four flush type Phillips screws. Bottom screen frame member to contain replaceable roller assemblies consisting of aluminum bracket and nylon self lubricating quiet bottom rollers. Top screen frame member to include removable guide roller assemblies consisting of roller plate, nylon roller bearings, rubber tire and stainless steel stud. Screen slides to cover either door opening. Screen to contain 14x18 mesh aluminum wire cloth secured in screen frame with vinyl splines.

WEATHERSTRIPPING—Vertical weatherstrip to be Ludman quality controlled bulb compression type, self retaining elastomeric vinyl. Horizontal weatherseal to be close woven wool pile secured in stainless steel strip. There shall be a double seal of pile weatherseal at top and bottom of each sliding door to insure weather tightness and provide long life and quiet operation. Vertical and horizontal weatherseal shall cross to provide a continuous weatherseal to outside elements.

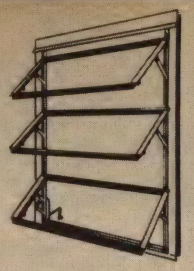
INSECT SEAL—All four sliding screen frame members to contain insect seal made of close woven wool pile secured in a stainless steel strip thus providing "all around" insect protection when screen is covering either opening.

HARDWARE—Each sliding door to contain a latch on inside and outside of each door that automatically latches when door is closed and can be opened from outside unless night latch is secured. Each inside latch shall include Ludman's night lock feature. Each door to include aluminum door pulls on inside and outside conveniently located above latch. Latch keepers to be adjustable. All latches and door pulls to be flush mounted confined within door width. Sliding screen to contain an aluminum finger pull on inside and outside of each vertical screen frame member. Each sliding screen to contain a latch on inside and outside of screen that automatically latches when door is closed and can be opened from the outside unless night latch is secured. Each inside latch shall include Ludman's night lock feature. Cylinder locks, if desired, are available at additional cost.

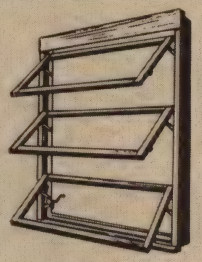
FINISH—All exposed aluminum shall have a "Ludman Satin Finish." All surfaces in contact with ferrous materials, masonry or mortar shall be given a protective coating of asphalt base paint by installer.

ERECTION—(Under separate contract) door unit frames to be installed in prepared opening level and plumb using substantial shims. Mounting screws to be furnished by manufacturer. Caulk as per Ludman instruction drawing. Mastic to be supplied by others.

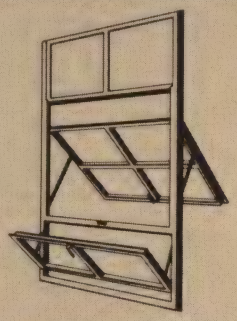
GLAZING—(By others) glass to be retained in door frame sections with vinyl glazing channel furnished by Ludman. Glazing to be performed in accordance with Ludman's instructions.



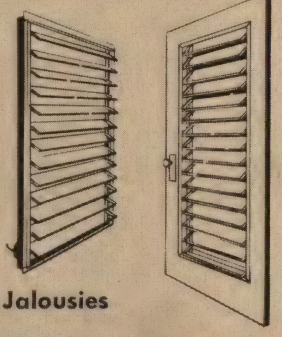
Auto-Lok Aluminum Windows



Auto-Lok Wood Windows

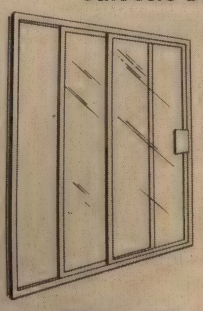


Ludman Projected Windows

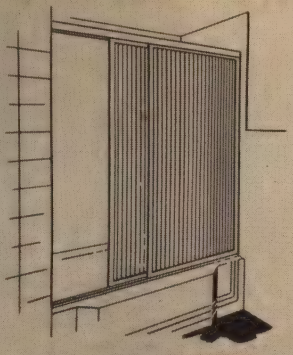


Jalousies

Jalousie Doors



Aluminum Sliding Glass Doors



Shower Door Tub Enclosures

LUDMAN CORPORATION

North Miami, Florida • *Branch Offices:*

NEW YORK — ST. LOUIS

ATLANTA • SAN FRANCISCO

CHICAGO — HOUSTON

WASHINGTON, D. C. — LOS ANGELES

PANAVIEW®

sliding aluminum doors

Quality with economy . . . . beauty with endurance

The PANAVIEW sliding aluminum door is made of specially extruded heavy gauge aluminum of the finest quality. It is completely weatherstripped. All sash slide with flush hardware . . . the sill track is flush with the finished floor.

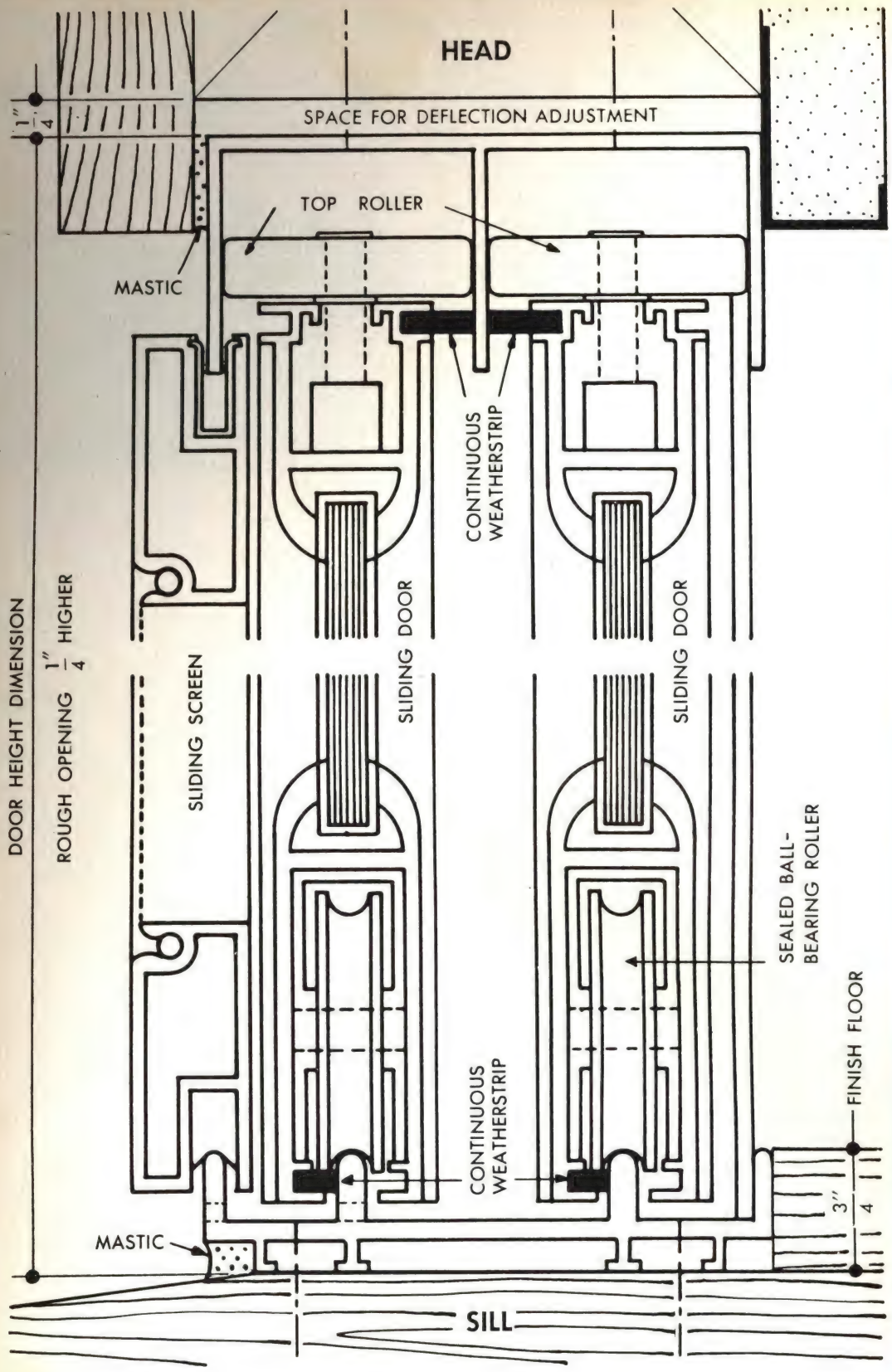
The PANAVIEW door can be glazed with 1/4" plate glass and crystal sheet.

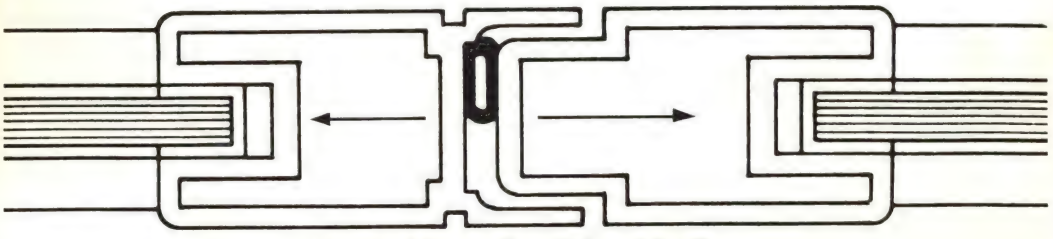
It is also available for 1/2" double glazing in horizontal muntin division.

The PANAVIEW door is made in a wide range of stock sizes and types, allowing continuous sliding walls of glass of any length.

Beautiful in finish and graceful in design, the PANAVIEW door is moderately priced to fit into the moderately priced home.

A.I.A. FILE NO. 16E





Meeting Stiles on Type R-3 and R-4 Doors

STOCK SIZES

Wide range of packaged units in stock sizes and combination possibilities afford greatest architectural freedom. These stock units may be used in series to form a continuous wall of glass to any desired length by joining adjacent mullions together with or without supporting posts.

SIZES AVAILABLE FOR 1/4" PLATE

TYPE R-4
four sash sliding



11'-11½" 17'-11½"
13'-11½" 19'-11½"
15'-11½" 23'-11½"

TYPE R-3
three sash sliding



9'-0¾" 13'-6¾"
10'-6¾" 15'-0¾"
12'-0¾" 18'-0¾"

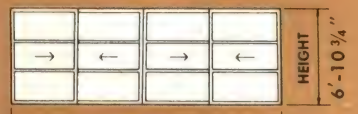
TYPE R-2
two sash sliding



6'-0" 9'-0"
7'-0" 10'-0"
8'-0" 12'-0"

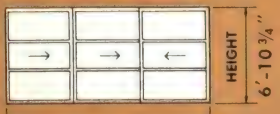
SIZES AVAILABLE FOR ½" DOUBLE GLAZING

TYPE R-4
four sash sliding



15'-10⅛"

TYPE R-3
three sash sliding



12'-0½"

TYPE R-2
two sash sliding



8'-0"

FULL SIZE DETAILS

Copyright 1954 By Panaview Door & Window Co.

SPECIFICATIONS

GENERAL: Aluminum sliding doors shown on plans shall be PANAVIEW doors as manufactured by the Panaview Company.

MATERIAL AND CONSTRUCTION: PANAVIEW doors shall be constructed from heavy gauge extruded aluminum of 63ST5 alloy. Frame members shall consist of sill track, head track, and jamb sections. Jamb sections shall be coped to interlock with sill and head tracks so that when these sections are secured within wall opening, the joints shall be water proof and twist proof.

SASH: Stiles shall be constructed of hollow extruded sections milled at ends to receive bottom and top rails, overlapping them for the complete width of the stiles. The stiles, thus housing the ends of rails in this overlapping joint, shall have a single Allen head screw at back of each joint securing rails to stiles. Sash shall be securely blocked after glazing by use of the integral mechanical shim screws in all corners of sash, screwed solidly against edge of glass. Sash shall glide on sealed and packed ball bearing rollers for quiet, smooth operation.

WEATHER-STRIPPING: Weather-stripping in jambs and interlocking stiles shall be of vinyl plastic extrusions of the highest quality, set in continuous lengths. Weather-stripping in sash shall consist of a special grade of friction resistant felt, set in continous strips in top and bottom rails so that complete weather contact with tracks is maintained along full width of sash.

HARDWARE: Sliding sash shall be provided with flush locking hardware manually operated by a lever below a polished aluminum door handle. Flush hardware will not interfere with sash by-passing each other in operation. Cylinder locks, if desired, are available at additional cost.

FINISH: All exposed aluminum shall have a satin finish. Alumiliting shall be done at additional cost when so specified. All surfaces in contact with ferrous materials or masonry shall be given a protective coating of asphalt base paint by installer.

SCREENS: Door screens shall be made of hollow extruded frames fitted with 16 mesh aluminum wire cloth and shall slide horizontally on bottom track and be guided at top track by a zinc channel for silent, easy operation.

ERECTION: (Included under another contract.) Erect doors in prepared openings, according to manufacturer's drawings. Door frames must be set plumb and level so that sliding sash shall retain proper weathering contact with the frames. Installation screws shall be provided by the manufacturer. Mastic shall be furnished by others.

GLAZING: (By others.) Glazing shall be done in accordance with PANAVIEW instructions.

PATENT PENDING

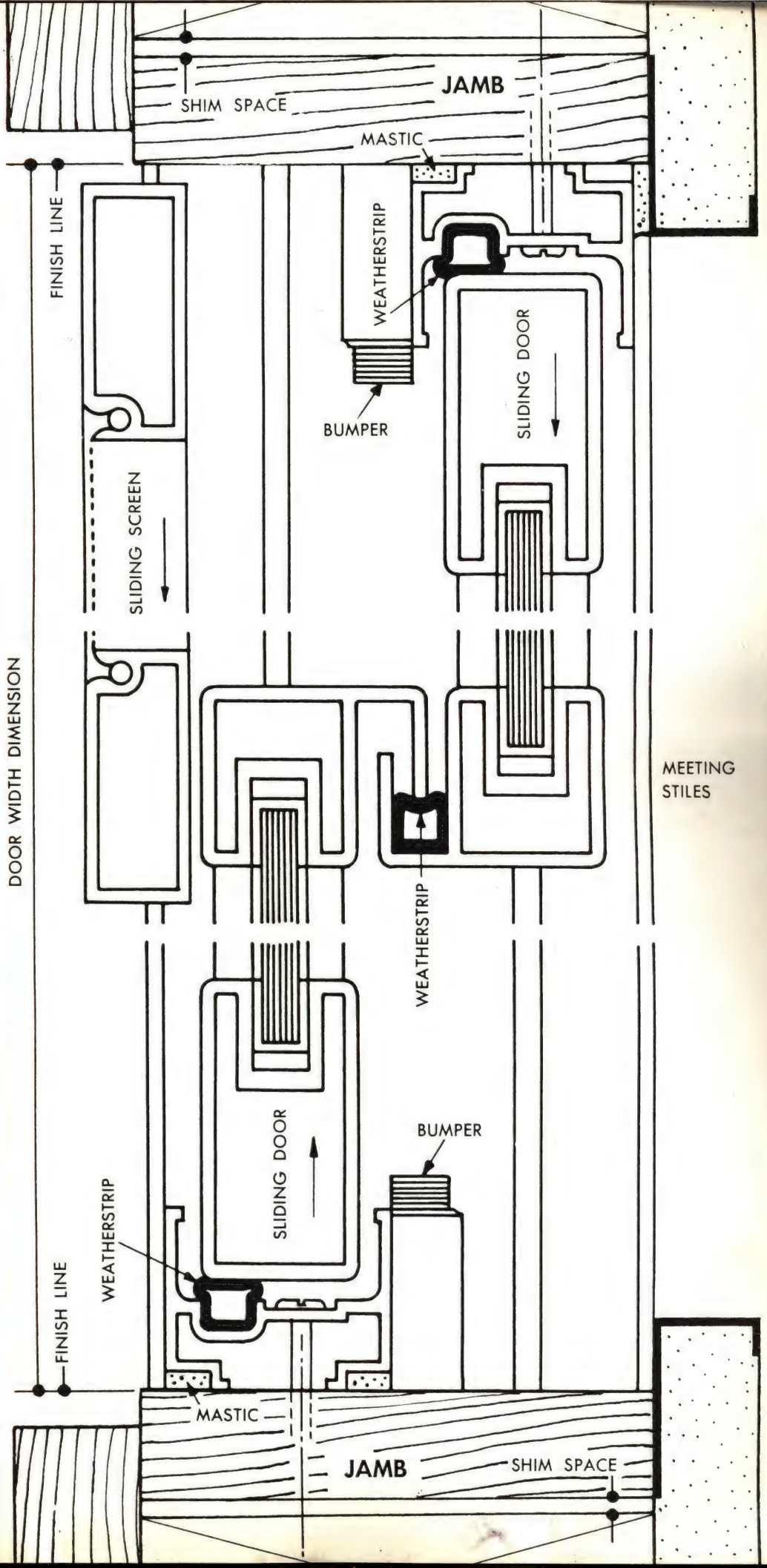
For PANAVIEW

SLIDING ALUMINUM

WINDOWS,

see Sweet's Catalog

or write for brochure





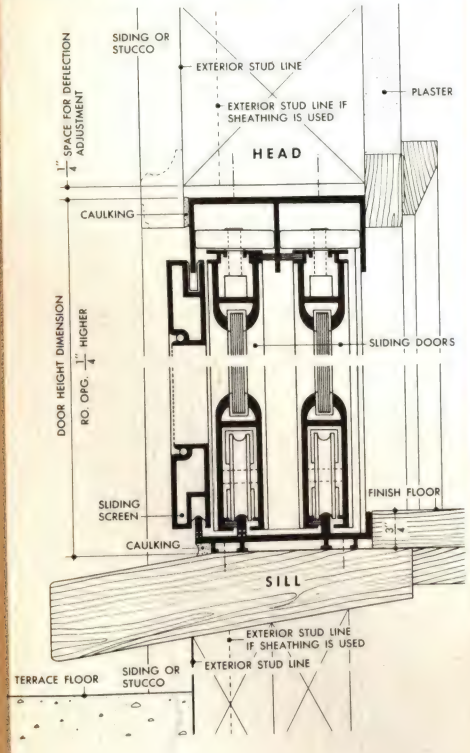
PANAVIEW®

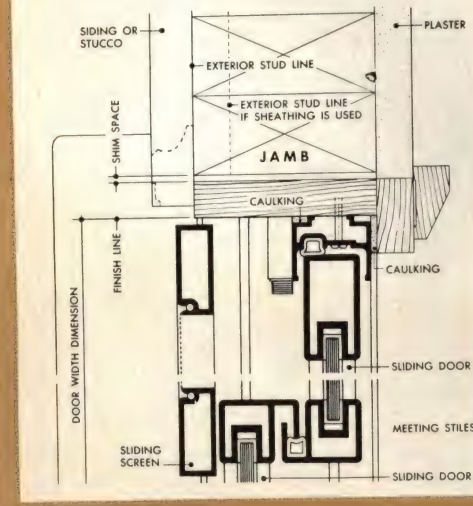


sliding aluminum doors

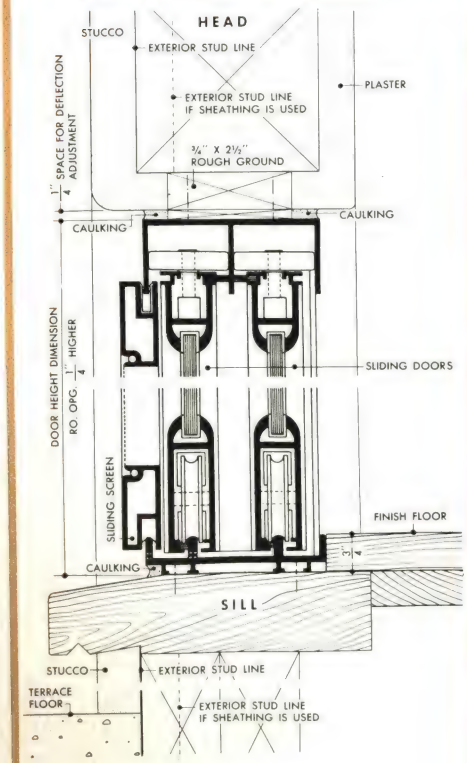
¼ SIZE SUGGESTED DETAILS

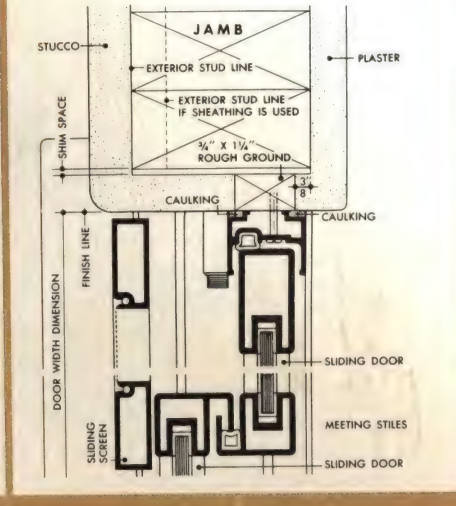
FRAME (siding or stucco)



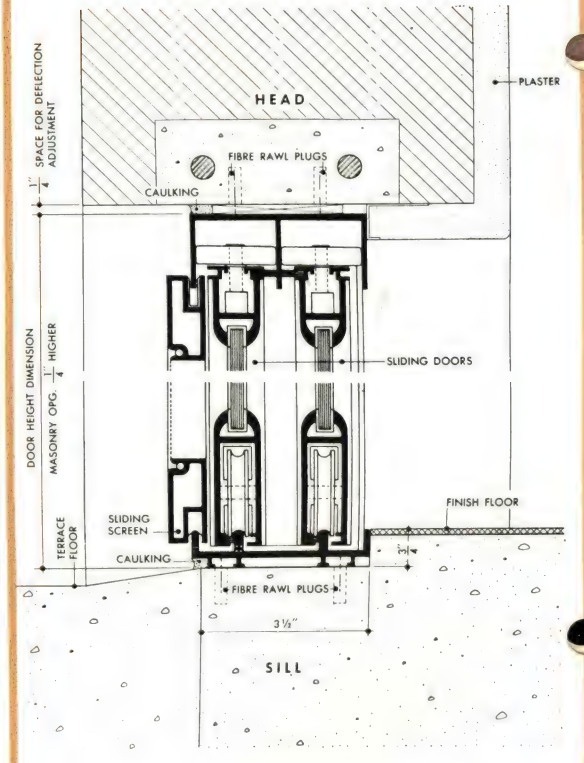


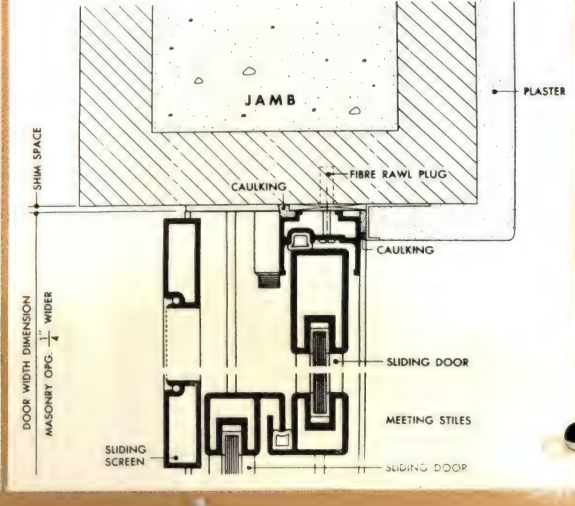
FRAME (bullnose stucco)





CONCRETE BLOCK





PANAVIEW · 13434 RAYMER STREET, NORTH HOLLYWOOD, CALIFORNIA . . . PHONE STANLEY 7-1591

Slide-View
Model 100



"Brings the outside inside."

Slide-View STEEL DOOR & WINDOW CO.

521 No. La Cienega Blvd., Los Angeles 48, California ★ BR 2-8733 ★ CR 5-4125

A.I.A. File No. 16E

model 100

. . . combines the quality construction and long life of an all-steel sliding door with low cost—bringing indoor-outdoor living to even the most modest home building project.

. . . Model 100 gives all the benefits of large, sturdy glass areas so important to modern home design—

S-V CUSTOM LINE

Model 100 is made in 3 types and 8 sizes. The Slide-View custom line of steel sliding glass doors and windows contains 19 types in any size desired for both single and double glazing. For full information regarding all Slide-View models, write for catalog to 521 N. La Cienega Blvd., Los Angeles 48, or see your Slide-View dealer.

OPENS AND CLOSES EASILY

The smooth sliding action of these doors allows them to open and shut at a finger's touch. Durable heavy cadmium-plated steel bottom rollers give easy ball-bearing action.

COMPLETE WEATHERSTRIPPING

When closed, these units protect against cold, wind, rain, sand and all weather conditions. When opened, they provide quick air ventilation in any amount needed.

LONG-LASTING CONSTRUCTION

All-steel construction and quality Slide-View workmanship assure lifetime operation. All doors are precision made and covered with a rust-resistant prime coat.

GLASS AND GLAZING

Model 100 units are equipped with pre-cut and drilled steel glazing bead to speed glazing time. All units are designed to receive standard glass sizes in either ¼" plate or 3/16" crystal. (See page 4.)

EASY TO INSTALL

Simplified design permits rapid installation after plastering and stucco operations have been completed.

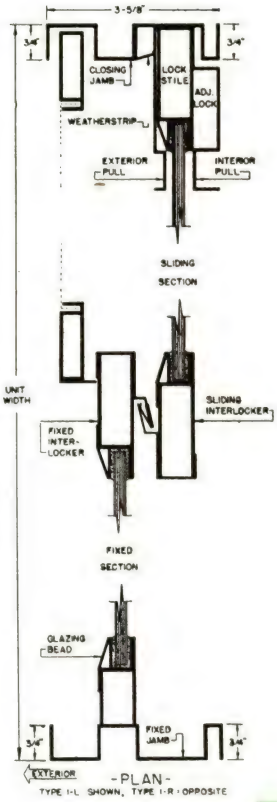
ATTRACTIVE HARDWARE

Model 100 features beautiful solid brass hardware which harmonizes with any interior decorative scheme.

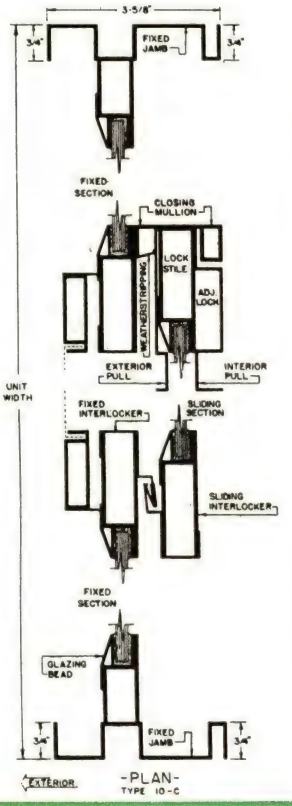


Slide-View model 100

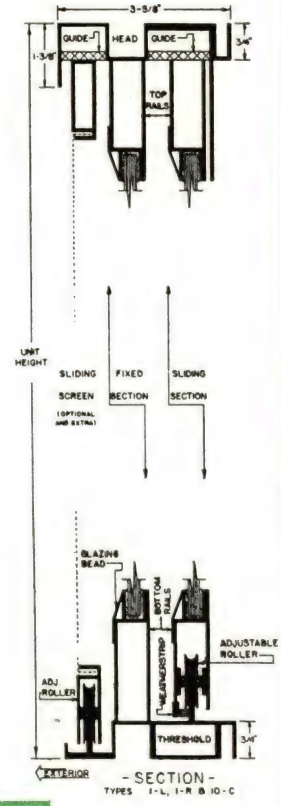
sliding glass doors



-PLAN-
TYPE I-L SHOWN, TYPE I-R OPPOSITE



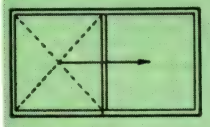
-PLAN-
TYPE 10-C



-SECTION-
TYPES I-L, I-R & 10-C

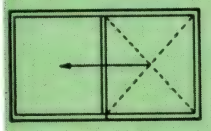
TYPES AND SIZES

Vent and Divisional Arrangements – Viewed from Outside



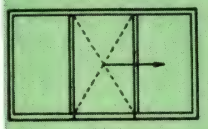
TYPE I-L

TYPE & NUMBER	UNIT WIDTH	UNIT HEIGHT
I-L-6	6'-2-3/8"	6'-10"
I-L-8	8'-2-3/8"	6'-10"
I-L-10	10'-2-3/8"	6'-10"



TYPE I-R

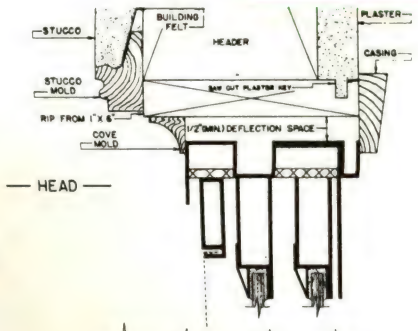
TYPE & NUMBER	UNIT WIDTH	UNIT HEIGHT
I-R-6	6'-2-3/8"	6'-10"
I-R-8	8'-2-3/8"	6'-10"
I-R-10	10'-2-3/8"	6'-10"



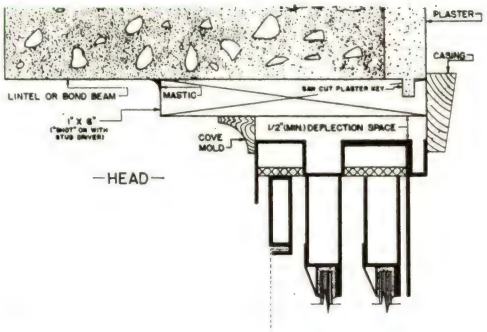
TYPE 10-C

TYPE & NUMBER	UNIT WIDTH	UNIT HEIGHT
10-C-9	9'-2-1/4"	6'-10"
10-C-12	12'-2-1/4"	6'-10"

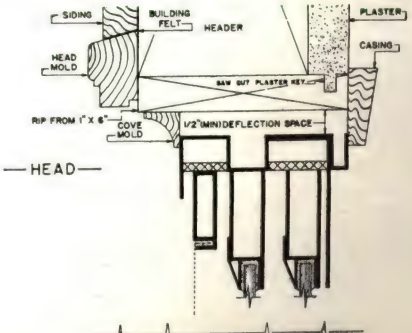
DETAILS 1/4 SCALE



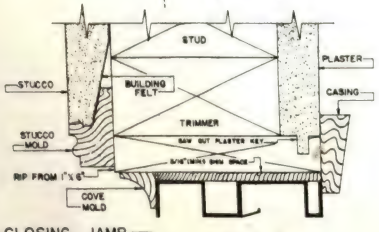
— HEAD —



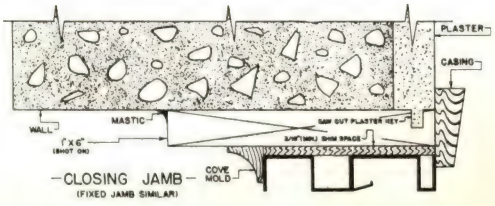
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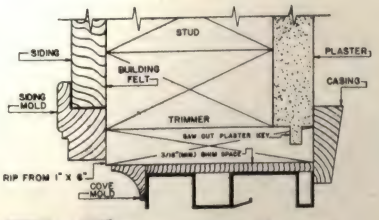
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— CLOSING JAMB —
(FIXED JAMB SIMILAR)

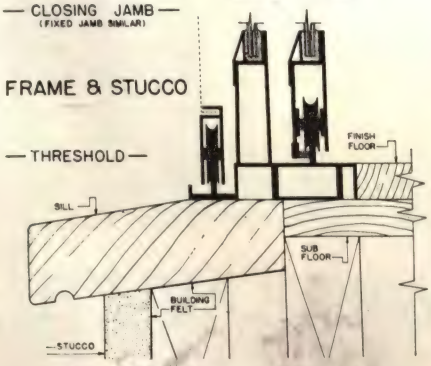


—CLOSING JAMB—
(FIXED JAMB SIMILAR)

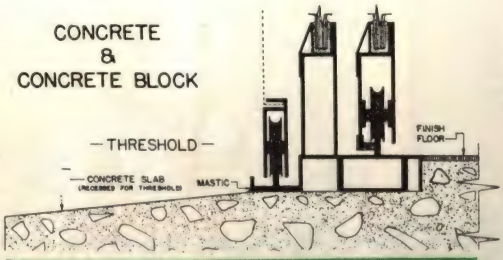


—CLOSING JAMB—
(FIXED JAMB SIMILAR)

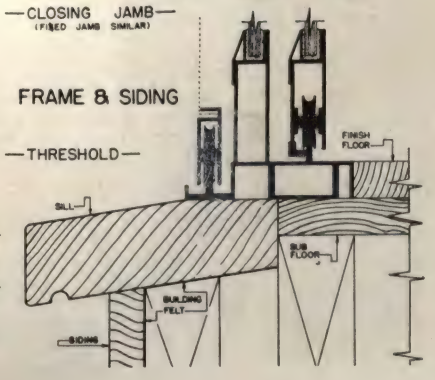
FRAME & STUCCO



CONCRETE
&
CONCRETE BLOCK



FRAME & SIDING



SUGGESTED INSTALLATION DETAILS
(FOR ERECTION AFTER PLASTERING)

model 100

SPECIFICATIONS

1. General

All steel sliding doors shall be Slide-View Model 100 as manufactured by Slide-View Steel Door & Window Co.

2. Materials

All steel sections shall be roll formed from cold rolled or hot rolled pickled and oiled steel coil, free from scale or other surface imperfections or impurities.

3. Construction

All sections shall be roll formed and die cut to insure perfect burr free joints on both sliding sections and frames.

All corners shall be joined either by the use of concealed steel shoes or by completely concealed welds. The joining of sections into assemblies shall be by spot welding.

Both frame and sliding sections shall be available either factory assembled or knocked down for assembly on the job. If shipped in the knocked down condition, all fittings necessary for assembly shall be factory welded at the proper locations and all necessary bolts or other fastenings shall be shipped with the unit, together with complete assembly and installation instructions.

After assembly, the sliding section shall be easily removable from the frame without disassembly.

Doors shall roll on a continuous track, a permanent part of the threshold. Bottom roller assemblies shall be adjustable to permit for variations in rough opening conditions. All units shall be furnished with continuous glazing bead applied on the job.

Hardware shall be solid brass. Hardware and lock assemblies shall provide adequate security.

4. Protection

All units shall be adequately cleaned and prime coated to provide maximum protection. Hardware shall be coated with a clear synthetic covering to assure protection against discoloration.

Any exposed fittings shall be either solid brass or cadmium plated steel.

5. Weatherstripping

Weatherstripping shall be continuous at jambs, interlockers, threshold and head and shall give adequate protection against the elements at all positions of sliding section adjustment, as provided to compensate for variations resulting from installation conditions.

6. All Units

shall be prepared for installation of sliding screens.

7. All Glass

and glazing shall be by others, as covered by a separate contract.

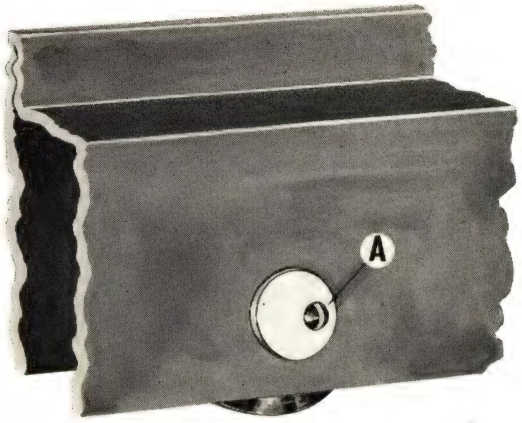
8. Erection and Installation

shall be by others, as covered by a separate contract, and shall be in strict accordance with instructions furnished by the manufacturer at time of shipment.

9. Adjustable Sliding Screens

Tubular, steel-framed, adjustable sliding screens—with standard 18x14 bronze, aluminum, galvanized steel, plastic or fiber glass mesh—are available at additional cost.

Product improvement may demand changes in design and materials. The units herein described are subject to change without notice.

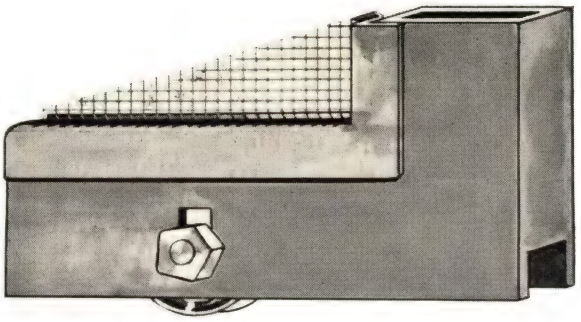


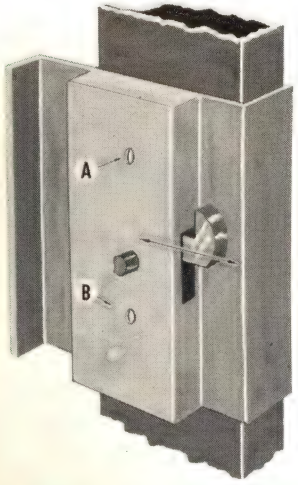
ADJUSTABLE BOTTOM ROLLER

There is an adjustable bottom roller at each end of the sliding frame. Before adjusting, weight should be taken off the roller by placing frame on a wood block. To adjust, loosen screw A, then pull apart flanges until they come out of hole in the rail. Then rotate entire assembly by turning outer flanges until roller is lifted or lowered.

ADJUSTABLE SCREEN ROLLER

To raise or lower screen, loosen nut, as shown at right, move roller up or down as needed, and tighten nut. In all positions, screens are contained within the unit width dimensions, presenting a neat overall appearance.





ADJUSTABLE DEADLOCK

A ¼" adjustment of the latch is obtainable by loosening screws A and B and moving latch forward or backward to obtain desired adjustments.

STANDARD GLASS SIZES FOR MODEL 100

TYPE 1-L			TYPE 1-R		
Type 1-L-6	2 lites	34" x 76"	Type 1-R-6	2 lites	34" x 76"
Type 1-L-8	2 lites	46" x 76"	Type 1-R-8	2 lites	46" x 76"
Type 1-L-10	2 lites	58" x 76"	Type 1-R-10	2 lites	58" x 76"

TYPE 10-C		
Type 10-C-9	3 lites	34" x 76"
Type 10-C-12	3 lites	46" x 76"

SLIDE-VIEW STEEL DOOR AND WINDOW CO.

521 No. La Cienega Blvd., Los Angeles 48, Calif., CR. 5-4125, BR. 2-8733

Form A-5 50M954

Printed in U.S.A.

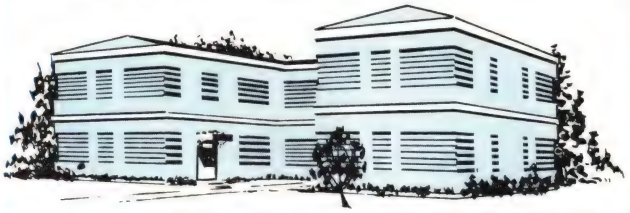
STANDARD

STEEL DOOR FRAMES

The standard of the industry for:



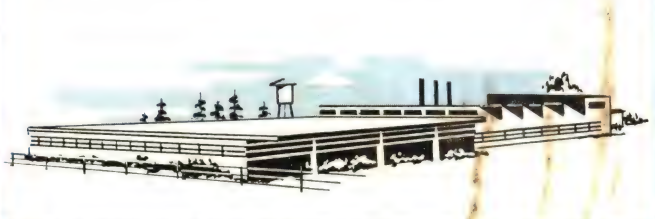
HOMES



APARTMENTS



HOUSING PROJECTS



COMMERCIAL BUILDINGS



Manufactured by

SOUTHERN STATES

IRON ROOFING CO.

Memphis, Tennessee

AIA FILE NO. 16-A



STANDARD

STEEL DOOR FRAMES

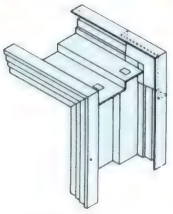
ALL-STE

STANDARD Steel Door Frames have been developed to offer architect, contractor and building owner the many advantages resulting from precision made, pre-squared steel door frames—speed and economy of installation, perfect squareness, low cost of finish painting, and dimensional stability. These units are available set up and ready to receive the doors, or knocked down for easy assembly.

ADVANTAGES
OF STANDARD STEEL DOOR FRAMES

Only STANDARD Frames give you all these features.

1. Intregal trim unit, welded and factory squared.
2. Extra heavy hinges welded to frame.
3. Welded reinforcing corner plates.
4. Molded trim pieces for extra beauty.
5. Solid brass strike plate—steel dust box.
6. 5-stage cleaning, degreasing, Bonderizing of steel surfaces insure utmost in rust resistance and permanent bonding of paint.
7. Grey primer baked for maximum protection and adherence.
8. Precision-mitered corners reinforced with welded steel plates.
9. Easily handled, stored, and installed.
10. Clearly marked sizes, precision made to close tolerances.
11. Available factory assembled or knocked-down.
12. Split jamb frames available for installation after wall surface has been applied.



Welded steel corner reinforcing plate.



Solid brass strike plate for tubular hardware. Steel dust box.





3 Knuckle hinge leaf welded to steel frame.

STANDARD KNOCKED-DOWN FRAMES

These units can be shipped knocked-down. Self-squaring tabbed angle plates welded to knocked-down frame members for easy, accurate assembly. The knocked-down frame is economically shipped, easily stored.

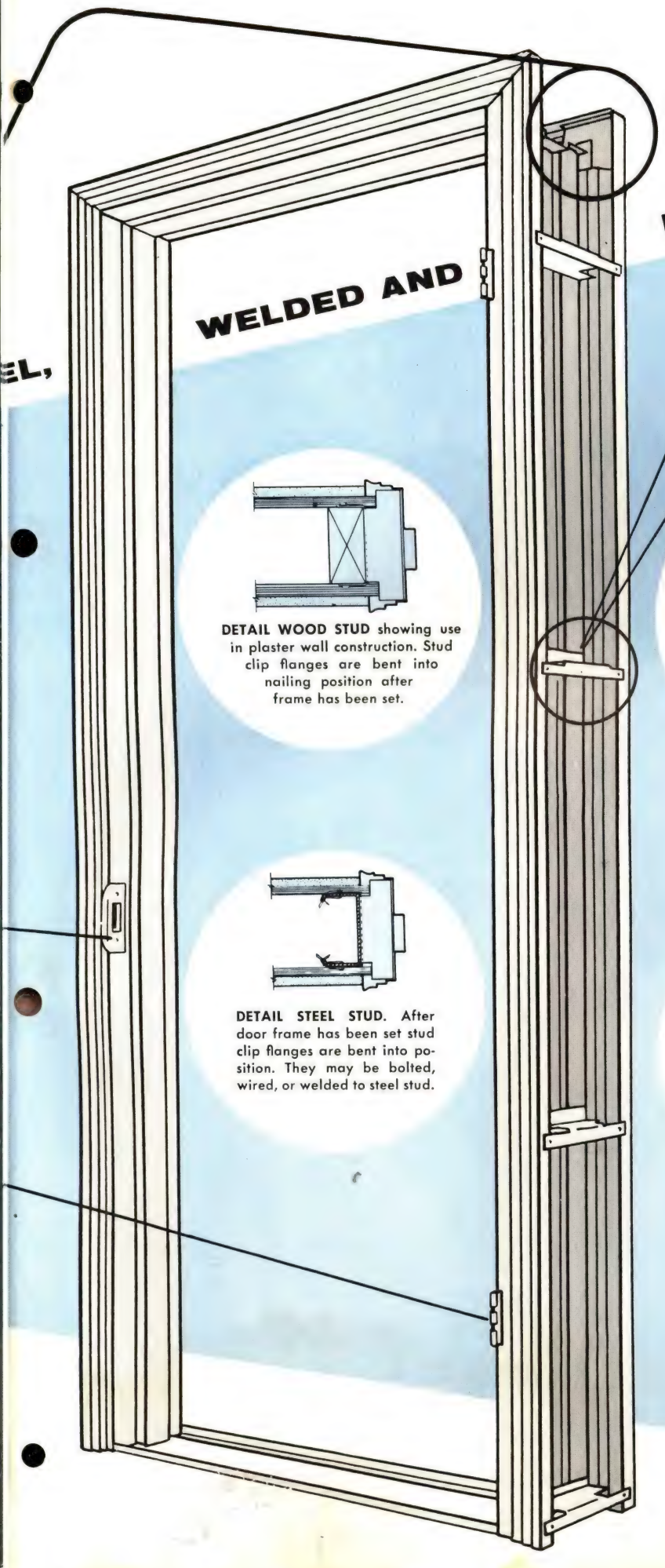


THE FIRST SPLIT-JAMB STEEL FRAME

Two-piece split-jamb frames are available for installation over pre-applied dry or plaster walls. This split-jamb st[illegible] frame is exclusive with STANDARD and is designed to offer the same installation [illegible] the one-piece frames.

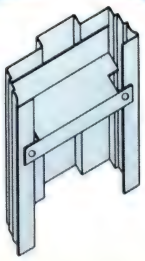
WELDED AND FACTORY-SQUARED FRAMES

EL,

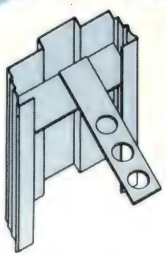


DETAIL WOOD STUD showing use in plaster wall construction. Stud clip flanges are bent into nailing position after frame has been set.

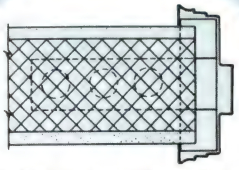
DETAIL STEEL STUD. After door frame has been set stud clip flanges are bent into position. They may be bolted, wired, or welded to steel stud.



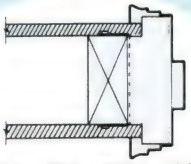
Anchor clip for stud nailing welded to frame.



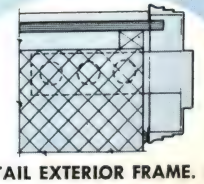
Masonry anchor furnished loose for positioning.



DETAIL MASONRY WALL. For masonry wall type construction loose anchors are provided on request. Three masonry anchors to each jamb at masonry joint.



DETAIL DRY WALL CONSTRUCTION. Stud clip flanges are bent into position after door frame has been set. With the split-jamb frame installation and adjustment can be made after application of wall surfaces.



DETAIL EXTERIOR FRAME. In exterior masonry wall loose masonry anchors are furnished on request for anchorage. Butts are factory attached for 1¾" exterior door and 1⅛" screen door.

STANDARD DOOR FRAMES

ARCHITECTS' SPECIFICATIONS

Door frames shall be Standard Steel Door Frames as manufactured by Southern States Iron Roofing Company, Memphis, Tennessee. Steel used in frames to be 18-gauge. One-piece members with corners mitered and reinforced with welded plates. Frames to be pre-squared for easy installation. Steel surfaces to be cleaned and Bonderized in a five-stage operation for preventing rust and insuring permanent bonding of paint. To be primed with high-quality gray primer.

HARDWARE

Complete butt hinges furnished, the 3-knuckle portion welded to the door frame.

Frames for 1⅜″ door shipped with 2 heavy gauge (.123″) steel hinges, 3½″ x 3½″.

Frames for 1¾″ door shipped with 3 heavy gauge (.132″) steel hinges, 4″ x 4″

(and two hinges, 2½″ x 2½″, to accommodate screen door).

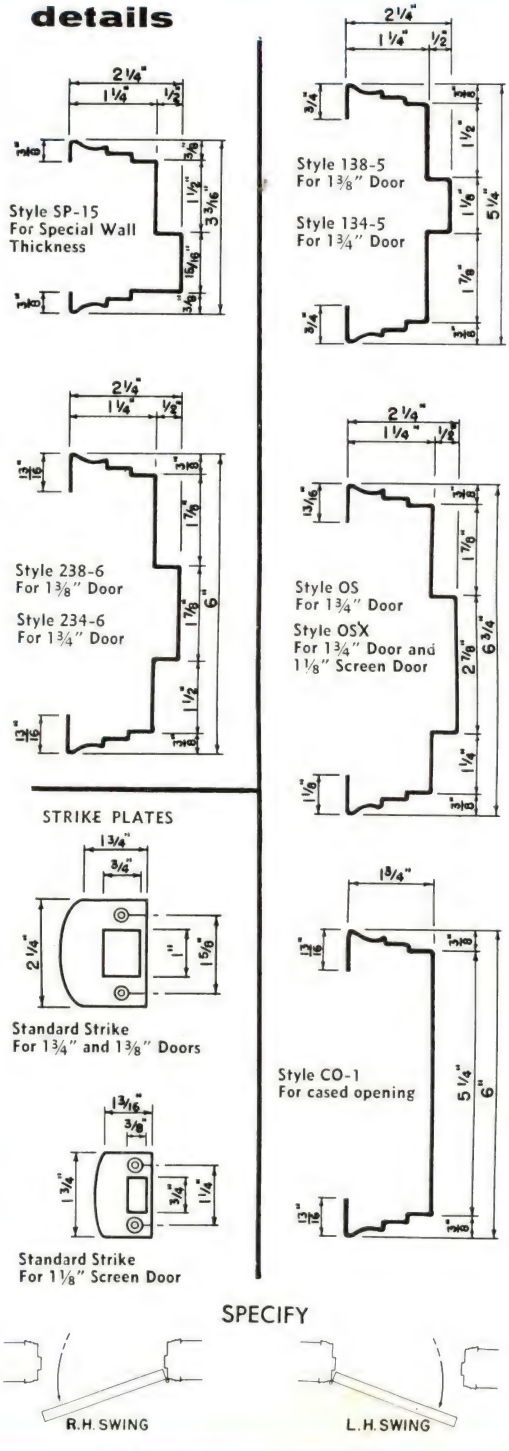
Solid brass strike plate for tubular hardware, with steel dust box, is secured to frame. For 1¾″ door, on special order, strike plates designed for mortise lock can be furnished.

STANDARD SIZES

Widths Heights	1′ — 6″ 6′ — 8″	1′ — 8″ 6′ — 8″	2′ — 0″ 6′ — 8″	2′ — 4″ 6′ — 8″
Widths Heights	2′ — 6″ 6′ — 8″	2′ — 8″ 6″ — 8″	3′ — 0″ 6′ — 8″	3′ — 0″ 7′ — 0″

Other sizes available on special order. Please give full details when inquiring.

details



Manufactured By { **SOUTHERN STATES IRON ROOFING COMPANY**
Memphis, Tennessee

Sunlight

PLASTER-LOK

steel door frames

FOR PLASTER WALLS
FOR DRY WALLS

more economical
longer lasting



SUNLIGHT STEEL CORPORATION
2301 SOUTH DELAWARE STREET · DENVER, COLORADO

PLASTER-LOK steel door frames

for plaster or dry walls — The *economical* and *fast* method of framing room openings with an all new and different type of steel door frame, designed and engineered to give the home owner a permanent, modern door frame with the features he has always wanted.

full range of sizes—PLASTER-LOK steel door frames are available for both plaster and dry wall in a complete range of sizes for swing, sliding doors or cased openings.

matching metal baseboard and trim—For additional savings and greater beauty with Sunlight steel door frames, matching metal baseboard and trim are available, as described on page 4.

heavy gauge steel—Made from heavy 22 gauge paint grip steel, these frames are galvaneeled, bonderized and rustproof for a smooth, even painting surface.

strike plate included—Frames are supplied with universal type brass strike-plates which fit most standard locksets.

concealed attachment—Nail holes for anchoring frame to wood stud partitions are provided every 7″ along inside continuous frame flange. Multiple holes for fastening frames to plaster wall are located on inside return of the jamb. Special channel edge holds dry wall frames in place without nails.

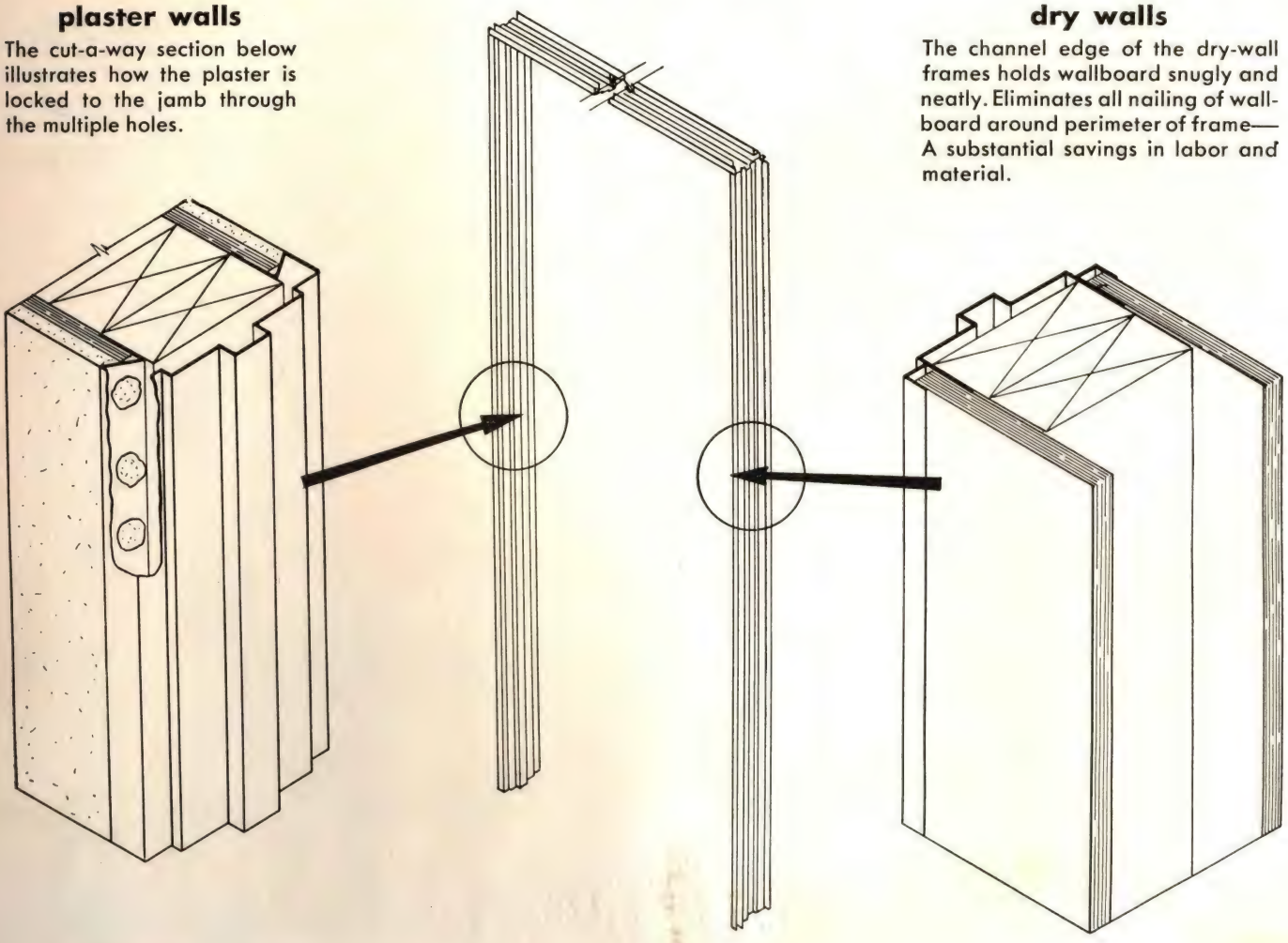
APPLICATION

plaster walls

The cut-a-way section below illustrates how the plaster is locked to the jamb through the multiple holes.

dry walls

The channel edge of the dry-wall frames holds wallboard snugly and neatly. Eliminates all nailing of wallboard around perimeter of frame—A substantial savings in labor and material.



The 1″ returns act as a plaster ground, creating a neat, modern trim line for decorating.

For streamline finish, see Type R radius style jamb sections on page 3.

PATENT PENDING
Trade Mark Registered

low initial cost and maintenance—PLASTER-LOK steel door frames cost only a fraction of out-moded and bulky wood trim. Labor costs are kept low because installation is quick and easy. Troublefree steel construction needs little maintenance, retains its attractive appearance with minimum care.

fast economical installation — Sunlight metal door frames require not more than 15 minutes per unit, fit snugly over wood studs. By eliminating mortising of jambs for hinges, strikes or trim, these frames save the builder up to 20 hours' construction time per average house. No expensive finishing carpentry is needed. No filling of nail holes is required.

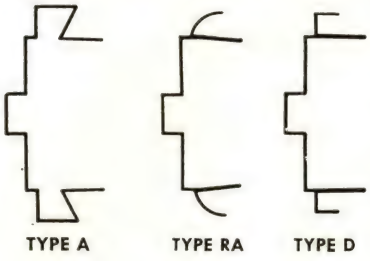
neat modern lines—The 1" returns on each side of the frame act as a plasterground, creating a neat, modern trim line for decorating. PLASTER-LOK steel door frames blend with any type of architecture. For streamline finish, see Type R radius style jambs.

fireproof, warp-proof—These features of steel are important to the builder, especially with today's high costs.

durability—PLASTER-LOK steel door frames will not need to be replaced as time goes on. They will outlast and outwear wood jambs and trim.

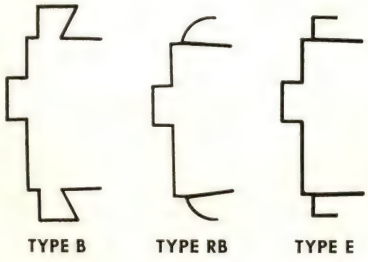
TYPES

plaster walls **dry walls***



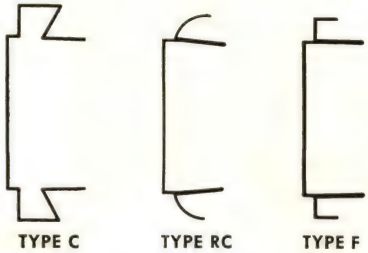
TYPE A TYPE RA TYPE D

1 3/8" DOOR



TYPE B TYPE RB TYPE E

1 3/4" DOOR



TYPE C TYPE RC TYPE F

FOR CASED OPENINGS AND SLIDING DOORS

*Specify 1/2" or 3/8" dry wall.

DESCRIPTION

steel

22 gauge prime steel.

finish

Paint Grip, galvaneeled, bonderized, rustproof.

hardware

Jambs punched and recessed for standard butt hinges.

Frames for 1 3/8" doors prepared for two 3 1/2" x 3 1/2" hinges.

Frames for 1 3/4" doors prepared for three 3 1/2" x 3 1/2" hinges.

Hinges not included.

Universal type brass strike-plate. Fits practically all standard locksets. Dust box applied at factory.

standard types

Type A designates PLASTER-LOK frame for 1 3/8" doors.

Type B designates PLASTER-LOK frame for 1 3/4" doors.

Type C designates PLASTER-LOK frame for cased opening and sliding closed doors.

Type D designates DRY WALL frame for 1 3/8" doors.

Type E designates DRY WALL frame for 1 3/4" doors.

Type F designates DRY WALL frame for cased opening and sliding doors.

Suffixes L & R designate the swing, as determined by the method illustrated.

Width and height of Sunlight door frames designated by door dimensions, for example No. A2068L designates a PLASTER-LOK frame for 1 3/8" door which is 2'0" x 6'8" with a left hand swing.

Standard Sunlight door frames available with both jambs prepared for hinges, for use with double doors and designated by suffix LR.

openings

Rough opening width equals door size plus 1 1/4". Opening height from finish floor to wood header equals door size plus 1 1/4".

stock sizes

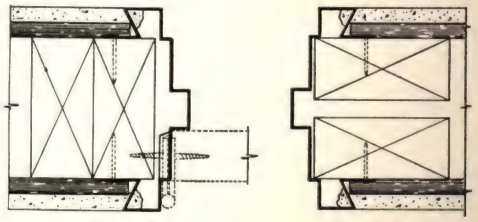
PLASTER-LOK door frames are available in these standard door sizes.

Widths	Heights			Widths	Heights		
1'4"	6'6"	6'8"	7'0"	2'4"	6'6"	6'8"	7'0"
1'6"	"	"	"	2'6"	"	"	"
1'8"	"	"	"	2'8"	"	"	"
1'10"	"	"	"	2'10"	"	"	"
2'0"	"	"	"	3 0"	"	"	"
2'2"	"	"	"				

Other widths and heights to order. Indicate type and swing of doors when ordering door frames.

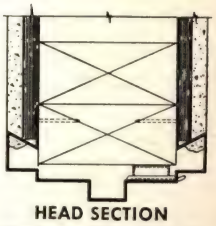
INSTALLATION DETAILS

swing doors



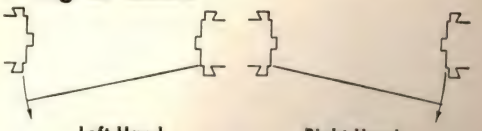
Hinge Side Strike Side

JAMB SECTION
(Stud partition shown)



HEAD SECTION
(Stud partition shown)

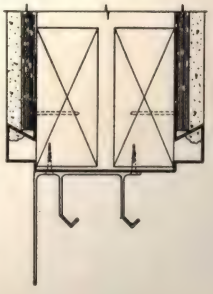
swing of doors



Left Hand Right Hand

To determine the correct hinging, pull the door to you as you walk through the opening. The side with the knob determines the swing.

sliding doors

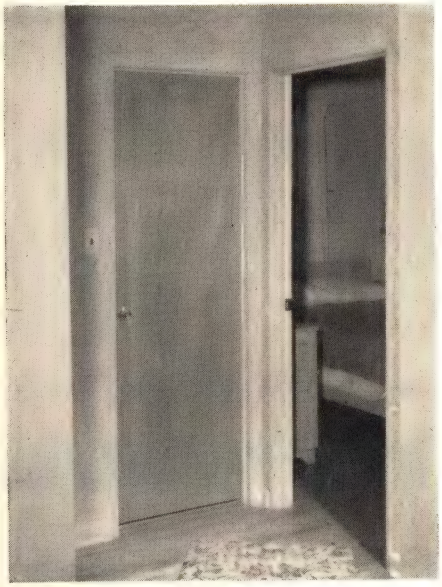


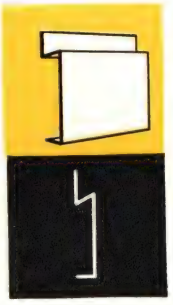
Head Section

Available:
Extruded aluminum double track channel and reveal along with nylon rollers.
For 1 3/8" doors.

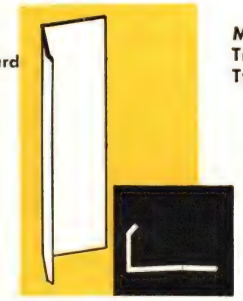
Sunlight

MATCHING METAL BASEBOARD AND TRIM

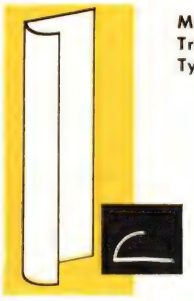




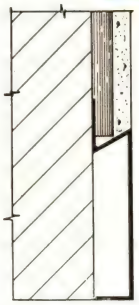
Metal Baseboard Type A



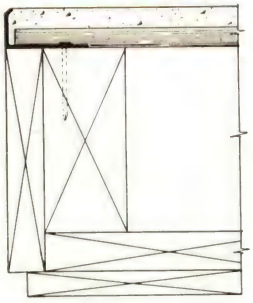
Metal Trim Type AW



Metal Trim Type RW



Baseboard Type A



Trim Type AW

Now the homeowner may order PLASTER-LOK metal baseboard and metal trim to match PLASTER-LOK steel door frames. The baseboard and trim are not only smart and modern in appearance, but are economical, stable and permanent. They serve a dual purpose—they cut cost and add more spaciousness with greater beauty to the home or office.

steel baseboard—Does away with all corner mitering, filling of nail holes and use of wood plaster grounds which are necessary with wood baseboards. Sunlight baseboard fits flush with the wall and provides more floor space per room . . . doesn't catch dust . . . provides a perfect match for the door frame.

metal trim—May be applied as moulding or plaster stop at miscellaneous door openings, windows, etc., and as nosing for stair railing where a harmonious trim is desired.

steel—Both the steel baseboard and trim, like the type A door frame, are of galvaneeled, bonderized steel for easier painting.

sizes—Baseboard Type A is supplied in stock lengths of 10'-0", 3¼" high. Trim Type AW is supplied in stock lengths of 7'-0" and 10'-0", 3¼" high. Special heights to order.

SPECIFICATIONS: PLASTER-LOK STEEL DOOR FRAMES AND TRIM

All door frames, metal baseboard and trim as shown on the drawings and accompanying schedules are to be Sunlight PLASTER-LOK products as manufactured by Sunlight Steel Corporation, Denver, Colorado, and of the types, sizes and hands shown.

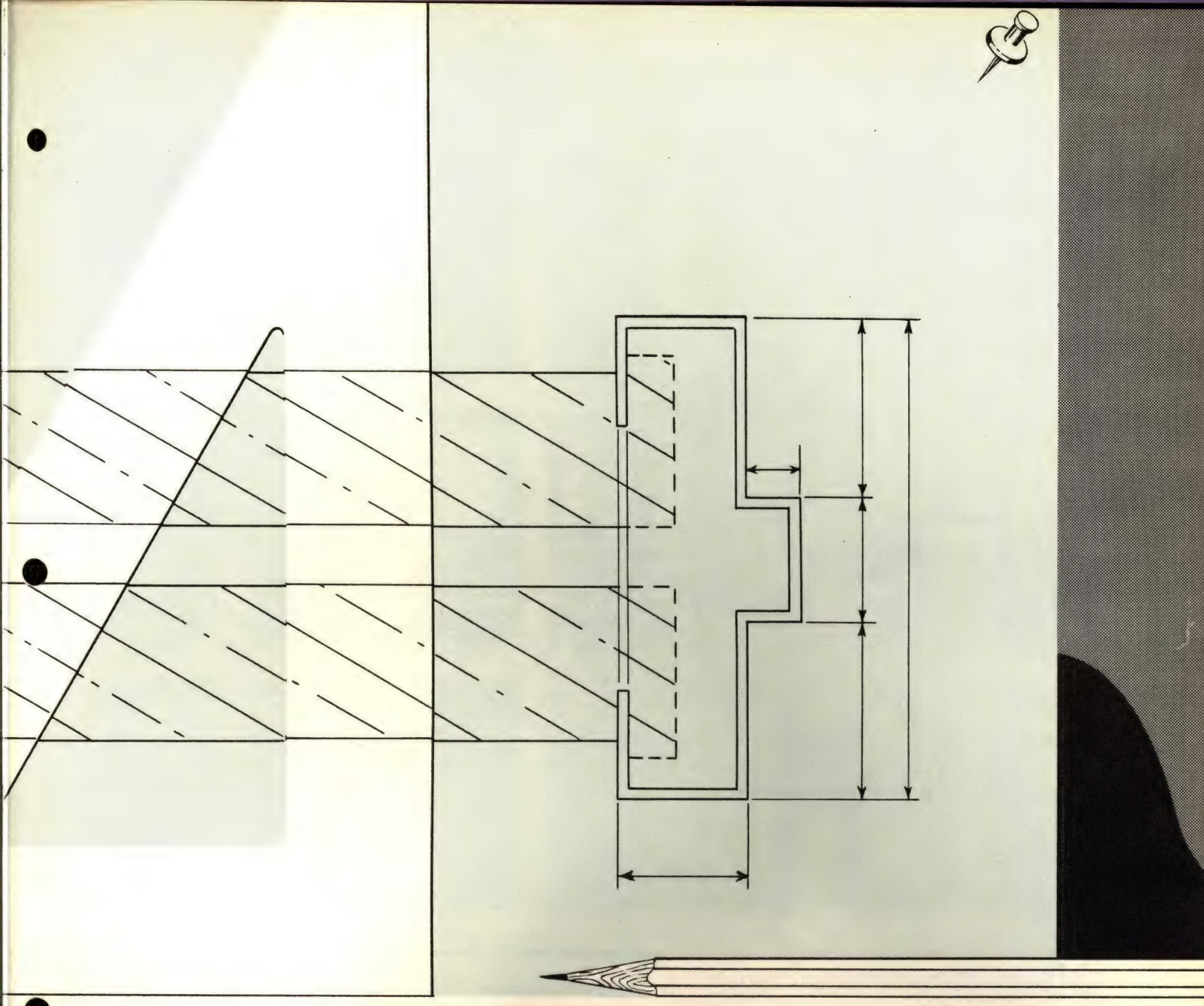
materials—Door frames, metal baseboard and trim to be 22 gauge prime steel galvaneeled, bonderized and rustproof. Door jambs are to be punched and recessed for standard butt hinges by the manufacturer. Universal type brass strike plate and dust box for door frames to be supplied by frame manufacturer.

installation—Door frames to be set in openings plumb and true with shims as required. Frames to be solidly secured to wood studs by nailing through holes provided in flanges of frame members.

SUNLIGHT STEEL CORPORATION
2301 SO. DELAWARE ST. • DENVER, COLORADO

PHONE: SH 4-2471

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WORLD STEEL PRODUCTS CORP.

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hollow metal doors
combination steel door frames
kalamein doors, frames and trim
metal slide closet units
custom metal specialties
elevator, stair and dumbwaiter enclosures
1-1½-3 hour fire test doors
labeled by New York Board
of Standards and Appeals
complete underwriters' label service

World Steel Products Corporation

With a half century of experience in the fabrication of Metal Products, World Steel maintains modern production facilities and a skilled organization to continue its reputation for service and quality.

Products

Hollow metal doors; combination steel door frames; kalamein doors, frames and trim; metal slide closet units, custom specialities.

Custom Specialties

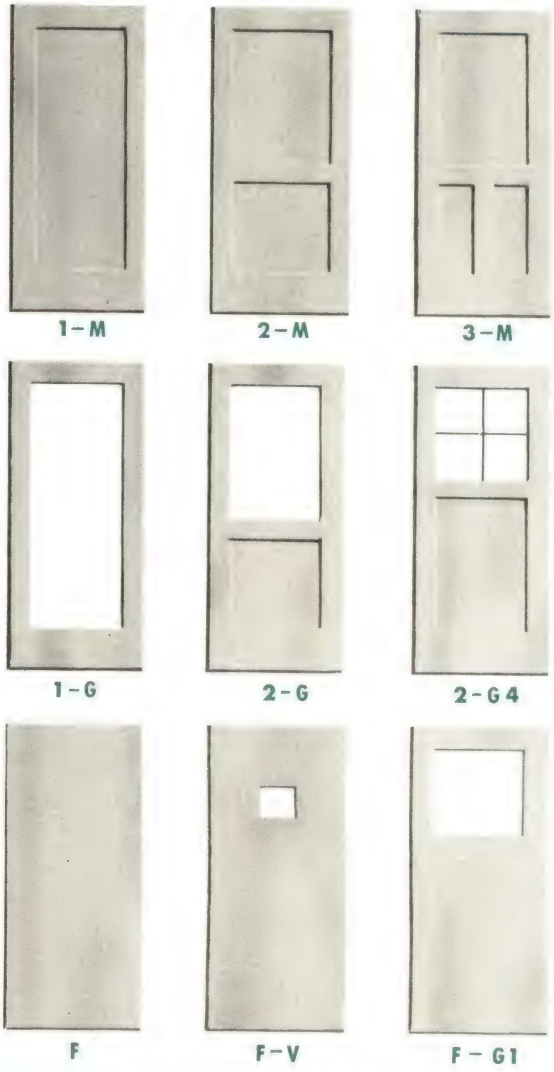
Elevator, stair and dumbwaiter enclosures may be custom ordered. Our production facilities and our staff of engineers are available to assist architects in developing any special order that may be required.

Labels

National Board of Fire Underwriters and New York City Board of Standards and Appeals—all services for hollow metal and kalamein construction are available.

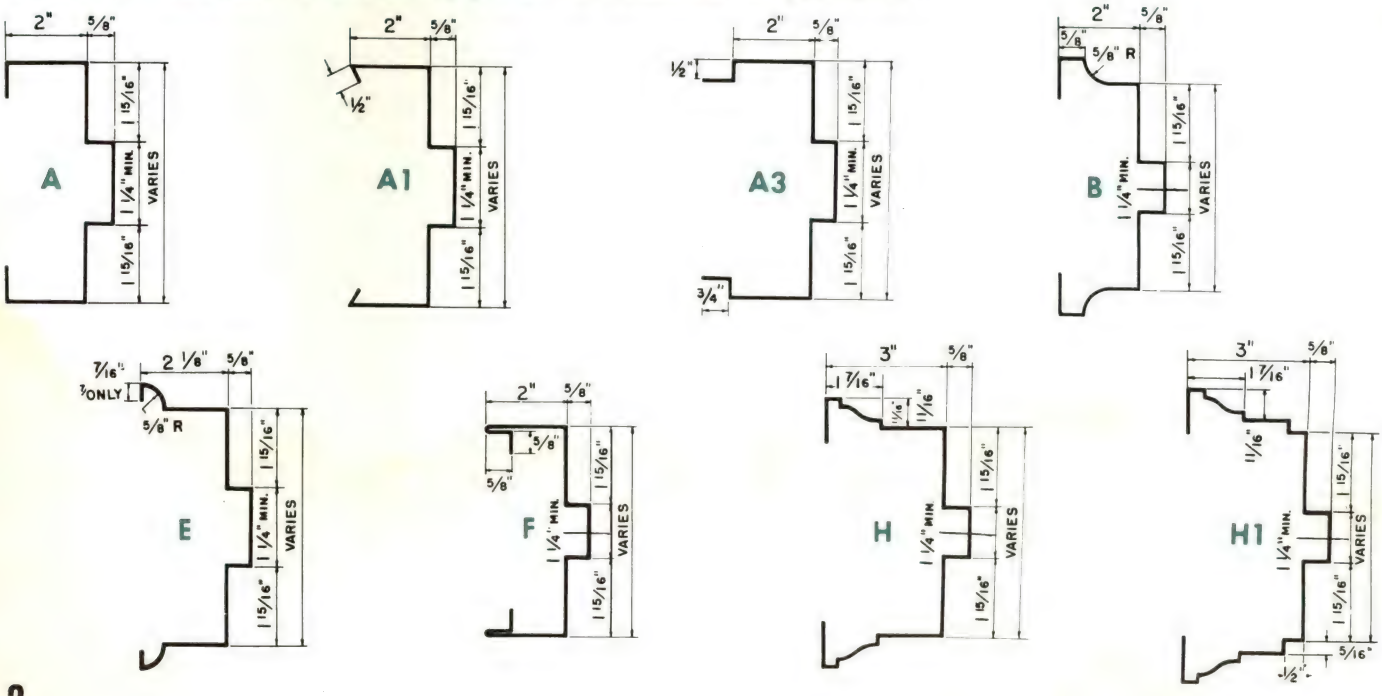
hollow metal door types

for specifications see pages 6 and 7

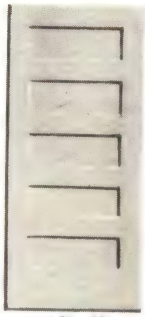


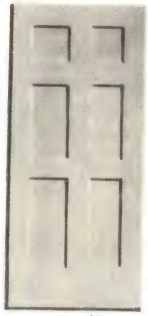
hollow metal frame types

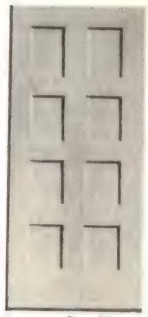
for specifications see pages 6 and 7



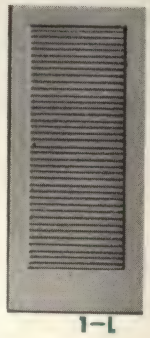

4-VM

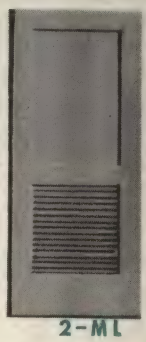

5-M

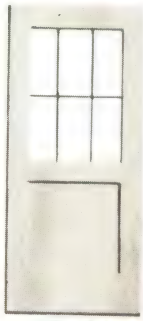

6-M

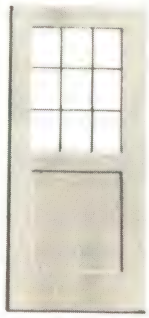

8-M

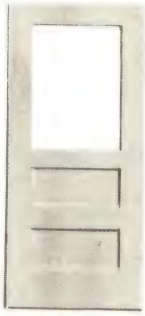

1-GR


1-L

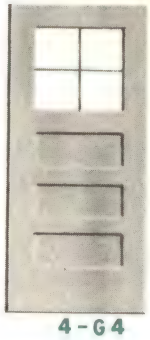

2-ML

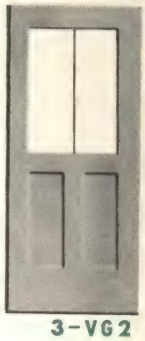

2-G6


2-G9


3-G


3-G9


4-G4


3-VG2

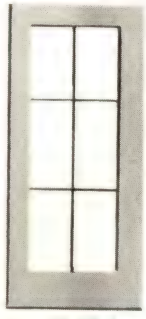

3-VG9

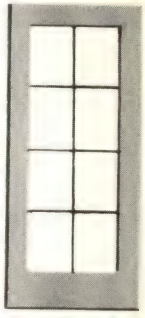

F-G2

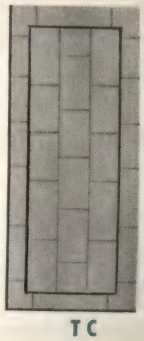

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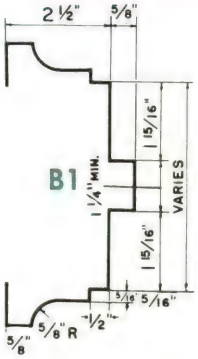

F-L

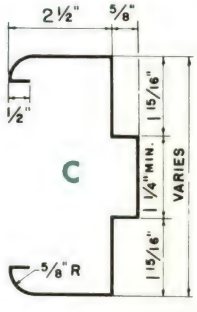

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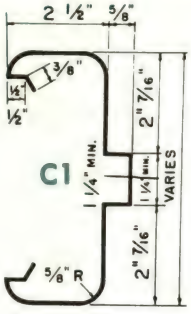

1-G6

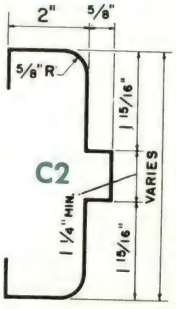

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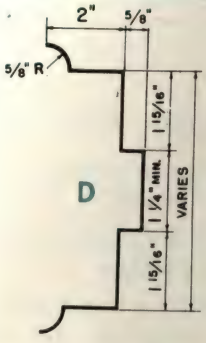

TC

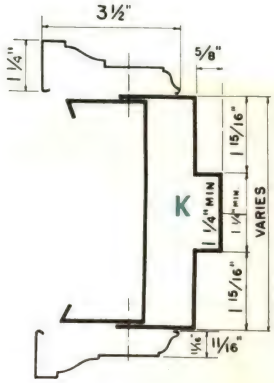


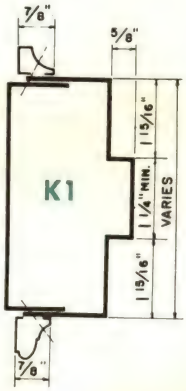




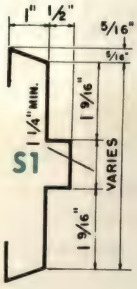








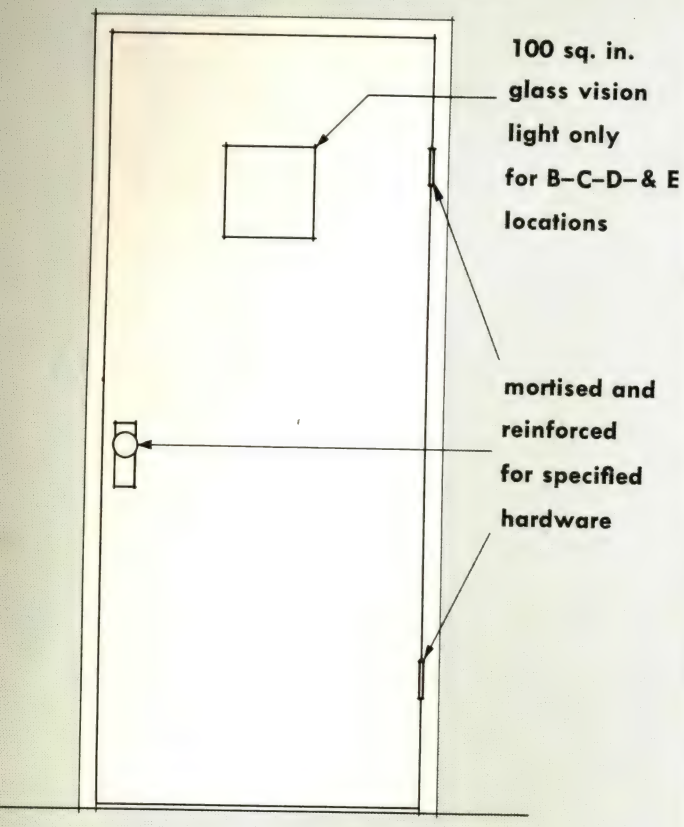


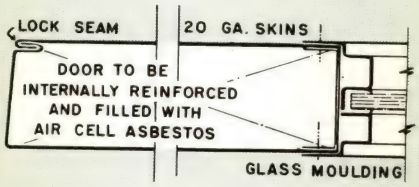




"Indestructo" Door

The "Indestructo" door replaces kalamein doors of the same allowable sizes. Whereas kalamein doors require on-the-job mortising, the "Indestructo" door is delivered reinforced and mortised for butts and lock set and with a baked prime finish.





#20 GAUGE—FLUSH HOLLOW METAL

1½ Hour Test—New York City Board of Standards & Appeals

B—C—D & E Labels—National Board of Fire Underwriters

The "Indestructo" door is constructed of two sheets of #20 gauge metal interlocked at the corners and reinforced with #16 gauge channels spaced not over 7½" centers. The hinge and lock reinforcements are #11 gauge and the top and bottom of the door is closed with two #16 gauge channels spot welded to the two surface plates. The door is insulated with Aircell Asbestos.

WORLD STEEL PRODUCTS CORPORATION'S "Indestructo" door has been approved by the New York City Board of Standards & Appeals for 1½ hour test. Also tested and approved by the National Board of Fire Underwriters Laboratories for "B, C, D and E" labels.

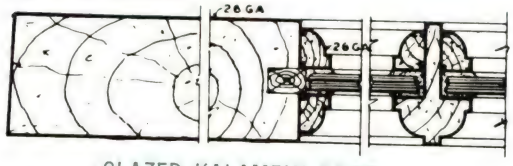
door details

for specifications see pages 6 and 7

The special requirements of Architectural Hollow Metal Work are STANDARD with WORLD STEEL. From the Architect's outline drawing of an elaborate modern entrance we prepare our details by using standard sections and time proven construction methods. WORLD'S Engineering Department is at your service for any unusual problem or to develop the fabrication of sheet metal items.



PANELLED KALAMEIN DOOR NON-LABEL

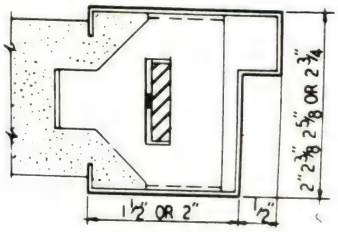


GLAZED KALAMEIN DOOR

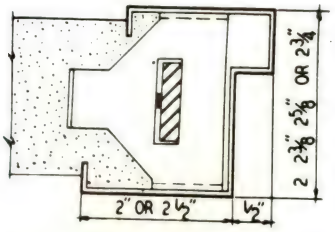
housing buck details

for specifications see pages 6 and 7

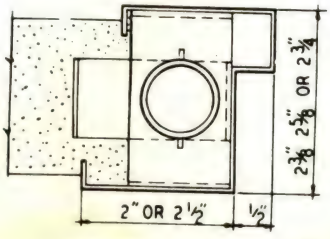
2" PLASTER PARTITION BUCK WITH BAR STRUT



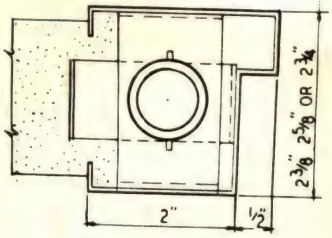
2" PLASTER PARTITION BUCK WITH BAR STRUT

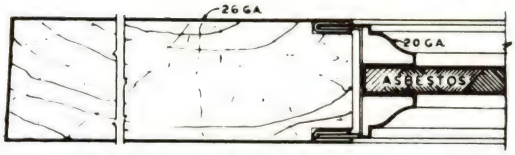


2" PLASTER PARTITION BUCK WITH PIPE STRUT

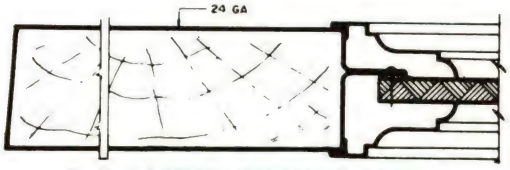


2" PLASTER PARTITION BUCK WITH PIPE STRUT





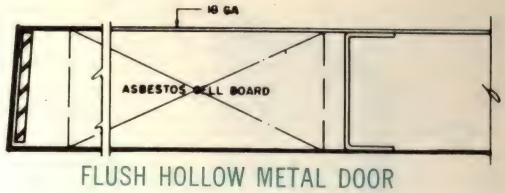
1½ HOUR TEST KALAMEIN DOOR



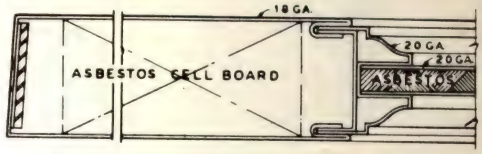
F. U. LABELED KALAMEIN DOOR



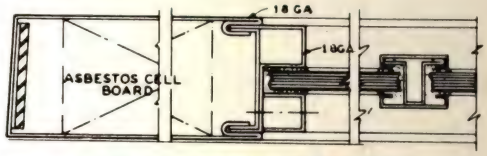
EXTRUDED BRONZE AND ALUMINUM DOOR



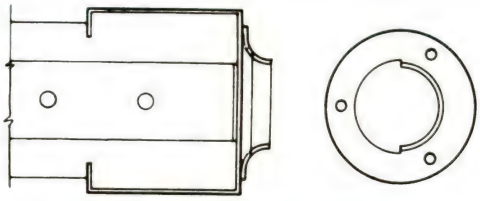
FLUSH HOLLOW METAL DOOR



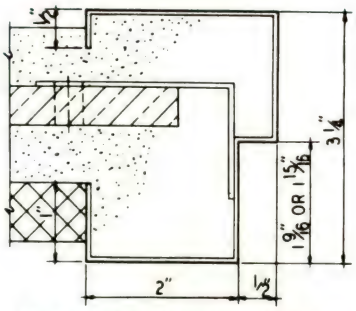
PANELLED HOLLOW METAL DOOR



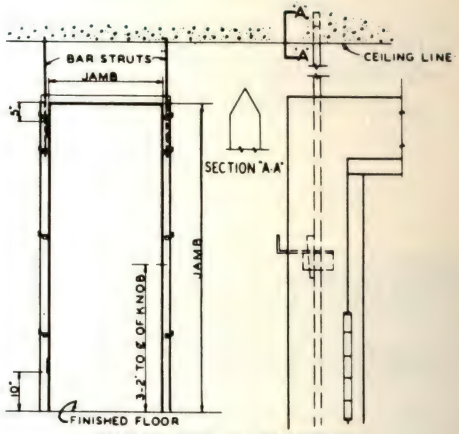
GLAZED HOLLOW METAL DOOR



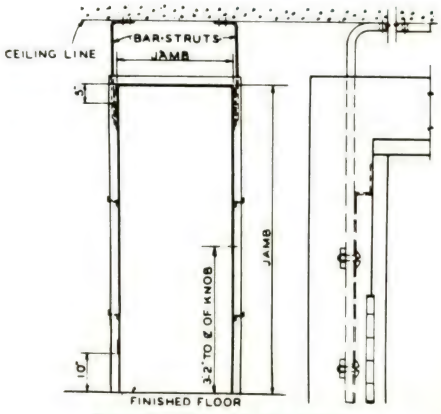
FREE STANDING PARTITION END
WITH POLE SOCKET
FOR 2″ PLASTER PARTITION



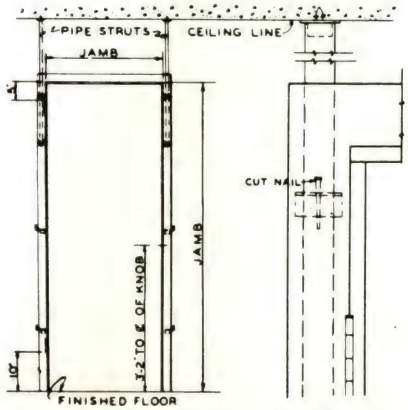
2″ PLASTER PARTITION BUCK
WITH TILE WAINSCOT



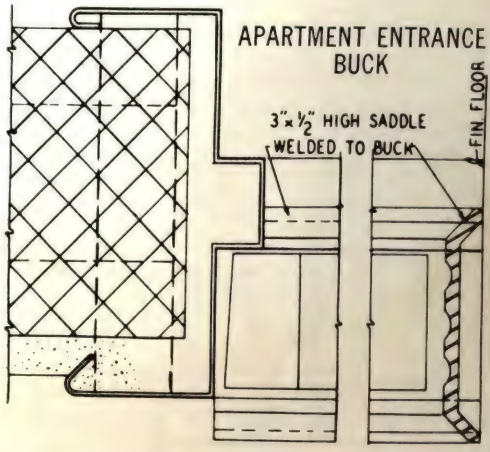
BUCKS FOR 2″-PLASTER
PARTITION
NAIL LOCK STRUT

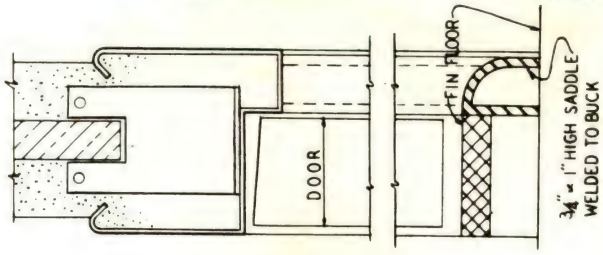


BUCKS FOR 2″-PLASTER
PARTITION
BOLT LOCK STRUT



BUCKS FOR 2″-PLASTER
PARTITION
THREADED PIPE STRUT

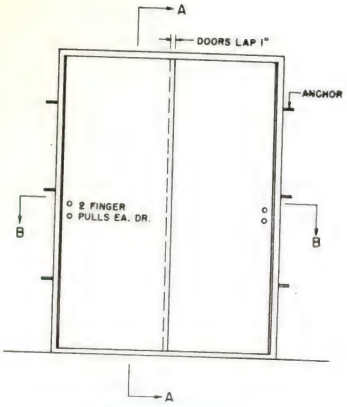




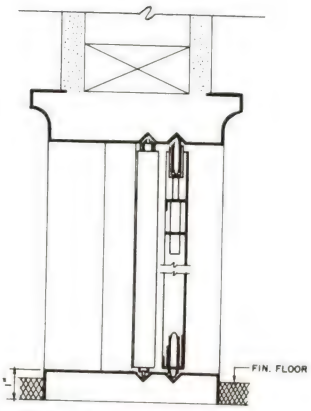
BATH ROOM BUCK WITH WELDED SADDLE
2″ PLASTER PARTITION WITH GYPSUM CORE

slide closet units

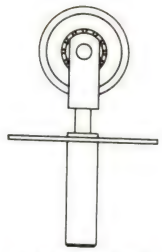




ELEVATION



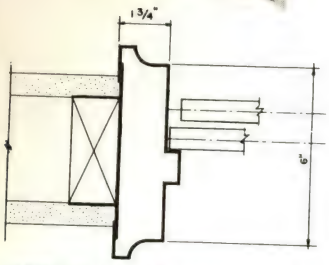
VERTICAL SECTION "A-A"



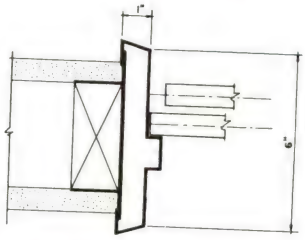
TOP ROLLER



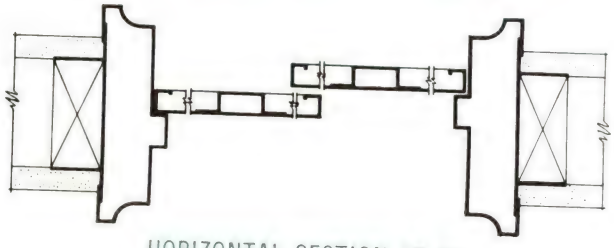
BOTTOM ROLLER



COVE TRIM -4" STUD WALL



SPLAY TRIM-4" STUD WALL



HORIZONTAL SECTION "B-B"

To guarantee the installation of Slide Closet Units that will be trouble-free for the life of the building—Architects specify WORLD STEEL PRODUCTS Adjustable, with compression spring rubber tired wheels. These units are extremely quiet and roll at the slightest touch.

specifications of products

hollow metal doors

The hollow metal doors shall be manufactured by the WORLD STEEL PRODUCTS CORP. and shall be of their standard construction in either flush or panel design. The hollow metal doors shall be constructed of cold rolled, patented leveled sheet steel. Flush doors shall be constructed with #18 gauge door skins rigidly stiffened with #16 gauge reinforcing members spaced on 6" centers. Stiles and rails for panel doors shall be formed of #18 gauge sheet steel and the panels and panel mouldings shall be of #20 gauge sheet steel. Panels shall be made with asbestos boards. Panel mouldings shall be fitted over the panels on all four sides and mitered and welded at all corners thereby forming a continuous frame around the panel.

Hardware cut outs and reinforcements to be provided to suit the hardware. Reinforcements shall be welded within the door. Door check reinforcement will be provided as required. All drilling and tapping for surface applied hardware shall be done by the General Contractor in the field.

The doors shall be washed with a solvent to remove all oil, grease, and other impurities, then filled to a level surface, sanded and finished with a protective coat of baked-on standard shop prime. The hollow metal doors may be finished with a baked enamel or grained finish in any color when so requested by the architect.

WORLD STEEL PRODUCTS hollow metal doors can be furnished to meet the requirements of the National Board of Fire Underwriters and bear their labels for Class A, B, C, D, and E openings.

WORLD STEEL PRODUCTS hollow metal doors can be furnished to meet the requirements of the New York City Board of Standards and Appeals for ¾, 1, 1½ and 3 hour fire resistant specifications.

hollow metal frames

Combination hollow metal bucks with integral trim shall be formed of 14, 16, or 18 gauge prime quality sheet steel. 12 gauge combination bucks shall be Type "A" Profile only. The corners shall be accurately fitted, mitered, welded the full length and ground smooth. At least three anchors shall be provided for each jamb to suit the wall condition. Each jamb shall be provided with a floor angle clip with removable steel spreader attached thereto. All frames shall be mortised and reinforced in accordance with templates furnished by the hardware supplier. Drilling and tapping for all surface applied hardware shall be done by the General Contractor in the field. The bucks shall receive a dip coat of standard shop prime or baked on primer.

The bucks shall bear the National Board of Fire Underwriters' label when so specified by the architect.

multiple dwelling bucks

The bucks shall be manufactured by the WORLD STEEL PRODUCTS CORPORATION and shall be of their standard design and construction. The bucks shall be fabricated of hot rolled annealed #16 gauge sheet steel. The rabbets shall be not less than ½" deep. Each jamb shall have not less than 3 anchors on each side. The anchors shall be of 16 gauge steel. In addition to the above, all bucks shall have anchors at the bottom of each jamb welded there for securing to the floor construction. A removable angle type metal spreader shall extend between the legs. All bucks to

- TARAWA TERRACE #2—CAMP LE JEUNE
  Fort Mills, S. C.
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  San Diego, California
  CONTR. M. H. Golden
- PARAMOUNT HIGH SCHOOL
  Compton, California
  CONTR. Loyl Peterson
- SHARPE GENERAL SUPPLY DEPOT
  Tracy, California
  CONTR. F. W. Case Co.
- FORT ORD
  Monterey, California
  CONTR. Del E. Webb Const. Co.
- CAMP PARKS 1 & 2
  Pleasonton, California
  CONTR. Four Companies
- LOS ALAMOS HOSPITAL—AEC
  Los Alamos, New Mexico
  CONTR. Donald M. Drake
- WEST CONTRA COSTA HOSPITAL
  San Pablo, California
  CONTR. Parker, Steffens & Pearce
- U. C. L. A. ADMINISTRATION BUILDING
  Los Angeles, California
  CONTR. R. J. Daum
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- PAGE MANORS #1 & 2
  Dayton, Ohio
  CONTR. Airways Const. Co.
- FORT CAMPBELL ELEMENTARY SCHOOL
  Fort Campbell, Kentucky
  CONTR. McChesney Const. Co.
- NEW ALBANY HOUSING
  New Albany, Indiana
  CONTR. Whittenberg Const. Co.
- PINE BLUFF ARSENAL
  Pine Bluff, Arkansas
  CONTR. Blaw-Knox Const. Co.
- OMAHA-NEBRASKA HOUSING
  Omaha, Nebraska
  CONTR. Sherry-Richards Const. Co.
- FINANCE CENTER
  Fort Benjamin Harrison, Indiana
  CONTR. Sherry-Richards, Willcox, Corbetta & McHugh Cos.
- SPARKS MEMORIAL HOSPITAL
  Fort Smith, Arkansas
  CONTR. Fraser Const. Co.
- MUNICIPAL HOUSING
  Lexington, Kentucky
  CONTR. Hargett Const. Co.
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- EASTLAKE EXTENSION
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  Danbury, Connecticut
  CONTR. Frouge Const. Co.
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  Bridgeport, Connecticut
  CONTR. E & F Const. Co.
- LEVITTOWN HIGH SCHOOL
  Levittown, New York
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  Beverly, Massachusetts
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- POMONOK HOUSES
  Flushing, Long Island
  CONTR. Wilcox Const. Co., Inc.
  Maurice L. Bein, Inc.
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- FITZGERALD MERCY HOSPITAL
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  CONTR. McCloskey & Co.
- CLINICAL LABORATORY—AEC
  Hiroshima, Japan
  CONTR. York & Sawyer

be mortised and reinforced for hardware with a dust cover provided at the lock strike. The interior bucks shall be furnished with one pair of 3½ x 3½ non-template butts welded on.
Where struts to the ceiling are required, they can be ¼" x 1" bars locked with a cut nail or a WORLD STEEL PRODUCTS CORPORATION patented 1" pipe strut.
Bucks shall be primed on all sides with an iron oxide-zinc chromate rust inhibitive prime and shall be in a smooth and satisfactory condition to receive the finished coat of paint by others.

kalamein doors

The kalamein doors, jambs and trims shall be manufactured by the WORLD STEEL PRODUCTS CORP. and shall be of their standard design and construction. The cores shall be kiln dried, white pine and covered with #26 gauge furniture steel sheets.
The panels shall be not less than 5/16 inch thick consisting of two #26 gauge steel sheets separated by ¼ inch thick asbestos boards. Panel moldings may be of either kalamein or hollow metal and of stock design. The panel is to be wedged into the grooves of the stiles and rails. The stiles and rails are to be glued at the mortise and tenon and held by drive nails through the mortise and tenon. The joints at the stiles and rails shall be solidly filled with solder and scraped smooth. All materials to be thoroughly cleaned before applying a protective coat of standard shop prime.

WORLD STEEL PRODUCTS' kalamein doors can be furnished to meet the requirements of the National Board of Fire Underwriters and bear their labels for class A, B, C, D, and E openings.
WORLD STEEL PRODUCTS' kalamein doors can be furnished to meet the requirements of the New York City Board of Standards and Appeals for ¾, 1, 1½ fire resistant specifications.

sliding doors

The sliding closet unit shall be manufactured by WORLD STEEL PRODUCTS CORP. and shall be of their standard design and construction. The package unit shall be complete with a four-sided frame, two doors, and hardware. The frame shall be completely assembled and shall consist of two rabbetted jamb members, a head member and a sill member, all of #18 U. S. Standard gauge. The jambs shall be securely welded to the head and sill. The doors shall be of #20 U. S. Standard gauge formed into a pan ¾ inches thick, and shall be substantially reinforced by vertical stiffening channels and top and bottom channels. The doors shall be furnished complete with hardware applied. The hardware shall consist of an adjustable spring type top roller and a lower roller. The top roller shall have a screw adjustment of ¾ inch to maintain uniform spring tension of the top roller. The bottom roller shall be adjustable for proper alignment. All rollers shall have ball-bearings and rubber tires. In addition to the rollers, finger pulls shall be furnished.
The entire unit shall receive one coat of standard shop prime.

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Washington

ENGINEERING AND ESTIMATING FACILITIES

For more than fifty years, WORLD STEEL PRODUCTS CORP. has been one of the leaders in the production of kalamein and hollow metal products. This experience has given WORLD STEEL's engineers and estimators a great store of specialized knowledge in this field. This experience is available to every architect, engineer and building contractor. We will be pleased to cooperate to any extent requested.

WORLD STEEL PRODUCTS CORP.

FACTORY and GENERAL OFFICES
444 TIFFANY ST., N. Y. 59, N. Y.
KILPATRICK 2-5500

FLUSH DOORS by Atlas Plywood

CORPORATION
FROM AMERICAN FOREST
TO FINISHED PRODUCT

Quality you can depend upon,
Beauty that just can't be equalled . . .



FOR — the Architect
the Owner
the Builder

There's more Value in Atlas Plywood FLUSH DOORS

Lasting quality, plus matchless beauty add up to real value in a flush door. Atlas Plywood doors have both.

Quality

Only Atlas Plywood controls the manufacture of its doors from the very first step to the last. Using its own American woods throughout, these flush doors are skillfully crafted by experienced American workers under exacting standards — from forest to finished product. Atlas Plywood doors are easier to hang, easier to stain — and they won't check. Their hardwood faces resist marring and scratching. They assure *lasting* satisfaction.

Beauty

Panels for Atlas Plywood's flush doors are carefully selected for beauty of grain. They can be stained to suit any taste, to harmonize with any interior. Truly, they are as versatile as they are beautiful.

Whether you choose birch, gum or another of the popular American hardwoods, you'll be assured of unequalled beauty when you specify Atlas Plywood flush doors.

And now — exclusively in the Southwest!

Atlas Plywood's new TEXCEN

Made in a most modern flush door plant. TEXCEN doors feature handsome domestic hardwood faces and a new strut-aligned construction which makes them as dependable as they are beautiful.

Strategic plant location at Center, Texas assures speedy delivery throughout the southwest.

ATLAS PLYWOOD FLUSH DOORS ARE AVAILABLE IN THREE GRADES:

ESTATE: The aristocrat of fine flush doors. Faces are made with selected book-matched veneers.

SUBURBAN: High grade stain door. Veneers are matched for pleasing effect.

METROPOLITAN: All-purpose, economy-quality stain door.

Atlas Plywood solid (slab) core door

Architecturally designed and manufactured to exacting specifications — Atlas Plywood Solid Core Doors are constructed of two 3-ply panels, laminated to a stave block core. This type of construction provides a 7-ply door with all the established advantages of this superior design.

Two types of cores are available — upon specification:

#1 — Balsa Wood Core. The world's most inert commercial wood, proof against internal stress and warpage. With the same K factor as cork, Balsa has maximum sound-deadening qualities. Its low thermal conductivity means efficient insulation over a wide range of temperature changes. Finally, an Atlas Plywood Door — with a Balsa Wood Core — has approximately half the weight of the standard solid core door. A child or an invalid easily manages the largest door.

#2 — Lumber Core. From selected grade kiln-dried lumber, Atlas Plywood precision-manufactures its famous lumber core doors.

With either type of core, the Atlas Plywood Solid Core Door is made up of narrow blocks with both edge and flat grain, laminated with synthetic resin glues to form a non-warping slab machined to exact size and thickness. The core is fitted into a frame of kiln-dried lumber. To this finished slab, the 3-ply [illegible] are laminated with highly moisture-resistant synthetic urea, resin glue. All doors are constructed [illegible] other side.

There's an **Atlas Plywood Flush Door** for every use...



in the home



or office



for interiors



or exteriors



for the modern setting

or the traditional



Atlas Plywood hollow core door

The rapid growth in popularity of the hollow core door is based upon sound economy — less weight, lower cost — but with full choice of surface veneer, grain and stain or paint finish.

The scientifically-designed heart of an Atlas Plywood hollow core door consists of the main structural members; namely, the stiles, rails and lock blocks, together with the correct number of transverse struts to give, on the whole, the most perfectly-designed hollow core frame which it is possible to produce.

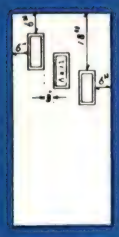
The stiles, rails and lock blocks are made of carefully-machined, kiln-dried poplar, basswood, white pine, or white fir lumber, all prepared and seasoned to Atlas Plywood's own rigid specifications. The transverse struts are made to the same specifications as used for the main frames and are assembled into the frames in a fixed or templated design, so as to insure uniformity of structural strength and stability in every individual door produced.

All struts and rails are provided with ample vent channels. These vent channels remove the residual moisture resulting from door assembly so that the perfectly balanced moisture content of the Atlas Plywood hollow core door is not disturbed, and maximum stability is attained.

T e p [illegible] c[illegible]ir s are fully bonded to th[illegible]me. [illegible]nd struts with [illegible]ub[illegible]s of our own specificat[illegible] H[illegible]i[illegible] door with [illegible]. of [illegible]ong years of experi[illegible]e

Light Specifications

for both solid and hollow core flush doors. (Special louvres and metal kick-plates to specification.)

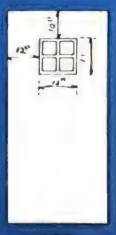

AP1


AP2


AP4

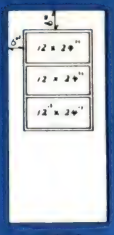

AP6

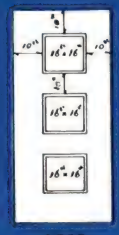

AP7


AP8


AP9


AP11


AP12


AP13


AP14

Atlas Plywood

CORPORATION

Executive offices: Statler Building
Boston 16, Mass.

Sizes and Measurements

Thickness: 1⅛", 1⅜", 1¾".
Height: 6'-0", 6'-6", 6'-8", 6'-10", 7'-0".
Width: Hollow Core Doors: 1'-6", 1'-8", 2'-0", 2'-2", 2'-4", 2'-6", 2'-8", 3'-0". Solid Core Doors: 2'-0", 2'-2", 2'-4", 2'-6", 2'-8", 3'-0".
Stiles: 1⅜". **Rails:** 2¾".
Double lock blocks: 20" x 4⅛".
Faces: 3/20 or ⅛" three ply.
Frames permit trimming 1" top and bottom.
Special sizes, lights, louvres, kickplates and veneers to order.
Oversize Solid Core Doors — stiles 2" wide, rails 4⅛" wide, double lock blocks 24" x 6½".

Guarantee

All Atlas Plywood Doors are quality products built with the finest craftsmanship and of the finest materials, and as such require proper handling and protection, both at the warehouse and at the job site.

1. **Do not store or install doors in damp building.**
2. **Do not store doors on end or on edge in any place.**
3. **Store doors flat on level supports, preferably pallets in dry storage.**
4. **The last door on top of pile should be covered.**
5. **Do not hang Atlas Plywood Doors with only one side painted or varnished.**
6. **Stiles and rails must be completely sealed by paint or varnish on all edges after fitting.**

Where the above instructions are followed, Atlas Plywood Corporation guarantees all doors to be free from defects due to workmanship or material for a period of one year from date of purchase and will replace any door found defective as to quality of workmanship or material.

Manufacturing Plants

Anderson, Cal.
Crescent City, Cal.
Los Angeles, Cal.
Laurel, Del.
Houlton, Me.
Greenville, Me
Patten, Me.
Cadillac, Mich.
Gladstone, Mich.
Munising, Mich.
Goldsboro, N. C.
Plymouth, N. C.
Klamath Falls, Ore. (2)
Portland, Ore.
Williamsport, Pa.
Center, Texas
Newport, Vt.

Sales Offices and Warehouses

Boston, Mass.
Los Angeles, Cal. (2)
Oakland, Cal.
Sacramento, Cal.
Trenton, N. J.
San Diego, Cal.
San Francisco, Cal.
Denver, Colo.
Chicago, Ill.
Evansville, Ind.
Detroit, Mich.
Gladstone, Mich.
Grand Rapids, Mich.
New York, N. Y.
Goldsboro, N. C.
Cleveland, Ohio
Dayton, Ohio
Oklahoma City, Okla.
Tulsa, Okla.
Pittsburgh, Pa.
Baltimore, Md.
Houston, Tex.
San Antonio, Tex.
Salt Lake City, Utah
Tacoma, Wash.

Ptg. #10 Printed in U.S.A.

FIFTY YEARS IN HARDWOOD PLYWOOD

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GENERAL PLYWOOD CORPORATION

GENERAL Gibraltar®

Hollow and Solid Core Flush Doors

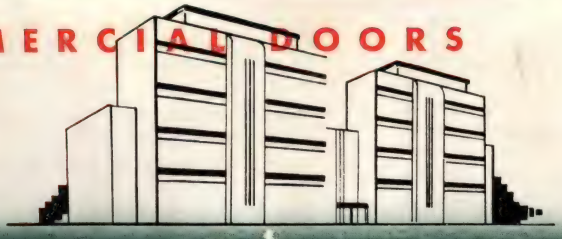
RESIDENTIAL DOORS



INSTITUTIONAL DOORS



COMMERCIAL DOORS





GENERAL DOOR [illegible] PLATE PRESSED

GENERAL Gibraltar *Solid Core Flush Doors*

HEAVY DUTY INSTITUTIONAL, COMMERCIAL AND RESIDENTIAL SERVICE



Designed for installation in schools, hospitals, hotels and institutions where maximum strength and durability is required the General Gibraltar Solid Core door offers resistance to fire, sound and extreme abuse. Generals modern 3 ply balanced face panel construction assures utmost rigidity and stability, and virtually eliminates the checking that often occurs in panels constructed of 1/8" or 1/4" face veneers. Available in Gum, Birch, African Mahogany, Plain Sliced or Rotary Cut Red Oak, Plain Sliced or Rift Sawn White Oak and Walnut, interior or exterior bond.

MATCHING EDGE BANDS

Three-quarter inch matching hardwood edge bands on both vertical edges provide *ample trim area.*

EDGE-GLUED CORE BLOCKS

Three dimensional stability is obtained through the use of core blocks of varying length, edge-glued to each other in a staggered pattern, and to the frame, under extreme heat and pressure.

SEVEN-PLY CONSTRUCTION

Absolute flatness of surface is insured through the use of heavy 3-ply panels bonded to rigid edge-grain blocks that have been selected for uniformity, and dried evenly.

GREATER BEAUTY

The smooth, hard, cabinet-maker's finish is produced by an extra sanding operation on huge belt sanders. *Faster and finer finishing on the job.*

SPECIFICATIONS

All solid core doors shall be flush type, veneered doors, of 3-ply faces, bonded under heat and pressure by the hot-plate press method, as manufactured by the General Plywood Corporation. The two faces shall be bonded to the core which shall consist of rigid edge-grain blocks of Ponderosa Pine or other Conifers, of varying lengths, glued to each other in a staggered pattern to provide true dimensional stability. No core shall contain more than one specie of wood.

Doors shall be railed top and bottom with softwood 2¾" wide and edge-glued to core. Vertical edges to be banded with ¾" hardwood edge strips to match face veneer, edge-glued to core.

Exterior Doors to be bonded with Type 1 boil test water-proof adhesives.

Interior doors to be bonded with Type 2 water-resistant adhesives.

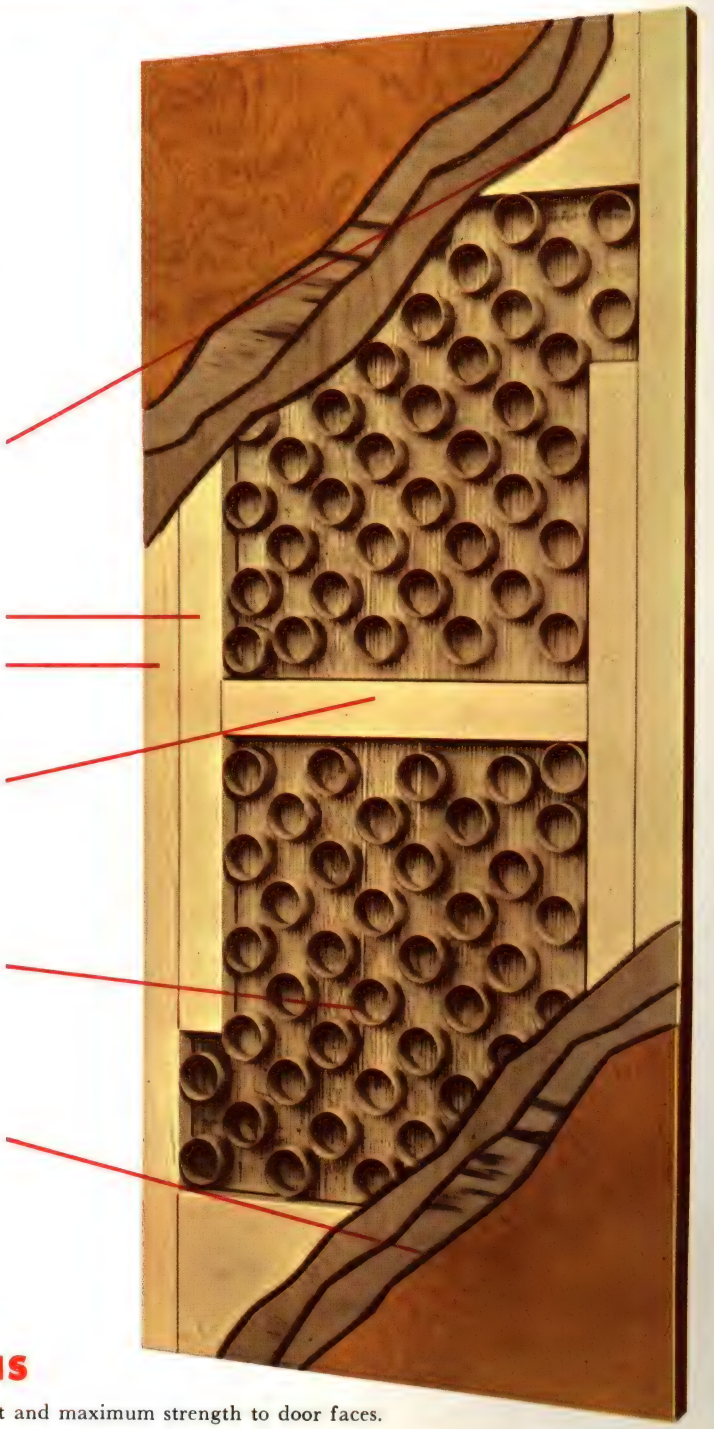
Doors shall be guaranteed in accordance with General Plywood Corporation's standard form of guarantee.

GENERAL Gibraltar

INSTITUTIONAL *Hollow Core Flush Doors*

WITH AMPLE EXTRA BLOCKING FOR INSTITUTIONAL HARDWARE

Designed to combine the economy of hollow core construction with extra heavy stiles, rails and center rail, the General Gibraltar Institutional door provides lightness, strength, durability and service at low cost. For Schools, Hospitals, Hotels and Institutions the extra heavy frame construction accommodates virtually all types of institutional hardware such as door closers, special locksets, panic bars, arm pulls, kick plates, etc. Available in Gum, Birch, African Mahogany, Plain Sliced or Rotary Cut Red Oak, Plain Sliced or Rift Sawn White Oak and Walnut, interior or exterior bond.



10-INCH RAILS TOP AND BOTTOM

Ample anchoring space for heavy door closers, kick plates and other top and bottom hardware. *Added stability* plus *reversibility—eliminates* chances of *hanging error.*

TWO 40-INCH LOCK BLOCKS

Three-inch-wide lock blocks, combined with three-inch stiles, provide six inches of width over forty inches of length on both sides of door frame —ample lock-block area, and no chance of hanging error.

EXTRA CENTER CROSS RAIL

Centered, three-inch cross rail on 6′ 8″ door and six-inch rail on 7′ door allow for *easy installation* of panic bars and other *special hardware.*

COLUMN-CORE CONSTRUCTION

Cylindrical fibre columns—strongest lightweight structural form known—are used to insure *combined lightness and strength.*

3-PLY BALANCED PANELS

Center ply thickness is balanced with the combined thickness of two outer plies, assuring *utmost rigidity* and *resistance to warping.*

HOT PLATE PRESSED

Hot plate pressing under extreme pressures drive glues deep into panels, cores and frame, gives absolute assurance of a *permanent bond.*

SPECIFICATIONS

Doors shall be flush type, hollow core, veneered wood doors as manufactured by General Plywood Corporation. Construction of the doors shall be as follows:

Rails for top and bottom shall be 10″ wide.

Stiles for each side shall be 3″ wide.

Lock-blocks shall be 3″ wide by 40″ long centered in each side of door.

Center rail shall be 3″ wide, centered in 6′ 8″ door and 6″ wide centered in 7′ door.

Cores shall consist of rigid fibre hollow cylindrical columns 3″ in diameter, spaced to give uniform support and maximum strength to door faces.

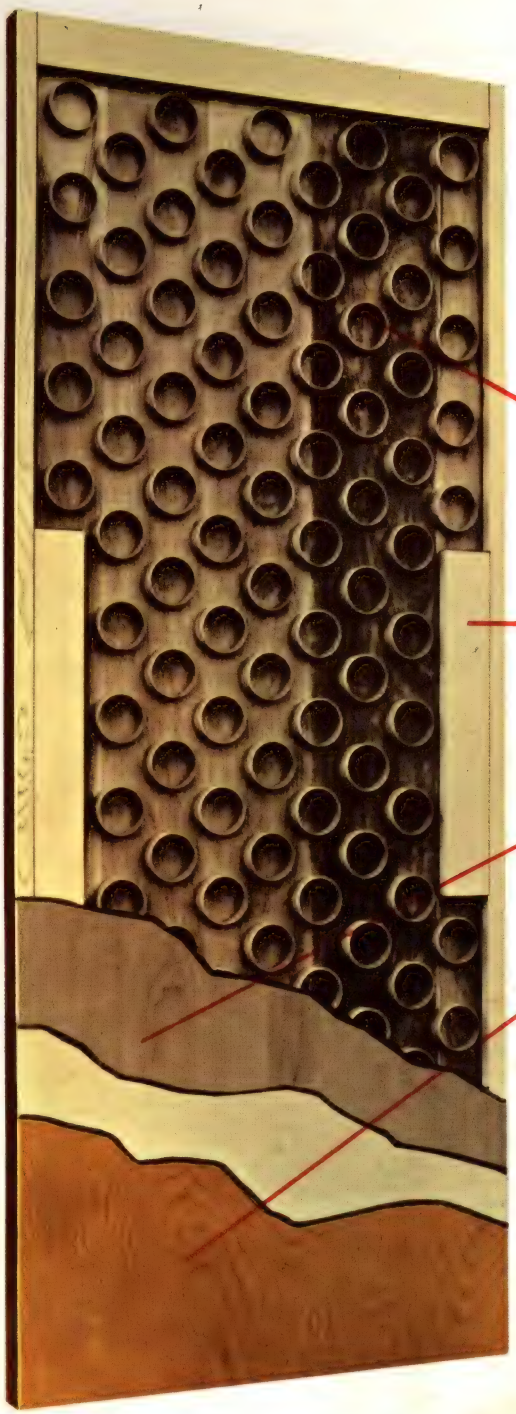
Glue shall comply with U. S. Commercial Standard C S 35-49 type I waterproof boil test bond or type II water resistant bond.

Plywood faces shall be built up of 3 plies of veneer with the center ply crossbanded at 90° to outside plies, bonded together by hot plate press method. Plywood faces shall be belt sanded to produce a smooth surface.

Doors shall be guaranteed in accordance with General Plywood Corporation standard form of guarantee.

GENERAL Gibraltar

STANDARD *Hollow Core Flush Doors*



LIGHTEST OF ALL HOLLOW CORE DOORS

Literally millions of these doors are now installed and giving complete satisfaction in fine homes and cottages, in multiple dwelling units and institutions—wherever extreme lightness, beauty and practical economy are desired.

With Generals famous 7-ply stress-skin construction and the positive, warp-free inert fibre ring core, no other door can offer easier hanging, greater rigidity, smarter appearance and longer life.

COLUMN CORE CONSTRUCTION

Cylindrical fibre columns—strongest lightweight structural form known—are used to insure combined *lightness and strength.*

TWO LOCK BLOCKS

Wide lock blocks on both sides provide *ample space for lockset*—eliminates possibility of *hanging error.*

3-PLY BALANCED PANELS

Center ply thickness is balanced with the combined thickness of two outer plies, assuring *utmost rigidity and resistance to warping.*

GREATER BEAUTY

The smooth, hard, cabinet-maker's finish is produced by an extra sanding operation on huge belt sanders. *Faster and finer finishing on the job.*

SPECIFICATIONS

All hollow core doors shall be flush type, veneered doors, of 3-ply faces, bonded under heat and pressure by the hot-plate press method, as manufactured by the General Plywood Corporation. The two faces shall be bonded to cylindrical fibre cores 3" in diameter and spaced to provide core to face bonding within 1½" spacing. Each door shall have two lock blocks.

Exterior Doors to be bonded throughout with Type 1 boil-test water-proof adhesives.

Interior Doors to be bonded with Type 2 water-resistant adhesives.

Doors shall be guaranteed in accordance with General Plywood Corporation's standard form of guarantee.

GENERAL PLYWOOD CORPORATION LOUISVILLE 12, KENTUCKY

LITHO IN U.S.A.

Telephones ARlington 2441 • LD 314 • LD 315 • Teletype LS 588

MENGEL
Flush DOORS

THE MENGEL COMPANY
LOUISVILLE 1, KENTUCKY



Mengel Stabilized Solid-Core Doors
Exterior *and* Interior

Mengel Hollow-Core *Deluxe* Doors
Interior or Exterior

Mengel Hollow-Core Doors
Interior or Exterior

AIA File No. 19-E-1

A Nationally-Known Line of
BETTER Doors For *Every* Door
Opening — Palace or Project

EXCLUSIVE DOVE-TAIL WEDGE-LOCK JOINTS AT ALL FOUR CORNERS—FINEST CABINET-MAKER'S CONSTRUCTION

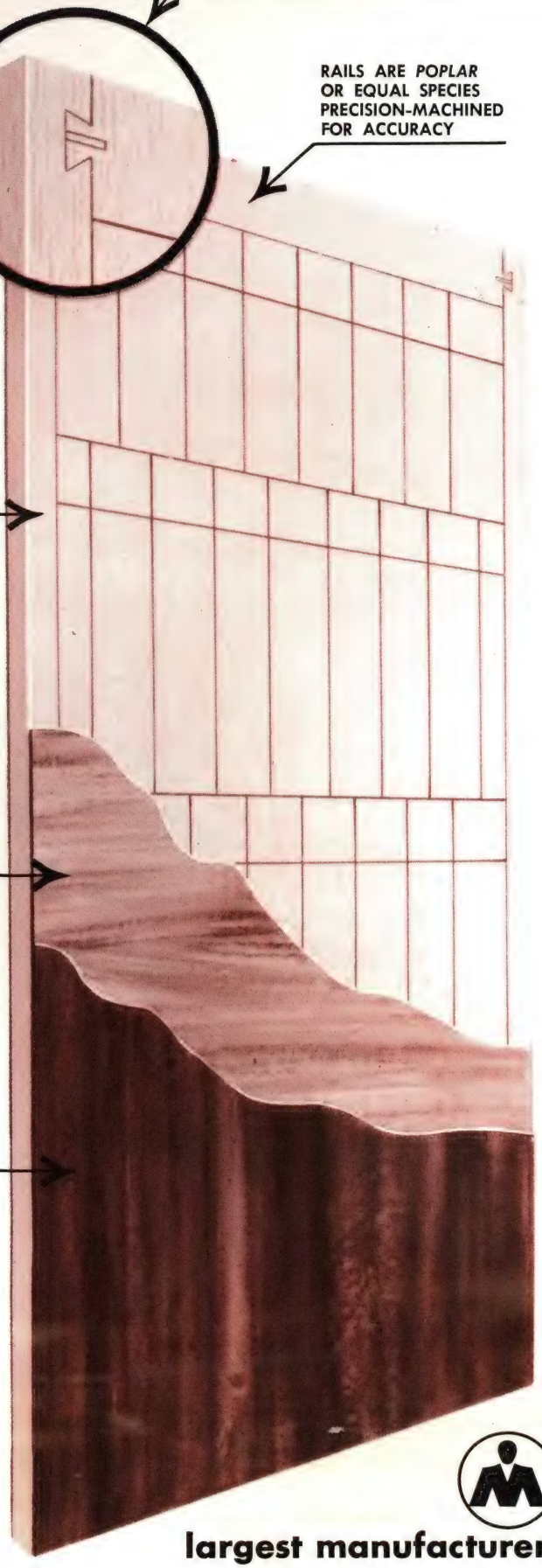
RAILS ARE *POPLAR* OR EQUAL SPECIES PRECISION-MACHINED FOR ACCURACY

STILES ARE *POPLAR* OR EQUAL SPECIES PRECISION-PLANED TO PERFECT SMOOTHNESS

CROSS-BANDING IS MADE OF CAREFULLY SELECTED HARDWOOD VENEERS, CHOSEN FOR COMPATABILITY WITH FACE VENEER SPECIES

FACES ARE SMOOTHLY BELT-SANDED, READY FOR FINISHING

ALL MENGEL DOORS ARE PREFIT TO EXACT BOOK SIZES



MENGEL

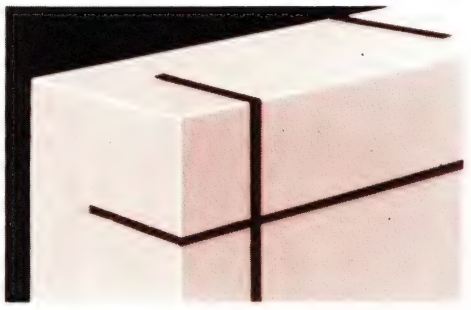


FIGURE 1

SLOTS ABSORB EXPANSION

Wood expands with heat and humidity, but reasonable expansion is absorbed by deep slots cut both with and across the grain. Dry atmosphere shrinks the solid wood between the slots, increasing the width of the slots, without changing the dimensions of the door itself.

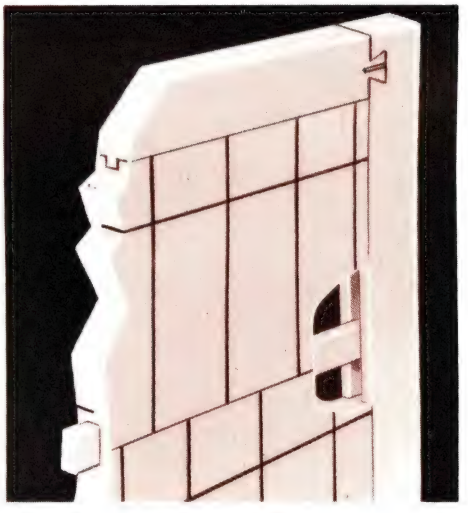


FIGURE 2

TONGUES-AND-GROOVES HOLD CORE INTO FRAME

The entire core assembly is tongued-and-grooved into the frames, with enough tolerance to absorb stresses which might otherwise be transmitted to the frame.

MENGEL — world's largest manufacturer of hardwood products . . .

growers and processors of timber, manufacturers of fine veneers, plywood, kitchen cabinets, wall closets, furniture (and corrugated containers). Generations of know-how in the selection and preparation of imported and domestic hardwood veneers and lumber assure you of high-quality *materials* in your Mengel Flush Doors. Time-tested, exclusive *design,* rigid quality-control, critical inspection, and continuous testing assures you finest workmanship, and trouble-free performance.

Stabilized SOLID-CORE FLUSH DOORS*..

... for supreme stability and endurance

Mengel Stabilized Solid-Core Flush Doors* are engineered and manufactured to the highest standards of quality. They are recommended for exterior and interior installations wherever solid-core construction is desired.

The lumber used in the core is scientifically processed by horizontal and vertical stabilizing slots to control warpage or movement. These slots absorb expansion and contraction of core members and provide dimensional stability. (See Figure 1.)

Intermediate crossrails are used, tongued-and-grooved into both the upright core blocks and the door frame, to secure the core members while absorbing stresses. (See Figure 2.)

Mengel Stabilized Solid-Core Doors are designed to give satisfactory service even under severe conditions of climate, temperature and usage. Constant tests are conducted to insure stability, resistance to temperature variations and humidity changes, and to assure uniform high quality. The entire assembly is fabricated with waterproof, positive hot-plate press bonding.

Faces include a variety of domestic and imported hardwoods, including Sliced African Mahogany, Gum, Birch, Oak and Gold Coast Cherry.

STOCK DOORS

Mengel Solid-Core Flush Doors are manufactured in standard stock sizes up to 4/0 x 8/0—with or without standard light openings, or louvers. Special openings, etc., will be quoted on request.

Matching stile edges will be supplied when so ordered.

SIZES AND WEIGHTS...See Back Cover

*Patent Applied For

SPECIFICATIONS

(Meet or exceed the requirements of the U. S. Department of Commerce)

THICKNESS —1⅜" and 1¾".

STILES —2" wide, one-piece Yellow Poplar or equal species. Thickness, 1½" for 1¾" doors, 1⅛" for 1⅜" doors.

RAILS —Both top and bottom, 3⅝" wide Poplar or equal species. Thickness, 1½" for 1¾" doors, 1⅛" for 1⅜" doors.

CORES —Poplar or equal species stabilized by slotting both with and across the grain at regular intervals. (See Figure 1.)

FACES —Face veneers assembled with the grain running vertically, at right angles to the grain of the cross-banding.

ADHESIVE —Waterproof glues are used, hot-plate press bonded.

SANDING —Both faces of all Mengel Doors are smoothly belt-sanded, providing perfect surfaces for natural, stained or painted finishes.

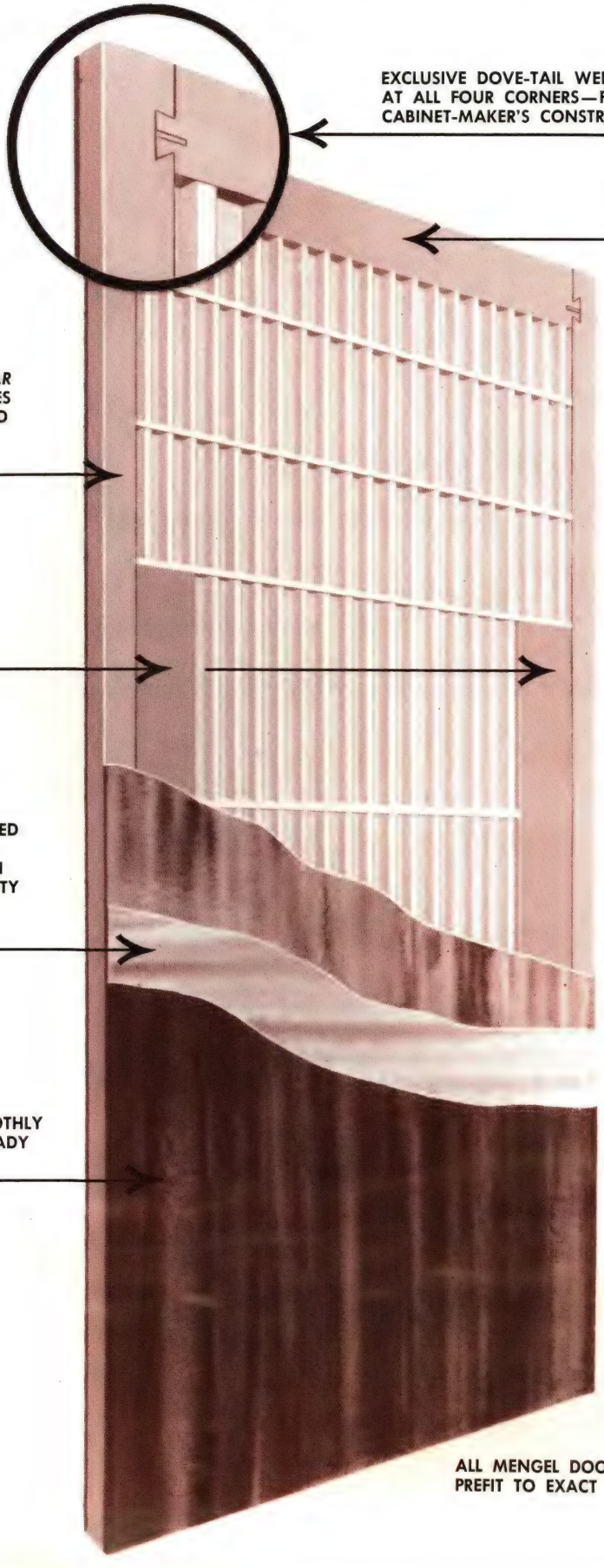
PREFIT —All Mengel Doors are factory prefit to standard book sizes. Stiles are precision-planed for smoothness—no additional planing is necessary.

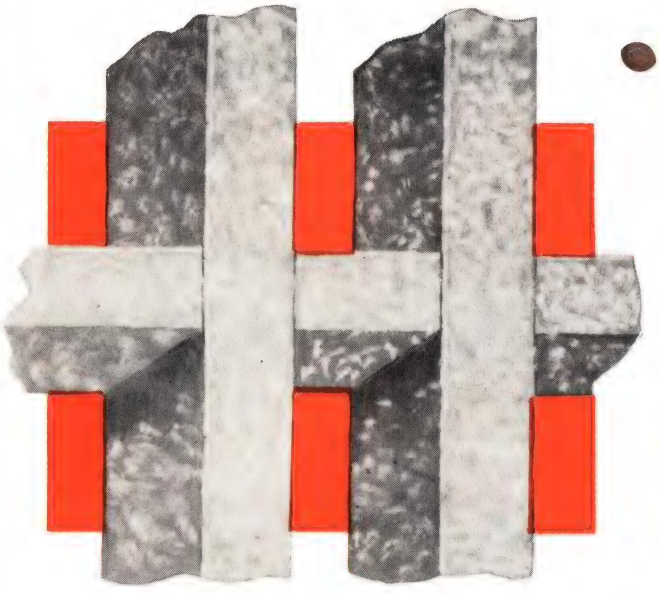
LIGHT OPENINGS —Light and louver openings may be used in the same door.

PAPER-WRAPPED —Each door individually paper-wrapped in dust-tight package when so ordered.

GUARANTEE —All Mengel Stabilized Solid-Core Doors are *Fully Guaranteed* to equal or exceed the requirements of the National Woodwork Manufacturers Association Warranty. See bottom of page 6.

MENGEL HOLLOW—CORE





The exclusive Mengel Close-Grid Core consists of strips of special insulating fibre board 3/8″ thick, with vertical strips spaced only 1″ apart. This greater area provides exceptional gluing surface, which partially accounts for the unusual strength of Mengel Hollow-Core *Deluxe* Doors. Core material has essential resiliency, cannot cause warping, nor transfer grid pattern to faces.

ALL MENGEL DOORS ARE PREFIT TO EXACT BOOK SIZES

Deluxe FLUSH DOORS . . .

the finest Grid-core doors that can be built

Mengel Hollow-Core *Deluxe* Flush Doors are made optionally for interior or exterior use. They embody balanced 7-ply construction to provide controlled reaction to changing weather conditions. They have been proved by many years of manufacture and use, as well as by exhaustive endurance and stability tests.

They are light, durable and immune to sagging, warping or buckling under normal conditions. They are designed, engineered and constructed to the highest standards of construction—quality-controlled, throughout manufacture.

DESIGN AND CONSTRUCTION

The design and construction of Mengel Hollow-Core *Deluxe* Flush Doors are the result of extensive field experience. Continual laboratory research and skilled craftsmanship have made Mengel one of the greatest names in the door industry.

1. **Exclusive Close-Grid Core*** . . . gives much greater area of contact with faces, and allows stronger bond between core and faces.
2. **Hardwood Stiles and Rails*** . . . provide maximum screw-holding power and facilitate color-matching with the faces, in finishing.
3. **Wedge-locked Dovetails*** . . . finest cabinet construction —keeps stiles and rails permanently tight.
4. **Extra Guard against Warpage*** . . . provided by special mill-curing process.
5. **Broad Selection of Hardwood Faces** . . . Sliced African Mahogany, Gum, Birch, Oak and Gold Coast Cherry—individually belt-sanded to satin smoothness . . . permits wide range of finishes . . . reduces finishing costs.
6. **Engineered Construction** . . . assures maximum dimensional stability. There are no better hollow-core doors on the market.

**Mengel exclusive*

STOCK DOORS

Mengel Hollow-Core *Deluxe* Flush Doors are manufactured in standard stock sizes up to 4/0 x 8/0—with or without standard light openings, or louvers. Faces include Sliced African Mahogany, Gum, Birch, Oak and Gold Coast Cherry. Special openings, etc., will be quoted on request.

Matching stile edges will be supplied when so ordered.

SIZES AND WEIGHTS...See Back Cover

SPECIFICATIONS

(Meet or exceed the requirements of the U. S. Department of Commerce)

THICKNESS—1⅜" and 1¾".

STILES—1⅛" wide, Yellow Poplar or equal species. Thickness, 1⅛" for 1⅜" doors, 1½" for 1¾" doors.

RAILS—Both top and bottom, 2¾" wide Yellow Poplar or equal species for 1⅜" doors, and 3½" wide for 1¾" doors. Thickness same as for stiles.

LOCK BLOCKS—for 1⅜" and 1¾" thickness doors—3⅛" wide by 21" long, centered. Inside edge of Lock Block shall not be less than 4¼" from outer edge of door.

CORES—Constructed of ⅜" thick rigid Insulok insulating fibre board—interlocking assembly arranged like pattern in illustration.

FACES—Face veneers assembled with the grain running vertically at right angles to the grain of the cross-banding. Rotary-cut or sliced—selected and unselected for color. Plain or figured—in domestic or foreign woods.

ADHESIVE—(Interior) Moisture-resistant glues hot-plate press bonded. (Exterior) Waterproof glues hot-plate press bonded.

SANDING—Both faces of all Mengel Doors smoothly belt-sanded before leaving the factory, providing perfect surfaces for natural, stained or painted finishes.

PREFIT—All Mengel Doors prefit to standard stock sizes. Stiles are precision-planed for smoothness—no additional planing is necessary.

LIGHT OR LOUVER OPENINGS—If light or louver openings are desired on hollow-core doors, special blocking is required and orders must provide specifications. Openings may be provided no closer than within 5 inches of the bottom, top, or sides. If doors are to be cut down in height, equal margins should be sawn from top and bottom, but not to exceed one inch at either end.

PAPER-WRAPPED—Each door individually paper-wrapped in dust-tight package when so ordered.

GUARANTEE—Mengel Deluxe Flush Doors are *Fully Guaranteed* to equal or exceed the requirements of the National Woodwork Manufacturers Association Warranty. See bottom of page 6.

MENGEL



Guarantee

All Mengel Flush Doors (Deluxe Hollow-Core, Hollow-Core, and Stabilized Solid-Core) are guaranteed in accordance with the provisions of the Standard Warranty of the National Woodwork Manufacturers Association. Within the limits of this warranty, doors found to be defective in either materials or workmanship will be replaced free of charge not including installation or finishing.
As with all high-quality wood doors, it is important that the following precautions be observed:

(1) Never store (or install) doors in damp or newly-plastered building.
(2) Never store doors on end or on edge—anywhere.
(3) Do store doors on level supports, preferably pallets in a dry location.
(4) Do cover the last door on the top of each pile.
(5) Do seal (paint or varnish) all faces, stiles, and rails, before hanging.
(6) Never impair the structural strength of the door by excessive trimming, or by improper cutting for lights, louvers, etc.

HOLLOW—CORE FLUSH DOORS...

Mengel's volume-production door gives you high quality at lowest possible prices

Mengel Hollow-Core Flush Doors (formerly designated as "Standardors") are low-priced, high-quality, hollow-core flush doors built optionally for interior and exterior use. They are offered to meet the need for hollow-core flush doors in those installations which do not demand the many special features embodied in Mengel Hollow-Core *Deluxe* Flush Doors. Their extremely economical price has been achieved by using a slightly different grid pattern and by eliminating the exclusive and costly Mengel wedge-locks at the corners, as used in Mengel Hollow-Core *Deluxe* Doors, and by volume production.

As shown in the cutaway illustration at the left, the Mengel Hollow-Core Flush Door is a 7-ply door, constructed of hardwood or equal species, utilizing the same fibre-board core material as is used in Mengel Hollow-Core *Deluxe* Doors, but in a ladder construction rather than grid. The core strips are the same thickness as in the Mengel Hollow-Core *Deluxe* Door (3/8"), which provides unusually wide glue-joint area of contact with the faces, resulting in an extremely strong bond between the core and the faces. This helps keep Mengel Hollow-Core Flush Doors flat and stable.

Mengel Hollow-Core Doors are guaranteed precisely the same as Mengel *Deluxe* Hollow-Core Doors.

Mengel Flush Doors are manufactured in standard stock sizes, with faces of Sliced African Mahogany, Gum, Birch and Gold Coast Cherry.

SIZES AND WEIGHTS...See Back Cover

SPECIFICATIONS

(Meet or exceed the requirements of the U. S. Department of Commerce)

THICKNESS—1 3/8" and 1 3/4".

STILES—1 1/8" wide, Yellow Poplar or equal species. Thickness, 1 1/8" for 1 3/8" doors, 1 1/2" for 1 3/4" doors.

RAILS—Both top and bottom, 2 3/4" wide Yellow Poplar or equal species. Thickness same as for stiles.

TWO LOCK BLOCKS—3 1/8" wide by 21" long, centered. Inside edge of Lock Block shall not be less than 4 1/4" from outer edge of door.

CORES—Constructed of 3/8" thick rigid insulating fibre board, horizontally spaced 2 1/2" on centers, and supported by vertical section at each end.

FACES—Face veneers assembled with the grain running the long way at right angles to the grain of the cross-banding. Rotary-cut and sliced. Unselected for color.

ADHESIVE—Moisture-resistant glues, hot-plate press bonded.

SANDING—Both faces of all Mengel Doors smoothly belt-sanded before leaving the factory, providing perfect surfaces for natural, stained or painted finishes.

PREFIT—All Mengel Flush Doors prefit to standard stock sizes. Stiles are precision-planed for smoothness—no additional planing is necessary.

GUARANTEE—Mengel Flush Doors are *Fully Guaranteed* to equal or exceed the requirements of the National Woodwork Manufacturers Association Warranty. See bottom of page 6.

WEIGHT SCHEDULE

DOOR SIZE	MENGEL SOLID CORE Lbs. per door 1 3/8" Thick	1 3/4" Thick	DELUXE MENGEL HOLLOW-CORE Lbs. per door 1 3/8" Thick	1 3/4" Thick	MENGEL HOLLOW-CORE Lbs. per door 1 3/8" Thick	1 3/4" Thick
1/6 x6/0	32	42	18	22	15	20
1/6 x6/6	34	44	19	23	18	23
1/6 x6/8	35	45	20	25	19	24
1/6 x7/0	37	47	24	30	22	28
1/8 x6/0	35	45	19	23	16	22
1/8 x6/6	38	48	20	24	20	26
1/8 x6/8	39	49	22	28	22	28
1/8 x7/0	42	52	26	32	24	30
1/10x6/0	38	48	20	24	20	26
1/10x6/6	42	53	23	28	22	28
1/10x6/8	43	54	24	30	25	31
1/10x7/0	45	57	28	35	28	35
2/0 x6/0	42	53	21	25	22	29
2/0 x6/6	46	58	25	31	25	31
2/0 x6/8	47	59	28	34	26	32
2/0 x6/10	48	61	29	36	28	35
2/0 x7/0	49	62	30	37	29	36
2/2 x6/0	46	58	23	27	23	30
2/2 x6/6	49	63	27	34	27	34
2/2 x6/8	51	64	29	36	28	36
2/2 x6/10	52	66	31	38	30	38
2/2 x7/0	53	68	32	40	31	38
2/4 x6/0	49	62	25	29	24	31
2/4 x6/4	51	65	27	35	26	33
2/4 x6/6	53	68	29	36	27	34
2/4 x6/8	55	69	31	39	28	36
2/4 x6/10	56	71	32	40	30	36
2/4 x7/0	57	72	34	42	31	38
2/6 x6/0	53	68	26	31	25	32
2/6 x6/6	57	72	31	39	27	35
2/6 x6/8	59	74	33	41	30	35
2/6 x6/10	60	76	34	43	32	37
2/6 x7/0	61	78	36	45	33	39
2/6 x7/6	65	82	41	51		
2/6 x8/0	69	86	46	59		
2/8 x6/0	56	71	27	33	27	33
2/8 x6/6	61	77	33	41	30	36
2/8 x6/8	62	79	35	43	32	37
2/8 x6/10	64	81	37	45	35	39
2/8 x7/0	66	83	38	47	36	41
2/8 x7/6	71	89	43	53		
2/8 x8/0	76	95	49	61		
2/10x6/0	60	76	28	35	30	35
2/10x6/6	64	82	35	44	34	39
2/10x6/8	66	84	36	45	35	39
2/10x6/10	68	86	38	47	37	42
2/10x7/0	69	88	40	50	38	43
2/10x7/6	74	94	45	56		
2/10x8/0	79	100	52	65		
3/0 x6/0	63	80	29	37	32	37
3/0 x6/6	68	87	37	46	35	40
3/0 x6/8	70	89	38	48	35	41
3/0 x6/10	72	91	40	50	38	44
3/0 x7/0	74	93	42	52	39	44
3/0 x7/6	79	100	47	60		
3/0 x8/0	84	107	53	69		
3/4 x6/0	70	89	33	41	35	41
3/4 x6/6	76	96	41	48	39	45
3/4 x6/8	78	99	42	50	40	46
3/4 x6/10	80	101	44	52	41	47
3/4 x7/0	82	104	46	54	43	49
3/4 x7/6	87	111	50	63		
3/4 x8/0	93	119	55	67		
3/6 x6/8	82	104	44	55		
3/6 x7/0	86	109	47	56		
3/6 x7/6	92	117	51	62		
3/6 x8/0	98	124	57	68		
3/8 x7/0	90	113	49	58		
4/0 x6/8	93	119	50	60		
4/0 x7/0	98	124	51	62		
4/0 x7/6	106	134	57	68		
4/0 x8/0	115	141	63	74		

A.I.A. File No. 19-E-1

MENGEL



wall closets

closet fronts

sliding doors

A.I.A. File No. 19-E-1

All new, supremely beautiful . . .
Mengel's exclusive, imported

African Cedar

—"Queen of the African Woods"

NOW PROVED BY THOUSANDS
OF ARCHITECTS AND BUILDERS . . .
Mengel "Space Saver"
WALL CLOSETS



HELP SELL HOMES
OF EVERY PRICE BRACKET

Modern home designers know that Mengel sliding door closet units save space, make rooms larger because they require no swinging door space, and provide *complete* utilization of closet space.

These modern wall storage closets *substitute* for walls between rooms and closets.

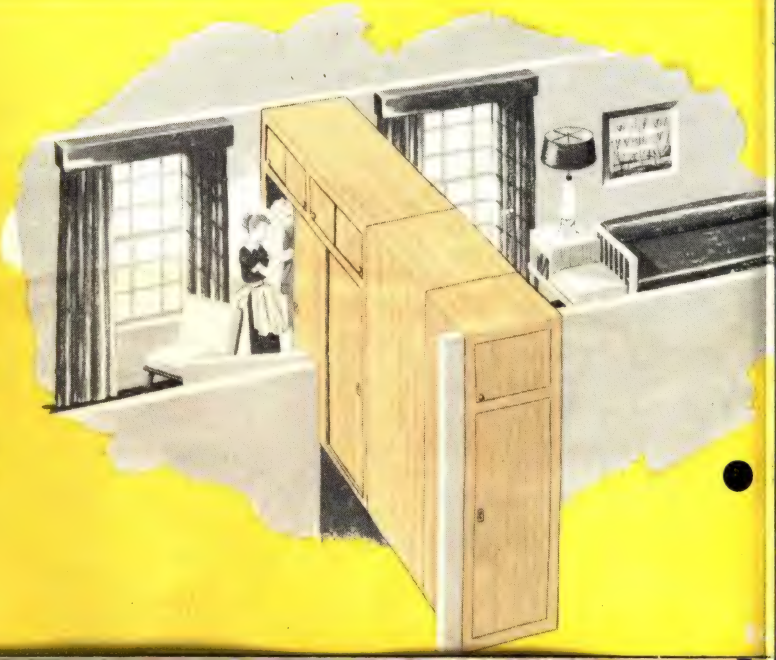
With the beautiful new, exclusive African Cedar (shown at left) Mengel brings you a choice of *three* distinctive modern finishes to help sell your homes quicker. No wood finish is so distinctively smart and appealing as this great new "Queen of the African Woods." It makes flush doors that harmonize ideally with any decorative scheme — in any type home.

Housewives practically *demand* these streamlined, practical, space-saving accents which prove conclusively that their home is modern.

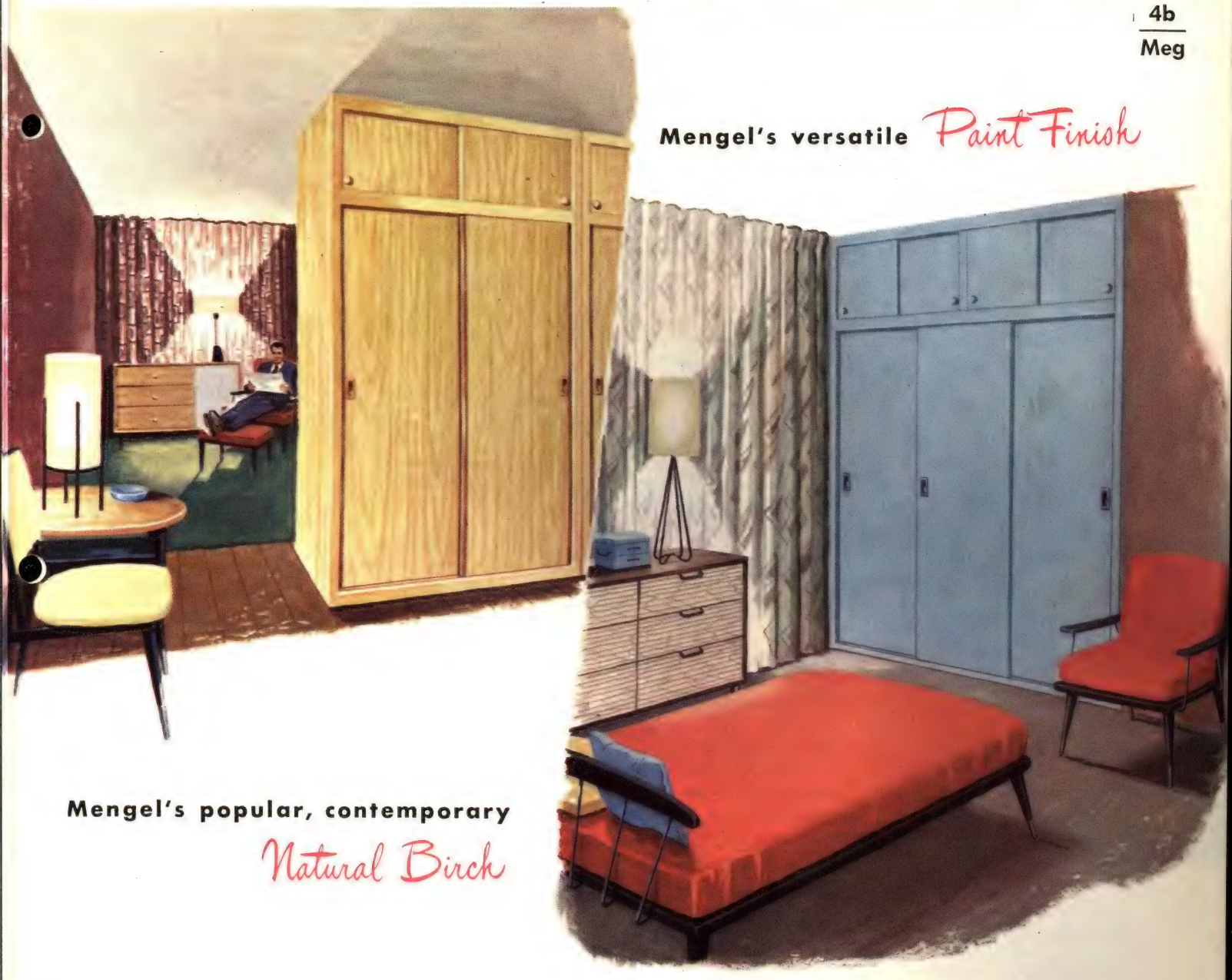
Architects and builders know from experience that all of the advantages of these Mengel Wall Storage Closets are available without increased cost over the conventional, old style construction.

Mengel "Space Saver" Wall Closets
provide 25%-40% MORE
USABLE STORAGE SPACE AT Less Cost

Shelves, clothes rods, and drawers are *adjustable* for the needs of different owners. Every inch is used, and there is easy accessibility to all closet space. *Rooms appear larger* because doors don't swing out, providing more living space. And because of Mengel's tremendous raw material and production facilities, you can offer smart "Space-Saver" sliding door beauty and increased storage space as a major feature of homes in the $10,000 class as well as in the $75,000 class. This means *more salability* in your homes.



Contents Copyrighted 1954, The Mengel Company



Mengel's versatile *Paint Finish*

Mengel's popular, contemporary

Natural Birch

FOR *Architects*



Contemporary design requires modern features. Architects are specifying Mengel Wall Closet Units to add functional beauty and livability to their homes of every price class.

FOR *Small Builders*



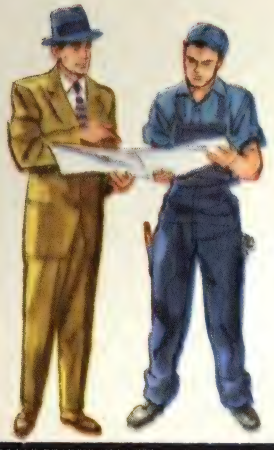
Many Mengel features appeal to small builders who may be limited in skilled man-power and time on the job. These prefabricated units offer enormous economies on the job-site, and they come in such a wide variety of sizes that there's a model for every need.

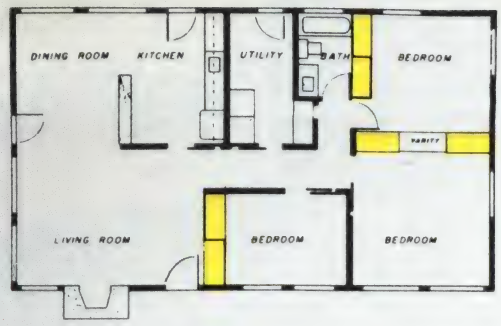
FOR *Large Builders*



Mengel Wall Closet Units are being used more and more by builders of 100 homes and more a year — and in big projects where time, cost, and space must be figured with precision accuracy. For one home — or a 500-unit project — Mengel gets the nod over other types of storage-space units.

Flexible!

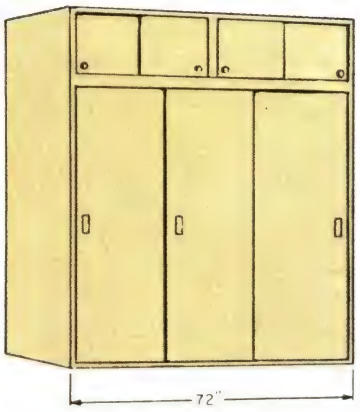




Typical floor plan

In this home designed and built by Burton W. Duenke Company, Chesterfield, Missouri, six Mengel Wall Closets are used: two forming a wall between bedroom and bathroom, two in the master bedroom providing storage space for both husband and wife (with vanity between the units). Two others separate bedroom from living room, providing smart sliding door storage space in both rooms.

Used alone or in multiple, these Mengel units frequently replace an entire inside non-load-bearing wall.



Model 72 (6-ft. width)

Sliding lower and upper doors. Model 72-HP has 2 half-depth vertical partitions, 6 adjustable half-depth shelves. Model 72-FP has 2 full-depth vertical partitions, 3 half-depth and 3 full-depth adjustable shelves. Model 72-NP has no partition, 1 fixed shelf, and wooden clothes rod.

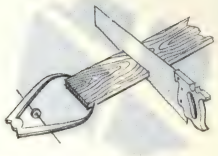
MENGEL

"Space Saver"

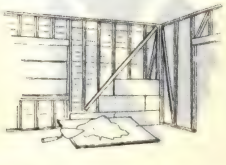
WALL CLOSETS

Save in many ways

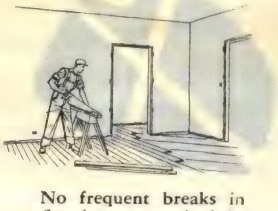
Uncomplicated installation reduces on-the-job costs. By saving on installation time, builders reduce labor costs. Expensive wood studding and plaster, swinging door hardware, etc., is eliminated. Homes can be completed faster, with a resultant quicker turnover. And the Mengel pre-fabricated construction *provides a better job.*



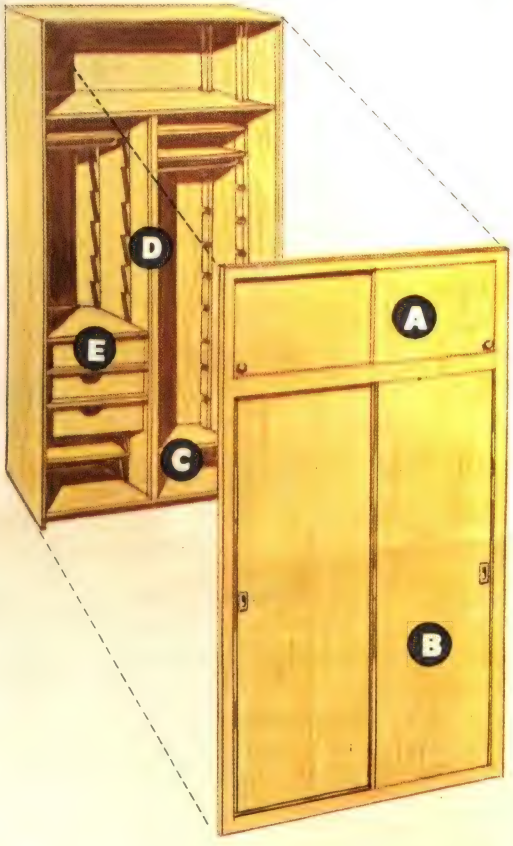
No expensive cutting and fitting.



No wood studding, no plastering, no lathing.



No frequent breaks in flooring as required by old-fashioned closet and wall construction. Floors are laid continuously throughout.



FEATURES

A Sliding upper flush doors

¾" hollow core construction in either unselected Gum (for finishing on the job), handsome natural Birch, or new gorgeous African Cedar. Knob-type door pulls. Doors slide easily in grooved upper frame, guided by pins in bottom groove.

B Sliding lower doors

Sturdy frame construction, single-faced, with handsome metal reinforcing channels on vertical edges of each door. (Also available with double faces at slightly higher cost. All Model 26 doors are double-faced.) Three finishes as explained above. Doors suspended on Mengel's exclusive new adjustable hangers from overhead metal track. Flush finger-tip door pulls. Bottom guide-pins keep doors in proper sliding position.

C Adjustable shelves in FP and HP Models

Adjustable to 6" intervals. Clothes rods, like shelves, are adjustable to the needs of different members of the family. Extra shelves can be purchased at nominal cost for additional shelf storage.

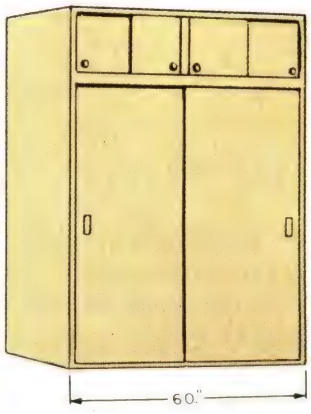
D Divider partition

All FP Models have full-depth partitions. All HP Models have half-depth partitions. (See drawings under "Typical Dimensions.")

E Sliding drawer and shelf combinations

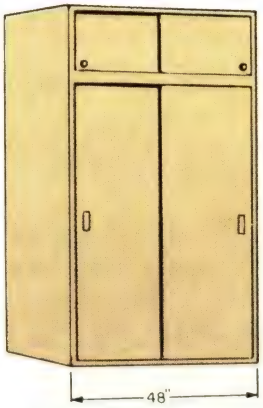
Optional at extra cost in all FP Models, these sliding drawers provide "chest-type" storage within the closet. Shelf and drawer combinations can be easily relocated anywhere within the same closet.

5 BASIC MODELS AVAILABLE



Model 60 (5-ft. width)

Sliding lower and upper doors. Model 60-HP has half-depth vertical partition, 5 adjustable half-depth shelves. Model 60-FP has full-depth vertical partition, 3 half-depth and 2 full-depth adjustable shelves. Model 60-NP has no partition, 1 fixed shelf, and clothes rod.



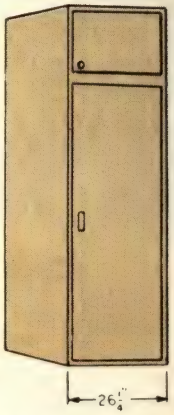
Model 48 (4-ft. width)

Sliding lower and upper doors. Model 48-HP has half-depth vertical partition, 5 adjustable half-depth shelves. Model 48-FP has full-depth vertical partition, 3 half-depth and 2 full-depth adjustable shelves. Model 48-NP has no partition, 1 fixed shelf, and clothes rod.



Model 36 (3-ft. width)

Sliding lower and upper doors. Model 36-HP has half-depth vertical partition, 5 adjustable half-depth shelves. Model 36-FP has full depth vertical partition, 3 half-depth and 2 full-depth adjustable shelves. Model 36-NP has no partition, 1 fixed shelf, and clothes rod.

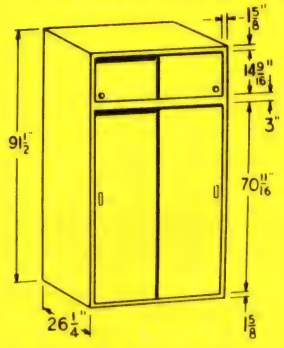


Model 26 (26¼" width)

Hinged doors, left or right. 3 half-depth and 2 full-depth adjustable shelves. Model 26-FB is supplied with back. Model 26-NB is supplied without back for use where this unit is placed against a wall or the end of another closet.

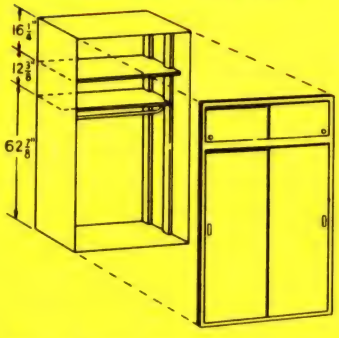
TYPICAL DIMENSIONS

EXTERIOR DIMENSIONS



Dimensions shown above are standard on all models.

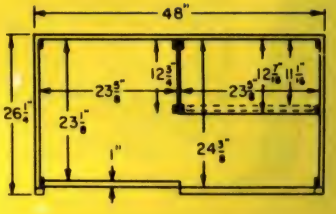
INTERIOR DIMENSIONS



Sketch shows interior arrangement and dimensions of the NP (no partition) Models.

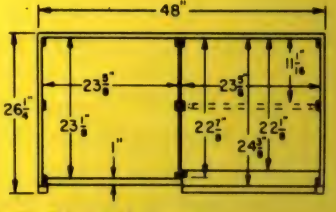
HP CLOSET

Horizontal cross-section shows interior dimensions of the HP (half-depth partition) Model.



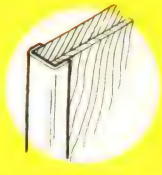
FP CLOSET

Horizontal cross-section shows interior dimensions of the FP (full-depth partition) Model.

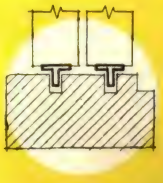


NOTE: Model 72-HP and 72-FP closets have 2 partitions forming 3 interior compartments whose dimensions are the same as those of the compartments in the similar Model 48 closets.

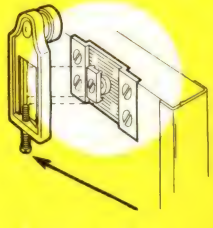
CONSTRUCTION FEATURES



Handsome steel channels on vertical edges of doors serve two purposes: providing de luxe finished appearance, and reinforcing doors by giving stability and protection.

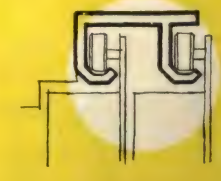


Steel guide pins are inserted at the bottom of the lower compartment doors. These pins do not support the weight of the door—they act as a sure guide to keep doors in line.



Adjusting Screw

Exclusive Mengel adjustable hanger for quiet, easy rolling. By simply raising or lowering a single adjusting screw on individual hangers, doors may be re-aligned at any time, and then can be locked into place permanently.



Overhead steel track has a rounded contour so that only the corners of the rollers are in contact with the track. This 18-gauge sheet steel track insures smoother running operation.

MENGEL "Space Saver" CLOSET FRONTS



They serve a definite need . . .

. . . have many *Applications*

Mengel Closet Fronts are the perfect low cost answer for beauty and utility in new or existing homes where complete wall closets are not used. Fronts are delivered with front frame completely assembled, ready to be moved directly into rough opening. Track is installed at factory, and front frame includes face trim. All necessary hardware included. Doors have all features described in the Mengel Wall Closet section.

Advantages of closet fronts

Having a factory assembled closet frame in addition to the sliding doors, Mengel Closet Fronts are easily assembled into the closet openings. They reduce on-the-job labor time, thus cutting costs. The workmanship results in a better job.

Shipped without finish in choice of woods

Mengel Closet Fronts may be painted or finished after installation. When Birch doors are ordered, hardwood frame can be finished to match the Birch finish wanted. Closet fronts available in Birch or African Cedar, or for paint finish.

Installation is fast

Assembled front as received slides into rough framed opening, then is fastened into place after proper alignment. One carpenter with helper can install the entire closet front in a matter of minutes.

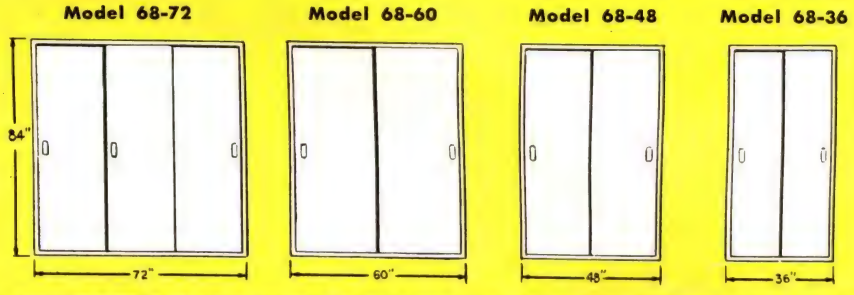
MODELS AVAILABLE

Model 68 is 84″ overall height, with door heights to match the other 6′8″ doors in room. Model 76 is 7′9⅞″ high, and has upper sliding doors for additional storage.

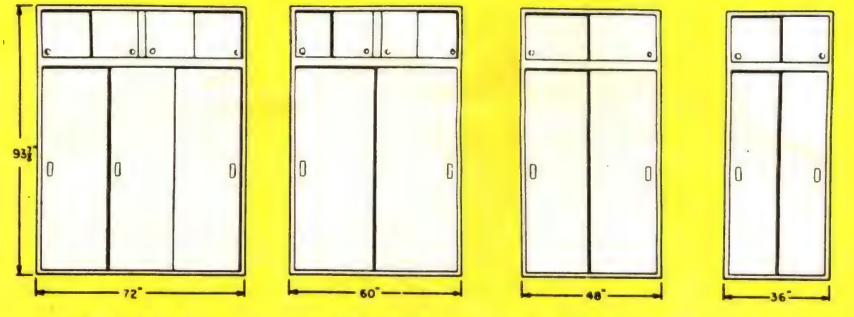
In all models, width of rough openings should be ⅞″ narrower than width of closet front. On Model 68 series, height of rough openings should be one inch less than height of unit, and on Model 76 series 2⅜″ less.

All doors suspended at top from overhead metal track on Mengel's exclusive adjustable hangers for easy adjustment at any time. Doors equipped with flush, finger-tip door pulls. Bottom guides keep doors in proper position.

FRAME WITH SLIDING DOORS



FRAME WITH SLIDING UPPER AND LOWER DOORS

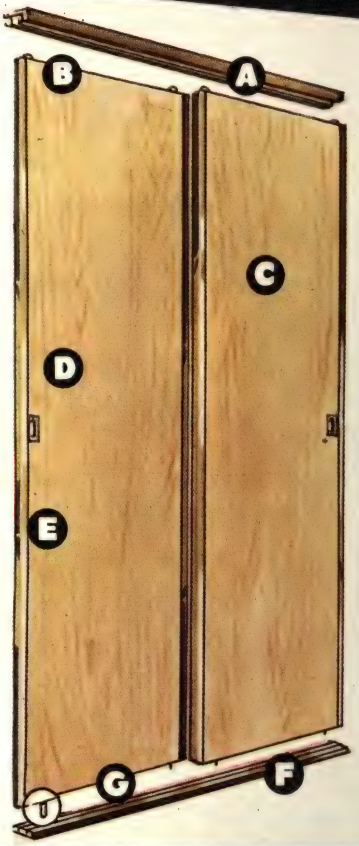


ONLY *Mengel*

OFFERS SLIDING DOORS LIKE THESE!

MENGEL *Top Flight* SLIDING DOORS

Mengel Top-Flight flush sliding doors provide a modern, space-saving solution for "fronting" existing closet openings. Having all the exclusive Mengel features of the doors described earlier, these doors are considered the most economical way possible to modernize existing homes.

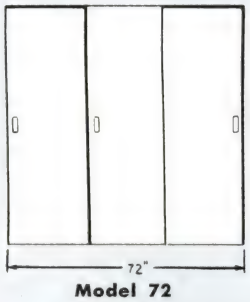


QUICK, SIMPLE INSTALLATION

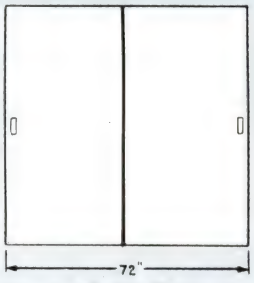
Top track is simply screwed into position to ceiling or jambs. Bottom threshold is properly aligned with top track, and nailed or screwed to floor. Plated screws for upper track are provided.

Features and Specifications

- Precision-made metal top track with wood facing. (A)
- Exclusive Mengel adjustable nylon roller hangers (2 per door). (B)
- Doors are available in Birch, African Cedar, Gum, or Masonite or Hardboard for finishing on the job and in single or double face construction. (C)
- Flush finger-tip plated pulls are handy and attractive. (D)
- Metal channel edges run full length of both vertical edges of each door to increase rigidity. (E)
- Bottom track is precision-made of dense hardwood. (F)
- Metal guide pins fit into bottom track to further assure easy sliding operation (2 per door). (G)



Model 72
3-door
(72" opening)
Doors 24⅛" wide



Model 72
2-door
(72" opening)
Doors 36½" wide



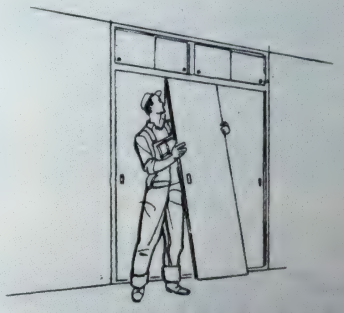
Model 60
(60" opening)
Doors 30½" wide



Model 48
(48" opening)
Doors 24½" wide



Model 36
(36" opening)
Doors 18½" wide



MODELS AVAILABLE

All models are available in either "68" or "80" series. The "68" series is for rough openings approximately 6′8″ high, to conform in height with other doors in room. The "80" series is approximately 8′0″ high, for floor-to-ceiling installations.

Rough Openings Required: On Model 68 series, rough opening height should be 6′9 3/16″; on Model 80 series, rough opening height should be 8′0″. All opening widths are from inside jamb to inside jamb.

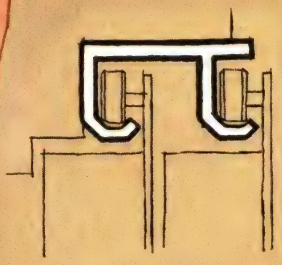
All models available with a front face panel only, or with panels on both front and rear sides.

IT TAKES *All Five Features* TO MAKE SLIDING DOORS COMPLETELY TROUBLE-FREE!

ALL Mengel sliding door products . . .

AND ONLY MENGEL . . . have this 5-point combination that makes sliding doors permanently superior.



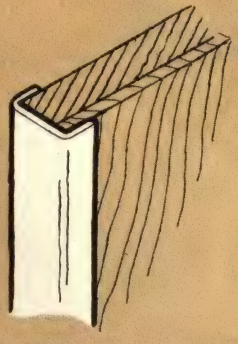


1 Doors must be HUNG FROM TOP

This assures quiet, smooth operating gliding action. All Mengel sliding door units are hung from the top.

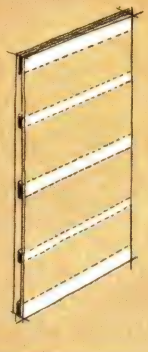
2 Hangers must be ADJUSTABLE

No other hanger is like Mengel's exclusive, *adjustable* hanger, which can be *permanently locked* into position after adjustments are made.



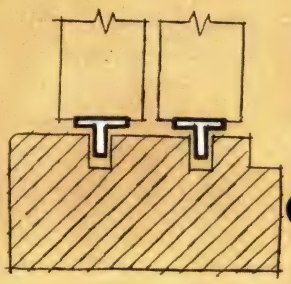
3 Doors must be WARP-RESISTANT

Every Mengel door is reinforced by steel channels on vertical edges which provide strength against warping.



4 Doors must be RE-INFORCED AT BACK

All Mengel door panels are glued against *five* strong horizontal rails that prevent "bellying" which is so common in many other sliding doors.



5 Doors must be TWIST-PROOF

Every Mengel door has built-in steel guide pins which hold the door in groove at bottom threshold. Mengel doors *can't* twist out of shape diagonally.

Your Symbol of Quality IN WOOD

THE MENGEL COMPANY
LOUISVILLE 1, KENTUCKY

Under its constant product improvement policy, reserves the right to change construction, design, or prices without reference to specifications or illustrations used in this booklet.

America's largest manufacturer of hardwood products for the home. Growers and processors of timber. Manufacturer of fine furniture, kitchen cabinets and wall closets, veneers, plywood, flush doors, corrugated containers.

Form No. C26-954-45M
Gibbs-Inman Co., Louisville

A.I.A. File No. 19-E-1



MENGEL NOVOPLY

SLIDING DOOR UNITS

AND CLOSET FRONTS

A.I.A. File No. 19-E-1

Advantages

OF MENGEL NOVOPLY SLIDING DOOR PRODUCTS

The primary requisite of any door is resistance to warpage—it must stay flat. Novoply, the material used in Mengel Novoply Sliding Doors, ***warps less than any wood panel ever developed.*** A product of United States Plywood Corporation, it is made of wood veneer flakes which are fused together under extreme heat and pressure.

EASE OF INSTALLATION. Because of Mengel's exclusive Nylon Roller hangers, which are adjustable by the turning of a single screw (see below), Mengel Sliding Doors can be installed and adjusted more quickly and accurately, and at lower cost than any other door.

OTHER QUALITIES. Mengel Novoply Sliding Doors are solid, quiet, easily operated and do not split. They have better heat and sound proofing qualities than wood or plywood. They can be used with natural or paint finish and are supplied both in regular Novoply and Novoply with birch veneer faces. They save floor space and their functional beauty and contemporary design enhance the appearance and value of every home. A superior product, they are made by a company of long experience and absolute dependability in the wood products field.

A COMPLETE LINE. The Mengel Novoply Sliding Door Line includes *three* distinct designs made either in regular Novoply or Novoply with birch faces in two heights: 6′8″ to match standard room doors, and 8′0″ height, with upper and lower compartments, where a floor to ceiling installation is desired. All models are made in four standard nominal widths: 3′0″, 4′0″, 5′0″, and 6′0″.

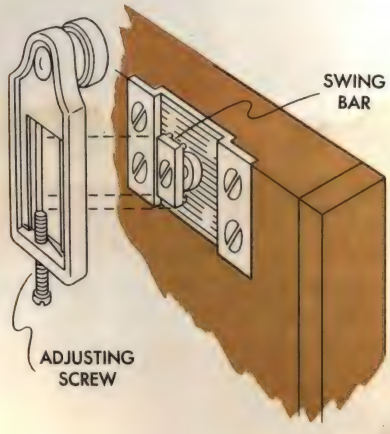
Difference Between Sliding Door Units and Closet Fronts. The SLIDING DOOR UNITS, though made in both 6′8″ and 8′0″ heights, have only a single compartment and the jambs and header are shipped loose for assembly on the job.

The "F" Series CLOSET FRONTS are also made in both heights, the 6′8″ model having a single compartment and the 8′0″ height an upper and lower compartment. A bottom threshold is supplied with the "F" series and this with the side jambs and header is factory assembled and shipped in a complete frame. This frame may be inserted in the closet opening as it is taken from the package, thus saving time and cost of on the job assembly.

The "FM", or MODIFIED CLOSET FRONT models, are made in the 8′0″ height only and have upper and lower compartments. They do not have a bottom threshold like the "F" model fronts and the jamb and rail parts are shipped knocked down like the Sliding Door Units instead of with closet frame assembled as with the Series F fronts. Detailed descriptions and dimensions are shown at the right.

Exclusive

MENGEL PATENTED NYLON ROLLER HANGER



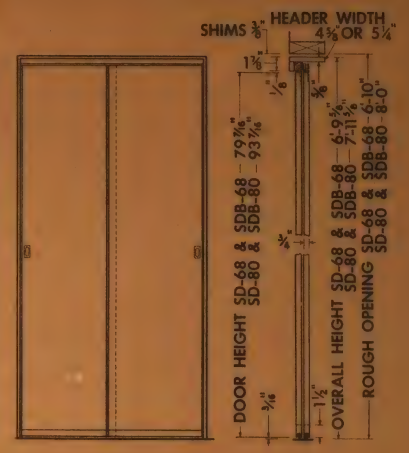
Mengel's exclusive roller hanger saves time and money in erection and permits easy adjustment in service. Adjustment is obtained by turning the single adjusting screw when the doors are in place and locating the correct adjustment by turning the swing bar to horizontal position. No other hanger permits such easy and accurate adjustment.

SLIDING DOOR UNITS — Series SD and SDB-68 — Series SD and SDB-80

Made in nominal heights of 6′8″ and 8′0″ and widths of 3′, 4′, 5′, and 6′. Unit includes 2 Novoply (or birch faced Novoply) doors with hanger brackets and pulls attached, 2 jambs (4-5/8″ or 5-1/4″), header with track and fascia attached, 4 exclusive design Nylon roller hangers and door guide. All packed in single carton.

SD SERIES MODEL NUMBERS

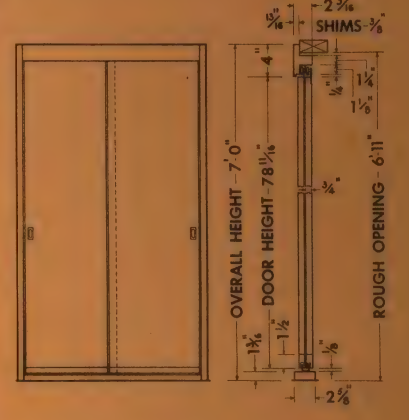
Nominal Height	3′0″ Nominal Width		4′0″ Nominal Width		5′0″ Nominal Width		6′0″ Nominal Width	
	Novoply	Birch F. Novoply	Novoply	Birch F. Novoply	Novoply	Birch F. Novoply	Novoply	Birch F. Novoply
6′8″	SD 3-68	SDB 3-68	SD 4-68	SDB 4-68	SD 5-68	SDB 5-68	SD 6-68	SDB 6-68
8′0″	SD 3-80	SDB 3-80	SD 4-80	SDB 4-80	SD 5-80	SDB 5-80	SD 6-80	SDB 6-80



CLOSET FRONTS (Frames Assembled) — Series F and FB-68 — Series F and FB-80

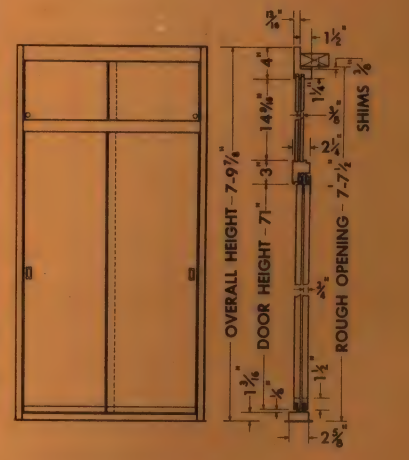
Series F and FB-68 Closet Fronts, Single Compartment, 6′8″ Nominal Ht.

This unit is shipped in widths of 3′, 4′ 5′ and 6′, with the closet frame factory assembled to reduce erection time and cost on the job. The frame is composed of header with track and fascia attached, side stiles and bottom threshold. The unit also includes 2 Novoply (or birch faced Novoply) doors with hanger brackets and pulls attached, 4 exclusive design Nylon roller hangers and door guide. Assembled frame, doors, etc. are packed in single carton.



Series F and FB-80 Closet Fronts, Double Compartment, 8′0″ Nominal Ht.

The floor to ceiling unit includes both upper and lower doors and a center cross rail. The 3′ and 4′ widths have 2 upper sliding doors and the 5′ and 6′ widths 4. All other parts and packing are the same as described above for the F and FB-68 height closet front unit.

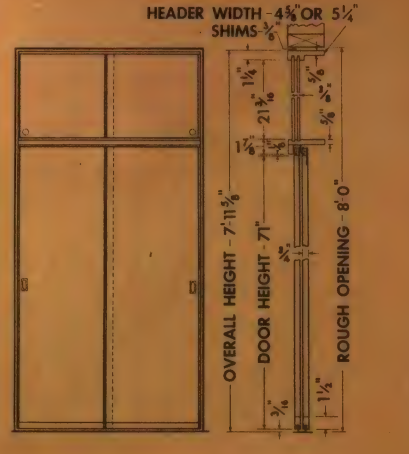


F SERIES MODEL NUMBERS

Nominal Height	3′0″ Nominal Width		4′0″ Nominal Width		5′0″ Nominal Width		6′0″ Nominal Width	
	Novoply	Birch F. Novoply	Novoply	Birch F. Novoply	Novoply	Birch F. Novoply	Novoply	Birch F. Novoply
6′8″	F 68-3	FB 68-3	F 68-4	FB 68-4	F 68-5	FB 68-5	F-68-6	FB 68-6
8′0″	F 80-3	FB 80-3	F 80-4	FB 80-4	F 80-5	FB 80-5	F 80-6	FB 80-6

CLOSET FRONTS (Frames Knocked Down) — Series FM and FMB.

This unit is made with double compartment in 8′0″ height only in widths of 3′, 4′, 5′ and 6′. Instead of having a factory assembled complete frame, the frame parts do not include a bottom threshold and are shipped knocked down. They consist of 2 side jambs (4-5/8″ or 5-1/4″), top rail and center header rail with track and fascia attached. The jambs and rails are tenoned and notched for easy assembly. The Unit has Novoply (or birch faced Novoply) upper and lower doors with knobs and pulls. All units have 2 lower doors. The 3′ and 4′ widths have 2 upper sliding doors and the 5′ and 6′ widths, 4. Also included are 4 exclusive design Nylon roller hangers and channel door guide. All parts are shipped in a single carton.



FM SERIES MODEL NUMBERS

Nominal Height	3′0″ Nominal Width		4′0″ Nominal Width		5′0″ Nominal Width		6′0″ Nominal Width	
	Novoply	Birch F. Novoply	Novoply	Birch F. Novoply	Novoply	Birch F. Novoply	Novoply	Birch F. Novoply
8′0″	FM 80-3	FMB 80-3	FM 80-4	FMB 80-4	FM 80-5	FMB 80-5	FM 80-6	FMB 80-6

DIMENSIONS OF DOORS AND OPENINGS

Model Number	Nominal Size Height	Nominal Size Width	Rough Opening Height	Rough Opening Width	Overall Size Height	Overall Size Width	Distance Between Jambs	No. of Comptmts.	Upper Doors Dimensions No.	Upper Doors Dimensions Width	Upper Doors Dimensions Height	Upper Doors Dimensions T.	Lower Doors Dimensions No.	Lower Doors Dimensions Width	Lower Doors Dimensions Height	Lower Doors Dimensions T.
SD & SDB																
3-68	6'8"	3'0"	6'10"	36¾"	6'9⅝"	36"	34¾"	1		None			2	18½"	79 7/16"	¾"
4-68	6'8"	4'0"	6'10"	48¾"	6'9⅝"	48"	46¾"	1		None			2	24½"	79 7/16"	¾"
5-68	6'8"	5'0"	6'10"	60¾"	6'9⅝"	60"	58¾"	1		None			2	30½"	79 7/16"	¾"
6-68	6'8"	6'0"	6'10"	72¾"	6'9⅝"	72"	70¾"	1		None			2	36½"	79 7/16"	¾"
SD & SDB																
3-80	8'0"	3'0"	8'0"	36¾"	7'11⅝"	36"	34¾"	1		None			2	18½"	93 7/16"	¾"
4-80	8'0"	4'0"	8'0"	48¾"	7'11⅝"	48"	46¾"	1		None			2	24½"	93 7/16"	¾"
5-80	8'0"	5'0"	8'0"	60¾"	7'11⅝"	60"	58¾"	1		None			2	30½"	93 7/16"	¾"
6-80	8'0"	6'0"	8'0"	72¾"	7'11⅝"	72"	70¾"	1		None			2	36½"	93 7/16"	¾"
F & FB																
68-3	6'8"	3'0"	6'11"	35⅛"	7'0"	36"	32¾"	1		None			2	17½"	78 11/16"	¾"
68-4	6'8"	4'0"	6'11"	47⅛"	7'0"	48"	44¾"	1		None			2	23½"	78 11/16"	¾"
68-5	6'8"	5'0"	6'11"	59⅛"	7'0"	60"	56¾"	1		None			2	29½"	78 11/16"	¾"
68-6	6'8"	6'0"	6'11"	71⅛"	7'0"	72"	68¾"	1		None			2	35½"	78 11/16"	¾"
F & FB																
80-3	8'0"	3'0"	7'7½"	35⅛"	7'9⅞"	36"	32¾"	2	2	17½"	15"	⅜"	2	17½"	71"	¾"
80-4	8'0"	4'0"	7'7½"	47⅛"	7'9⅞"	48"	44¾"	2	2	23½"	15"	⅜"	2	23½"	71"	¾"
80-5	8'0"	5'0"	7'7½"	59⅛"	7'9⅞"	60"	56¾"	2	4	14½"	15"	⅜"	2	29½"	71"	¾"
80-6	8'0"	6'0"	7'7½"	71⅛"	7'9⅞"	72"	68¾"	2	4	17½"	15"	⅜"	2	35½"	71"	¾"
FM & FMB																
80-3	8'0"	3'0"	8'0"	36¾"	7'11⅝"	36"	34¾"	2	2	18½"	21⅝"	⅜"	2	18½"	71"	¾"
80-4	8'0"	4'0"	8'0"	48¾"	7'11⅝"	48"	46¾"	2	2	24½"	21⅝"	⅜"	2	24½"	71"	¾"
80-5	8'0"	5'0"	8'0"	60¾"	7'11⅝"	60"	58¾"	2	4	15"	21⅝"	⅜"	2	30½"	71"	¾"
80-6	8'0"	6'0"	8'0"	72¾"	7'11⅝"	72"	70¾"	2	4	18"	21⅝"	⅜"	2	36½"	71"	¾"

GENERAL SPECIFICATIONS ALL MODELS

STANDARD WIDTHS: 3'0"; 4'0"; 5'0"; and 6'0".

STANDARD HEIGHTS: SLIDING DOOR UNITS and CLOSET FRONT ASSEMBLIES—6'8" to conform with conventional interior doors, and 8'0" for floor to ceiling installation. MODIFIED CLOSET FRONTS (Frames Shipped Knocked Down)—8'0" only.

DOOR MATERIAL: Either Novoply or Novoply with birch veneer faces, as desired.

NUMBER OF DOORS: Upper doors — 3' and 4' widths—2; 5' and 6' widths—4. Lower doors—All widths—2.

DOOR THICKNESS: Upper Doors — ⅜". Lower Doors—¾".

DOOR OVERLAP: 2-¼".

DOOR BANDING: Flush type, same thickness as door; width ¼" on vertical edges, 1-½" on bottom. Bottom band is grooved to receive plated steel door guide. Banding is kiln dried Magnolia hardwood on Novoply doors, Birch on Birch faced doors.

JAMBS AND RAILS: Jambs and rails of Series SD Sliding Door Units and Series FM Closet Fronts are made of kiln dried vertical grain fir and hemlock or alternately of yellow pine.

Instead of separate jambs and rails, the Series F Closet Fronts are shipped with a complete factory assembled closet frame. This frame is made of kiln dried magnolia or poplar lumber sanded smooth and with all joints glued and doweled.

DOOR PULLS: Upper doors have 1-¼" dia. steel knobs with satin brass finish; lower doors are recessed type, factory installed, 3"x1-⅜" steel with satin brass finish.

TRACK: Steel overhead type factory attached to header. Roller hangers are 15/16" diameter Nylon, of Mengel exclusive patented design, easily adjusted by turning a single screw. Hanger brackets are shipped attached to doors.

PACKING: Doors, hardware, rails and jambs are shipped in single carton. Model F closet fronts are shipped with door frame completely assembled; Model FM with door frame K. D.

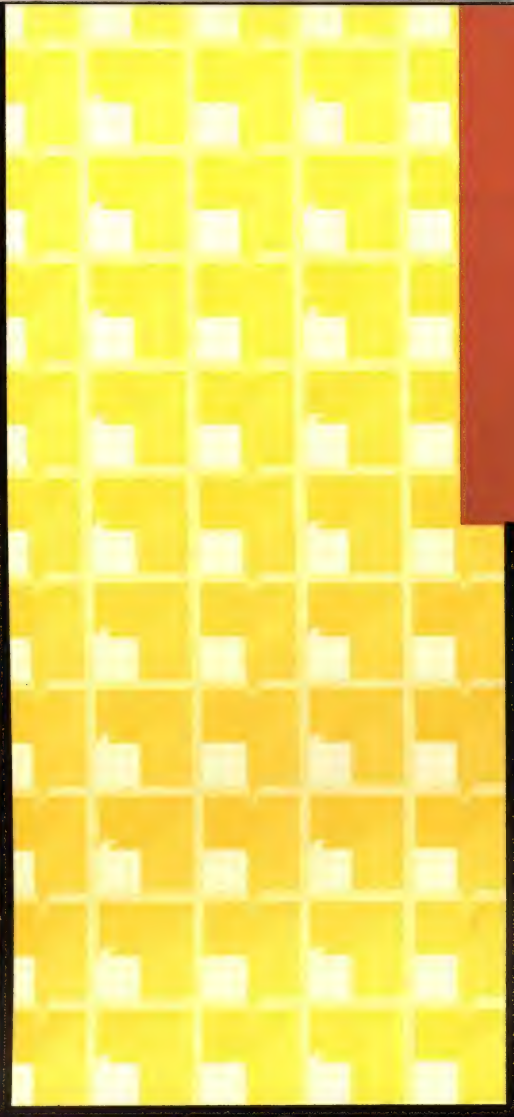
These Novoply sliding doors and closet fronts are designed and manufactured by

THE MENGEL COMPANY
Cabinet Division
Box 660 Louisville 1, Kentucky

NV-12 954-50M GIBBS-INMAN CO., LOUISVILLE

PAINE FLUSH DOORS





REZO®

HOLLOW CORE DOORS

Manufactured since 1935. Over 7,000,000 satisfactory installations throughout the world.





PAINE

SOLID CORE DOORS

Made by America's pioneer solid core flush door manufacturer. Backed by over a century of experience.

PAINE
LUMBER COMPANY, LTD.
ESTABLISHED 1853 • OSHKOSH, WIS.

REZO®



For over 100 years the Paine Lumber Company has been building a reputation based on foresight and fine workmanship. These qualities, applied to the manufacture of Flush Doors, date back to the 1880's when this company assumed its leadership in the production of doors. Hardwood, veneered solid core flush doors came into being at the turn of the century and have been manufactured consistently since then; hollow core doors were tested and patented as far back as 1910. The famed REZO hollow core door had its inception in the early '30's, was market tested in 1935 and now has given outstanding service in over seven million installations of all types and in all places.

Paine Lumber Company has set the pace in the manufacture of doors. This is indicated by the fact that it holds all the gold medals ever awarded the door industry by any national or international exposition held in the United States.

HOLLOW CORE

Paine REZO hollow core flush doors are well known for their high quality and precise workmanship. This is the result of absolute quality control within the Paine factory plus the tradition for expert craftsmanship passed down from generation to generation of Paine factory families.

FACING

In order to reach their high standard of appearance, plywood face panels used on Paine flush doors are completely fabricated from raw materials to finished product within the Paine plant under the watchful eyes of experienced craftsmen.

SOLID CORE

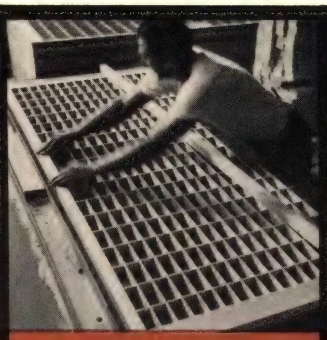
Solid core flush doors have been made by Paine for over fifty years. Because of their consistent high quality and excellent service, millions of these doors have been specified by architects for use in public buildings.

Guarantee

We, of Paine, are proud of our world-wide reputation for manufacturing quality products. They are backed by more than 100 years of woodworking experience, by a tradition of product pride that has been passed down through generations of Paine craftsmen. We will never knowingly jeopardize our reputation and position of leadership in the door manufacturing industry. Each door is built to rigid standards of quality, workmanship and inspection. If, through human error, an imperfect door is shipped for installation, we will gladly replace it, provided it has not been subjected to abuse in shipping, storage or installation, over which we have no control after it leaves our factory.



Gridwork must be assembled in a skilled hand operation.



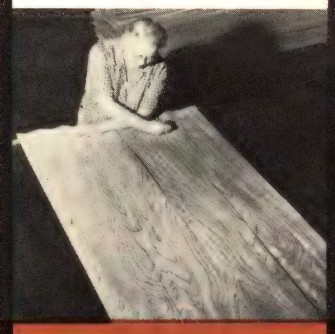
Stiles and rails are each securely locked into place.



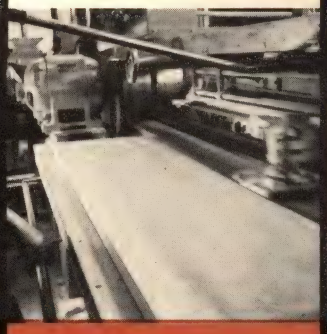
Lock areas are formed by inserting softwood blocks.



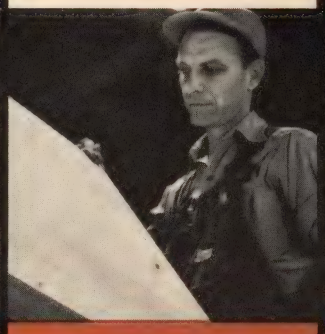
A complete coating of resin glue is applied by machine.



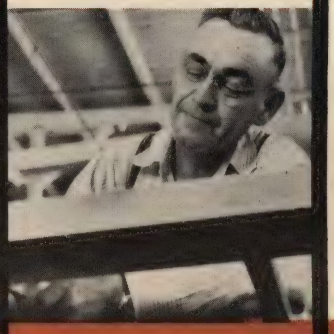
Face veneers are matched for pleasing appearance.



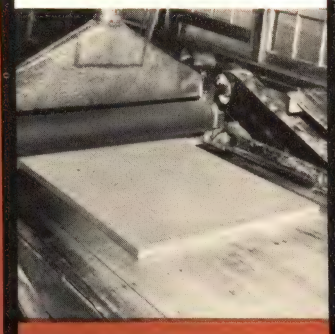
Completed doors are sanded to a cabinetmaker's finish.



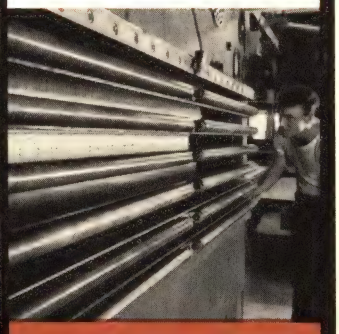
Each door must be carefully inspected in oblique light.



Special doors are handled by experienced craftsmen.



Solid core is carefully prepared for durable glue bond.



Controlled heat and pressure provide accurate assembly.



The REZO core is hand-assembled using finely machined softwood strips interlocked from alternate sides. Here is one of the important reasons for the greater strength, versatility and custom-built excellence of the Paine REZO door.

TYPES OF DOORS

REZO® HOLLOW CORE 4, 5, 6

Interior 4
Cutaway layout
Construction details
Advantages

Exterior 5
Cutaway layout
Construction details
Advantages

Institutional 6
Cutaway layout
Construction details
Advantages

PAINE SOLID CORE 7
Cutaway layout
Construction details
Advantages

PAINE SPECIAL DOORS 7

REZO®

INTERIOR DOORS

The Paine REZO interior door is much lighter than any other door of its strength, far stronger than any other door of its weight. This means exceptional resistance to abuse and the ability to withstand the stresses and strains imposed by temperature and humidity changes—all adding up to trouble-free performance.

ADVANTAGES

Dimensionally stable

Through careful engineering, the core of the door is designed to "breathe" through a series of notches and grooves. This allows rapid stabilization of moisture content throughout the entire door keeping it flat and straight during all seasons of the year.

Light Weight

Fine tolerance machining of the gridwork parts, designed to interlock and form a network of ventilated air cells, provides a completely integrated core, light in weight and reinforced with the rigid strength of edge grain wood.

Resists abuse

With a combination of rigid strength and light weight, plus carefully designed gridwork spacing, the REZO door is built to resist all types of abuse. Low "impact resistance" permits easy operation and prolongs the life of the door under all conditions—in the home or in public buildings.



3" (nom.) top and bottom rails are of sufficient width to permit cutting down 2" in height—cut equally from each end.

Notches and grooves provide ventilation for every core cell, permitting rapid equalization of moisture content for perfect stability.

The air cells formed by interlocked strips of finely machined softwood are 2" x 4" in the standard interior door.

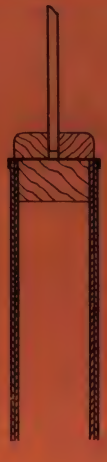
Lock area, both sides, set in the middle is 4 3/8" (incl. stile) x 20" on 6' 8" doors; proportionately longer on doors over 6' 8" high.

Core is overlaid with plywood 1/8" thick before sanding. Face veneers on all grade "A" doors are hand-matched for pleasing appearance.

Stile width 1 1/2" (nom.). Door thickness can be 1 3/8" to 2 1/4". When specified, matching vertical edge strips finish not less than 1/2" wide.

Interior door layout.

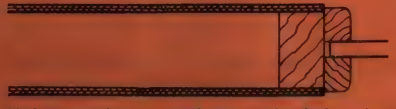
CONSTRUCTION DETAILS



Exterior Sash Doors

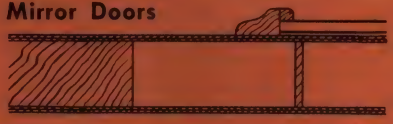
Metal saddles are used at the bottom of light openings exposing a flat surface. Other openings are properly primed with lead and oil.

Interior Sash Doors



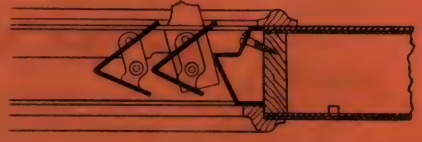
Light openings on the standard interior door are framed into the core and come complete with flush glass stops.

Mirror Doors

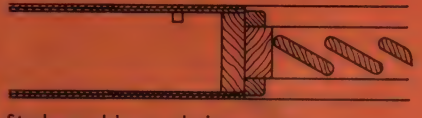


Our stock two member mirror moulding is recommended for the installation of mirrors on standard interior doors.

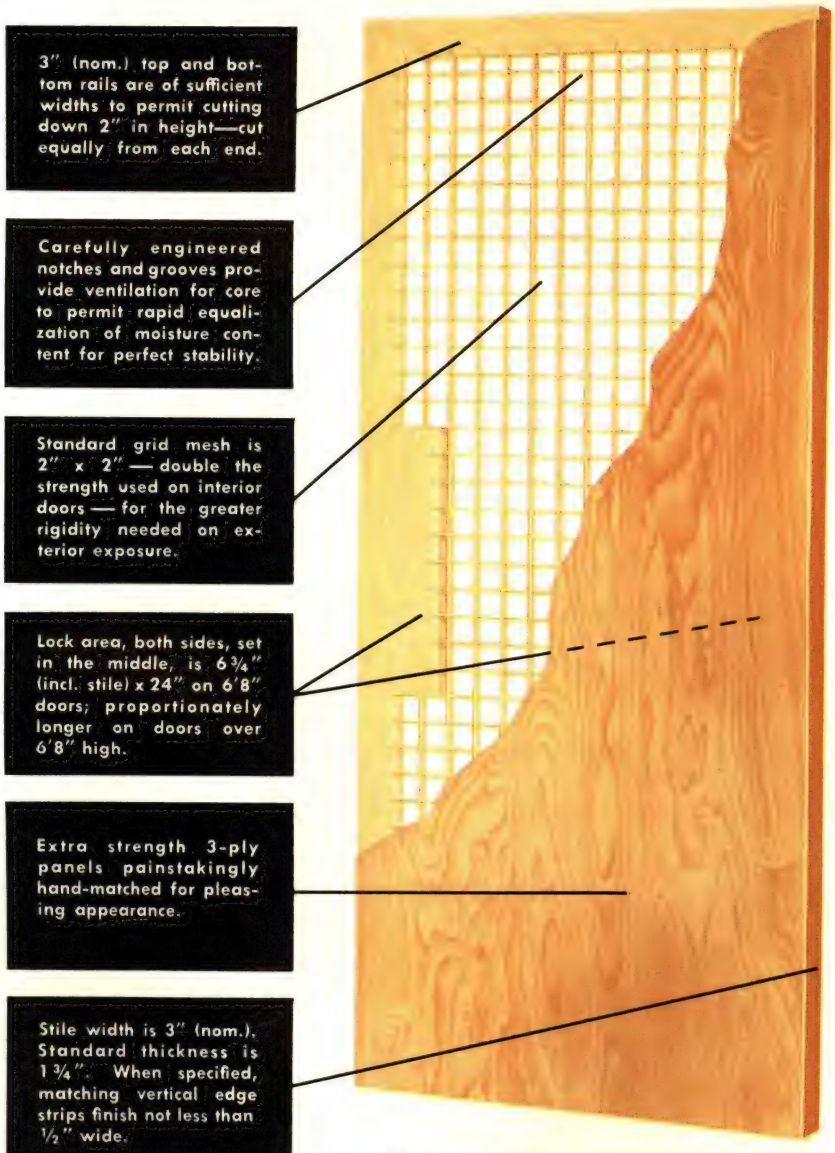
Louver Doors



Metal louver installation.



Stock wood louver design.



Exterior door layout

EXTERIOR DOORS

Both research and experience have encouraged the development of the REZO hollow core entrance door. Over a half million satisfactory installations give testimony to the fact that the properly designed and well manufactured REZO hollow core entrance door is the best door.

ADVANTAGES

Dimensional Stability

The doubly reinforced grid core of edge grain wood slats mortised into an extra strong framework of stiles, rails and lock blocks and covered with the finest exterior grade plywood panels are combined to produce a door that will not swell, shrink or sag and will be highly resistant to warping under any weather conditions.

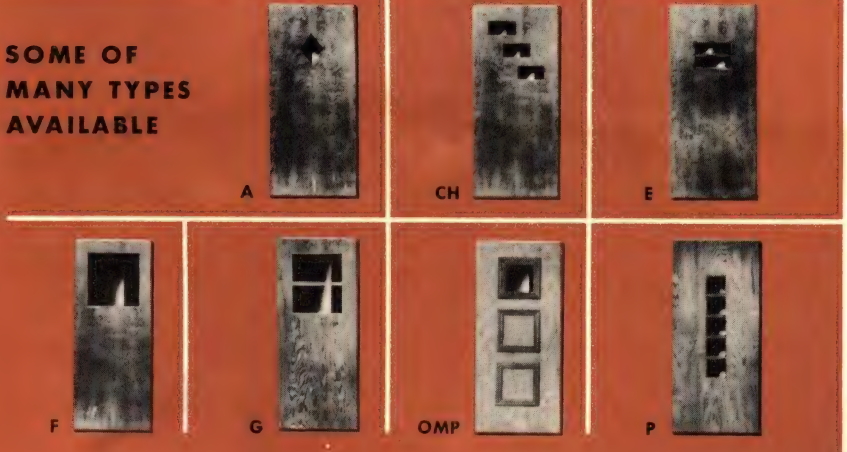
Beauty

REZO entrance doors are available with any commercially available species of face veneer. The warmth and interest of a broad expanse of hand-matched natural wood is unsurpassed in developing an entranceway which is built to give satisfaction. Because Mahogany and Brown Ash resist weather best, they are particularly recommended for entrance doors.

Lifetime Service

Precise engineering and correct manufacturing, backed by a record of performance established through more than 20 years of service, assure an installation which can be expected to give a lifetime of trouble-free service.

SOME OF MANY TYPES AVAILABLE



Standard entrance door designs are available in a wide variety to satisfy most requirements where economy is a factor. Special designs to achieve any effect can be custom built to meet the needs of the most discriminating designer. It is true that Paine craftsmen can produce any design or pattern — that the treatment of the flush surface is limited only by the imagination.

REZO®

INSTITUTIONAL DOORS

The REZO institutional door is designed to provide a door for public buildings with the strength, lightness in weight and lower "impact resistance" of the hollow core door and the general utility of the solid core door — and at a lower price. It is completely blocked to receive the majority of special hardware and can be specified by name — "REZO institutional," eliminating the need for a detailed description of extra blocking. Other than standard blocking can be furnished when specified.

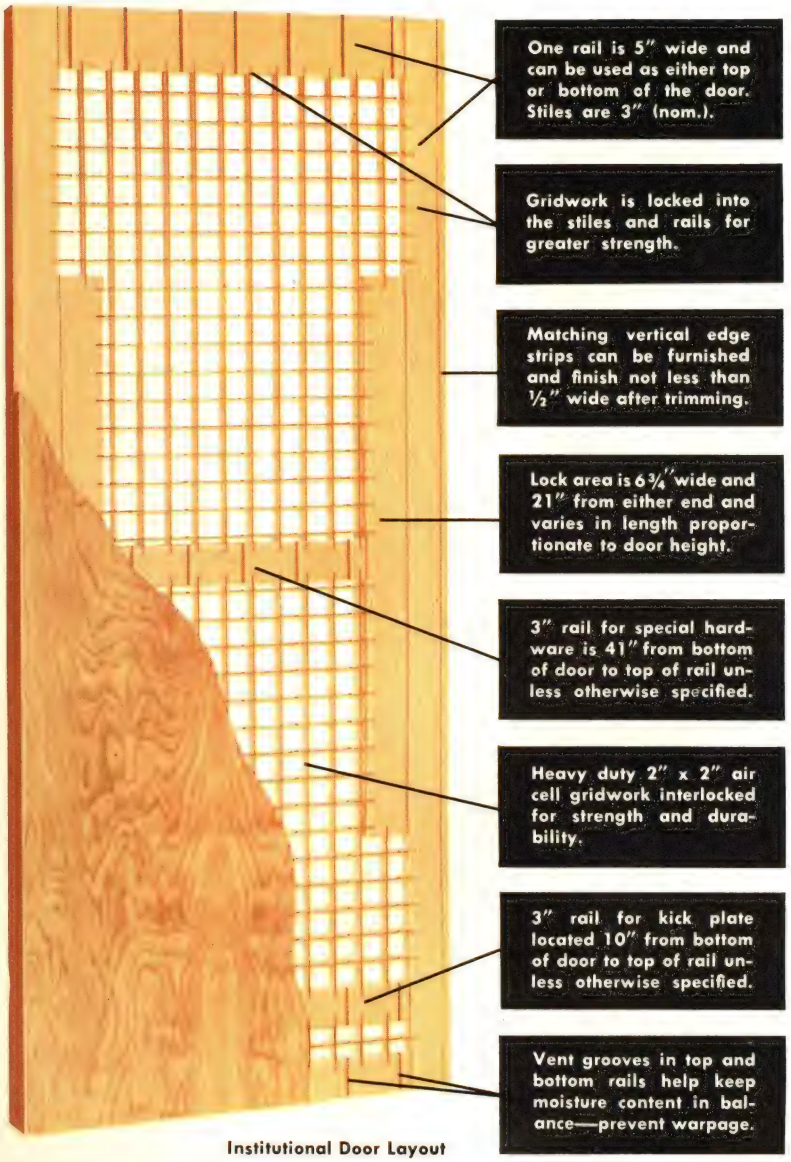
ADVANTAGES

Rugged Strength

The combination of heavy framework, 2" x 2" grid mesh, extra cross rails and three ply hardwood face panels produces a door exceptionally resistant to abuse. The fully ventilated core helps insure the dimensional stability under conditions of changing temperature and humidity.

Light Weight

Because it weighs only half as much as a solid core door of its size, two important factors are accomplished: easy, one man installation and long, trouble-free service. Where a door is subjected to abnormal, hard abuse, the REZO institutional door is outstanding—"low impact resistance" is the answer; for example, lower inertia due to lightness in weight when struck by a loaded cart permits the door to open quicker and easier, reducing destructive impact shock on both the door and equipment.



Institutional Door Layout



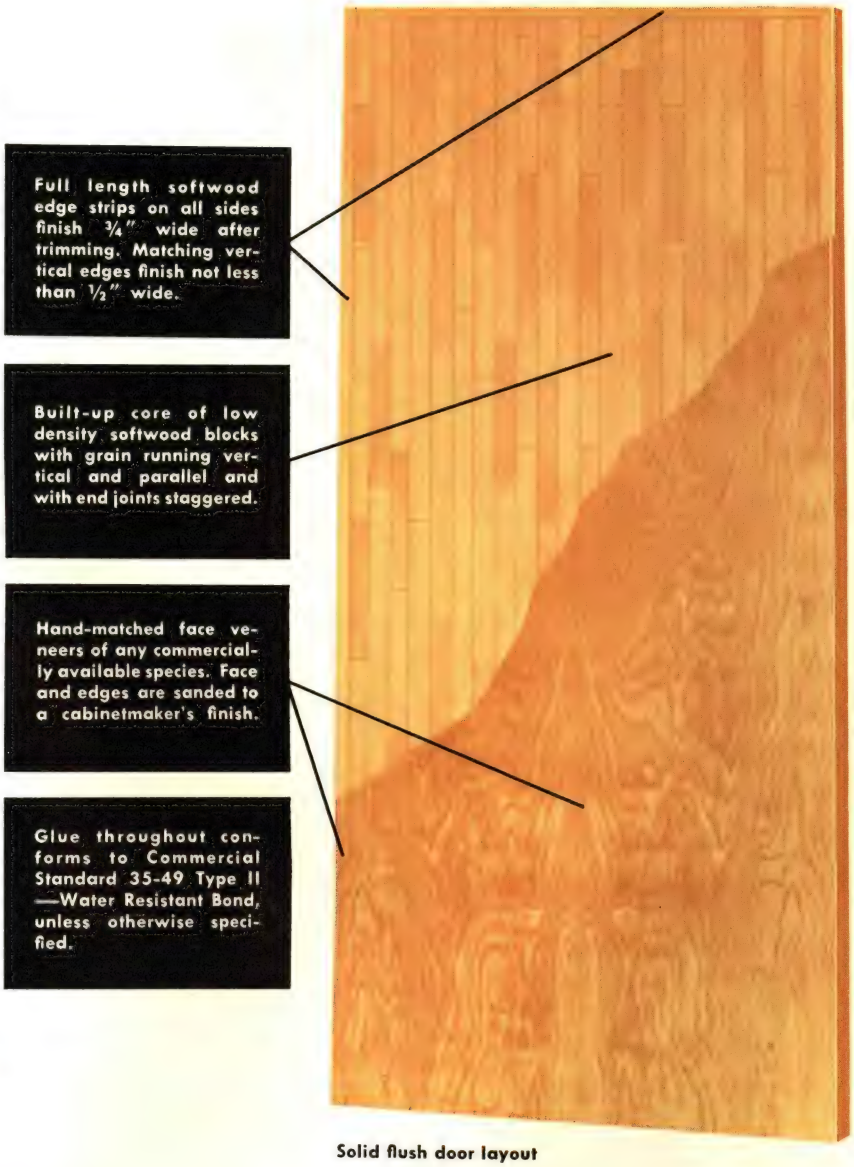
Light Weight—easy, one man installation



Resists Abuse — low "impact resistance"



Convenient — easy to open and close



Solid flush door layout

PAINE SOLID CORE DOORS

Building code requirements continue to demand solid wood doors for entrance, corridor and certain other types of openings. The Paine Lumber Company has continuously made these doors of the highest quality in keeping with the most modern advancements in materials and techniques to service these requirements and satisfy this demand.

ADVANTAGES

Built to a Standard

All Paine solid core flush doors are made in accordance with Commercial Standard 171-50 plus many refinements and extras not set forth in this standard such as painstaking care in the hand-matching of face veneers and quality control at every stage of production, possible only in a large, experienced factory with adequate, up-to-date equipment.

Backed by Experience

Having pioneered in the development of all types of flush doors, Paine craftsmen, through many generations, have acquired a technique for mass producing only the finest solid core flush doors. Research is carried on constantly and every new method of reaching for higher quality and dependability is applied to the Paine solid core flush door.



SPECIAL DOORS

Custom-built to meet your individual needs

Custom-building interior and exterior doors is a specialty of Paine craftsmen. Styles of doors with special lights, louvers and decorative designs are limited only by the imagination and are built with true cabinetmaker's technique.



SPECIFICATIONS

	REZO HOLLOW CORE INTERIOR	REZO HOLLOW CORE EXTERIOR	REZO HOLLOW CORE INSTITUTIONAL	PAINE SOLID CORE FLUSH DOOR
GENERAL	All doors shall be Paine REZO interior hollow core flush doors as manufactured by the Paine Lumber Company, Ltd., Oshkosh, Wisconsin.	All doors shall be Paine REZO exterior hollow core flush doors as manufactured by Paine Lumber Company, Ltd., Oshkosh, Wisconsin.	All doors shall be Paine REZO institutional hollow core flush doors as manufactured by Paine Lumber Company, Ltd., Oshkosh, Wisconsin.	All doors shall be Paine solid core flush doors as manufactured by Paine Lumber Company, Ltd., Oshkosh, Wisconsin.
CORE	Core shall consist of 2" x 4" grid type cells made by interlocked softwood slats notched for ventilation and mortised into a framework of stiles, rails and lock blocks.	Core shall consist of 2" x 2" grid type cells made by interlocked softwood slats notched for ventilation and mortised into a framework of stiles, rails and lock blocks.	Core shall consist of 2" x 2" grid type cells made by interlocked softwood slats notched for ventilation and mortised into a framework of stiles, rails and lock blocks. Two 3" cross rails provided at specified height for special hardware.	Core shall be constructed of softwood blocks laid up with grain running vertically and parallel and with end joints in adjacent rows staggered.
STILES	Stiles shall be softwood, 1½" nominal width and notched to receive core gridwork. (Alt:) Matching hardwood vertical edge strip shall be laminated to the stile and finish not less than ½" after trimming.	Stiles shall be softwood, 3" nominal width and notched to receive core gridwork. (Alt:) Matching hardwood vertical edge strips shall be laminated to the stile and finish not less than ½" wide after trimming.	Stiles shall be softwood, 3" nominal width and notched to receive core gridwork. (Alt:) Matching hardwood edge strips shall be laminated to the stile and finish not less than ½" after trimming.	Stiles shall be softwood finishing no less than ¾" wide after trimming. (Alt:) Matching hardwood edges shall be not less than ½" wide after trimming.
RAILS	Rails shall be 3" nominal width, grooved to receive core gridwork and notched for core ventilation.	Rails shall be 3" nominal width, grooved to receive core gridwork and notched where necessary for core ventilation.	Nominal width of one rail, 3"; the other, 5" both grooved to receive core gridwork and notched for core ventilation.	Top and bottom edge strips shall be of a low density softwood to match the core and finishing not less than ¾" wide after trimming.
LOCK AREA	Lock area shall be 4⅜" wide (incl. stile) and 20" long on 6'8" doors, centered on both sides. On doors over 6'8", lock area proportionately longer.	Lock area shall be 6¾" wide (incl. stile) and 24" long on 6'8" doors, centered on both sides. On doors over 6'8", lock area proportionately longer.	Lock area shall be 6¾" wide (incl. stile) centered on both sides and extending 21" from top and bottom of door.	
PANELS	Panels shall be ⅛" thick before sanding and consist of two or three plies of veneer, in accordance with Paine standards.	Panels shall be ⅛" thick before sanding and consist of three plies of veneer.	Panels shall be ⅛" thick before sanding and consist of three plies of veneer.	Face veneer shall be of the type specified with hardwood crossbanding of a complementary thickness.
ADHESIVES	Adhesives shall conform to CS 35-49 "Type II—*Water Resistant Bond*," unless otherwise specified.	Adhesives shall conform to CS 35-49 "Type II—*Water Resistant Bond*", unless otherwise specified.	Adhesives shall conform to CS 35-49 "Type II—*Water Resistant Bond*," unless otherwise specified.	Adhesives shall conform to CS 35-49 "Type II—*Water Resistant Bond*", unless otherwise specified.
SIZE	Doors shall be trimmed square and to exact, specified size.	Doors shall be trimmed square and to exact, specified size.	Doors shall be trimmed square and to exact, specified size.	Doors shall be trimmed square and to exact, specified size.
THICKNESS	Doors shall be of specified thickness with industry accepted tolerance of 1/16" under.	Doors shall be of specified thickness with industry accepted tolerance of 1/16" under.	Doors shall be of specified thickness with industry accepted tolerance of 1/16" under.	Doors shall be of specified thickness with industry accepted tolerance of 1/16" under.
FINISHING	Door faces shall be stroke sanded; stiles sanded, sharp edges eased; all surfaces prepared for painters' finish.	Door faces shall be stroke sanded; stiles sanded, sharp edges eased; all surfaces prepared for painters' finish.	Door faces shall be stroke sanded; stiles sanded, sharp edges eased; all surfaces prepared for painters' finish.	Door faces shall be stroke sanded; stiles sanded, sharp edges eased; all surfaces prepared for painters' finish.

PAINE
LUMBER COMPANY, LTD.
ESTABLISHED 1853 • OSHKOSH, WIS.





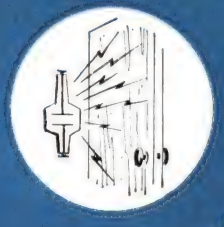
Solid Core



Hollow Core



Fire (B-Label)



X-ray

DOORS

By

Roddiscraft

One Source for All Your Requirements

Quality for Over 60 Years

RODDIS PLYWOOD CORPORATION
MARSHFIELD, WISCONSIN

Roddiscraft
FLUSH VENEERED DOORS

B-Label fire

lightweight . . . warp-free . . . low sound and heat transmission

Advanced safety features that guard life and property are built into Roddiscraft B-Label wood-faced fire doors approved by the Underwriters' Laboratories for use in B and C fire hazard classification openings.

For effective fire protection, Roddiscraft B-Label fire doors are used in many institutions, including hospitals, schools and business establishments for stairway and room entrances, dumb waiter and fire escape openings. For residences, there's a growing trend to use these doors for bedrooms, basements, and for entrances where a garage is connected directly to the house.

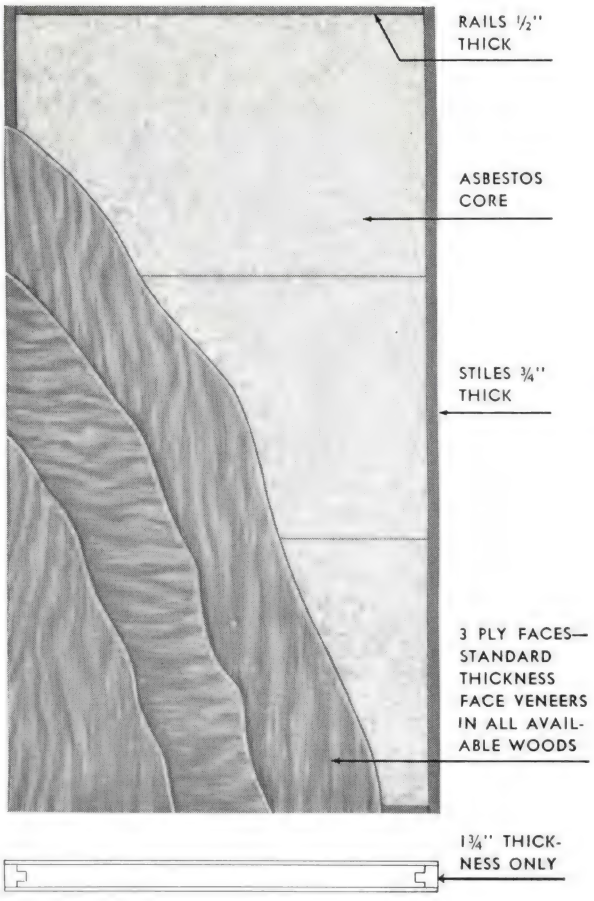
Produced in all available wood species, the Roddiscraft B-Label fire doors permit architects and builders to match their fire doors with conventional Roddiscraft flush doors in a building.

Manufactured in standard and also to specified sizes, these B-Label fire doors are available in width up to 3½ feet and heights to 7 feet.

Construction Features

The core is made of a special asbestos compound that is non-combustible. The door is faced on both sides with plywood and the sides and top are banded with fireproofed lumber. To assure stability and eliminate rattling, the special asbestos core is made up with only three sections which are assembled together with a tight tongue-and-groove joint.

Other outstanding features include: It is lightweight, weighing 20% less than conventional solid core doors. This provides savings on shipping costs and handling is made easier. Also the door is warp-free, has a low sound transmission factor and low heat transmission.



When Planning Fire Safety Features In Any Building, Specify Roddiscraft B-Label Fire Doors

Specifications: Underwriters' Laboratories Approved, Seven-Ply, B-Label, Composite

1. GENERAL:
All doors, required to maintain the integrity of B and lower fire hazard classification openings, shall be seven ply Underwriters' Laboratories approved Roddiscraft B-Label fire doors manufactured by the Roddis Plywood Corporation, Marshfield, Wisconsin, and labeled accordingly.

A. Doors shall be constructed in strict accordance with the procedures and specifications approved by the Underwriters' Laboratories and shall be covered by the Roddis two-year Guarantee Bond.

B. Doors shall be manufactured accurately to the specifications and limitations as approved by the Underwriters' Laboratories. The size shall not exceed 3'6" x 7'0", and the thickness shall not deviate from the approved thickness of 1-3/4".

2. CORE:
The core shall consist of three well-balanced sections of a rigid, incombustible, inorganic bonded, long-fibered asbestos panel having an approximate density of 23 pounds per cubic foot, and approved for this service by the Underwriters' Laboratories and the United States Coast Guard. The three sections shall be joined tightly together with a well-fitting tongue and groove joint, as approved by the Underwriters' Laboratories, and the assembly shall be railed with Class A fireproof Birch lumber, 3/4" thick on the sides, and 1/2" thick in the top and bottom edges. The rails shall be joined to the core assembly with a well-fitting tongue-and-groove joint, as approved by the Underwriters' Laboratories, and the assembly sanded to a uniform thickness.

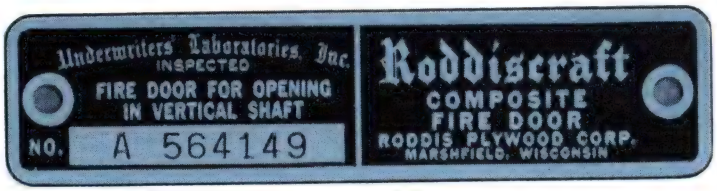
3. FACE PANELS:
The core assembly shall be faced on each side with a three-ply panel having a thickness of 1/8". The face of this three-ply panel shall be well dried, standard thickness veneers** laid with the grain perpendicular to that of the core veneer. The back shall be well-dried, sound, standard thickness hardwood veneer with the grain laid parallel to the face veneer and perpendicular to the core veneer. This three-ply panel shall be pre-assembled before being applied to the core. The face, core, and back veneers of each panel shall extend the full width and length of the door.

A. Face veneers shall be as follows:

Note: Here describe any special requirements of species, figure, pattern, etc. If more than one type is required, specify each separately and locate here, or by reference to door schedules or special detail drawings.

4. ADHESIVES:
The core and rails shall be bonded together with resorcinol water-

Underwriters' Laboratories Approved



This metal Underwriters' Laboratories approved label is fastened to every Roddiscraft B-Label Fire Door.

Outstanding Features

- Non-combustible core of special asbestos compound.
- Faced on both sides with plywood . . . in all available wood species.
- Available in widths up to 3½ feet . . . heights up to 7 feet.
- 20% lighter than conventional solid core doors for lower shipping costs . . . easier handling.
- Warp-free, low sound transmission, low heat transmission.
- Completely stable core—no chance of rattling. Three sections are assembled with tight tongue-and-groove joint.

Installation and Hardware Recommendations for Roddiscraft Fire Doors

The Underwriters' Laboratories recommend that Roddiscraft B-Label fire doors used for vertical shaft and corridor openings be hung and equipped as follows:

The Label is placed one-third down from the top edge of the door on the hinge side in manufacture. The label should be at the top when the door is installed. This label is not to be removed for any reason.

Clearance. The maximum clearance shall be 1/16" at the top and sides and 3/16" at the bottom. To obtain proper width clearance and bevel, plane the lock edge only. The labeled edge is not to be trimmed or beveled. The top and bottom rails are 1/2" thick. Trim equal amounts off both to obtain proper height clearance.

Hinges. Fasten the door leaves of full-mortise and half mortise hinges to the door with 1-1/4" No. 12 flat head Type A sheet metal screws. The door leaf of full-surface and half-surface hinges should be bolted through the door as illustrated (see Page 6).



Fire Retardant Doors

proof adhesive. The entire core assembly shall be sized on two sides to assure a perfect bond of the face panels to the core. The face panels shall be pre-assembled with waterproof melamine or phenolic glue, as required by the species of veneer specified, and hot pressed until thoroughly cured. The face panels shall be assembled to the core with resorcinol waterproof adhesive and maintained under adequate pressure until completely cured.

5. SANDING:
Both door faces shall be thoroughly belt sanded to a smooth, even texture.

6. GLAZING:
(Not approved)

7. FITTING:
Here specify factory sizing and fitting of doors and hardware.

8. PAINTING AND FINISHING:
Here specify factory finishing.

****STANDARD THICKNESS FACE VENEERS**—Standard thickness of face veneers before sanding: Rotary cut or sliced plain figure Birch, Maple, Oak, Gum, Quartered Figured Gum, Walnut, Mahogany, and most foreign woods, 1/28 inch; White Pine, 1/16 inch; Quartered Oak, 1/24 inch.

(Installation and Hardware cont'd.)

The Underwriters' Laboratories specify that hinges for Class B, C, D, and E doors shall be full-mortise, half-mortise, half-surface, or full-surface. These are to be made of steel and not less than 4-1/2" in height and 0.134 in. in thickness. Also, olive knuckle steel hinges not less than 6 in. in height and 0.225 in. in thickness may be used. Two hinges shall be provided for doors up to and including 60 in. in height, and an additional hinge for each 30 in., or fraction thereof in height.

Doors not exceeding 5 ft. in height and 3 ft. in width shall be provided with two hinges of the types and sizes, as specified above, or not less than 4" in height and 0.130 in. in thickness.

Locks. The Underwriters' Laboratories require that single-swing doors for Class B, C, D, and E openings be equipped with an Underwriters' Laboratories approved, single point lock having a minimum throw of ½". Either the tubular or mortise-type lock set may be used. The locks should be installed according to manufacturer's instructions. Those locks having screwless roses are recommended.

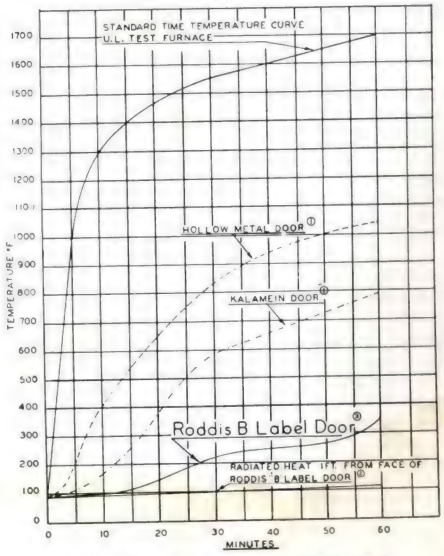
The Underwriters' Laboratories do not recommend hanging fire doors without a positive latch as the air currents created by a fire may cause the door to stand open, adding to the draft and losing the protection the door affords. Consequently, doors equipped with pull only are not approved.

Door Closers. The Underwriters' Laboratories have approved only the overhead, face-mounted and semi-concealed door closers. Those equipped with hold-open mechanisms are required to have a fusible link release incorporated in them. Floor mounted closers have not been approved.

Frames. The Roddis B-Label Fire Door should always be installed in Underwriters' Laboratories labeled steel frames—16 gauge for openings of 3'6" and under, and 14 gauge for openings over 3'6".

(For a list of suppliers of Underwriters' Laboratories approved hardware for use with Roddiscraft B-Label fire doors, write for FIRE PROTECTION EQUIPMENT LIST, published by Underwriters' Laboratories, Inc., 161 E. Sixth Ave., New York 13, N. Y.)

HEAT TRANSMISSION COMPARISON



(1) From U.S. Senate Hearings on Safety at Sea
(2) From Fire Test Report Underwriters Laboratories

Confining fire is only one function of a fire door. The other is to retard the transmission of heat through the door, eliminating the possibility of igniting combustible materials contacting the other side of it. For example, dry paper will ignite when placed against a surface with a temperature approaching 500° F.

As shown in the graph, even though one side of the Roddiscraft Fire Door was subjected to temperatures of 1700° F. in this sixty-minute test, the maximum radiated temperature, measured one foot from the opposite side, was only slightly over 100° F. The surface temperature of this side measured approximately 350° F. as compared to slightly over 1000° F. for hollow metal doors.

Roddiscraft
FLUSH VENEERED DOORS

Solid Core

FIRE RESISTANT

The resistance of Roddiscraft Solid Core Flush Veneered doors to fire has been substantiated by independent laboratories where standard Roddiscraft doors have withstood a regular fire test for over 40 minutes. (For information on B-Label fire doors, see pages 2 and 3).

SOUND RESISTANT

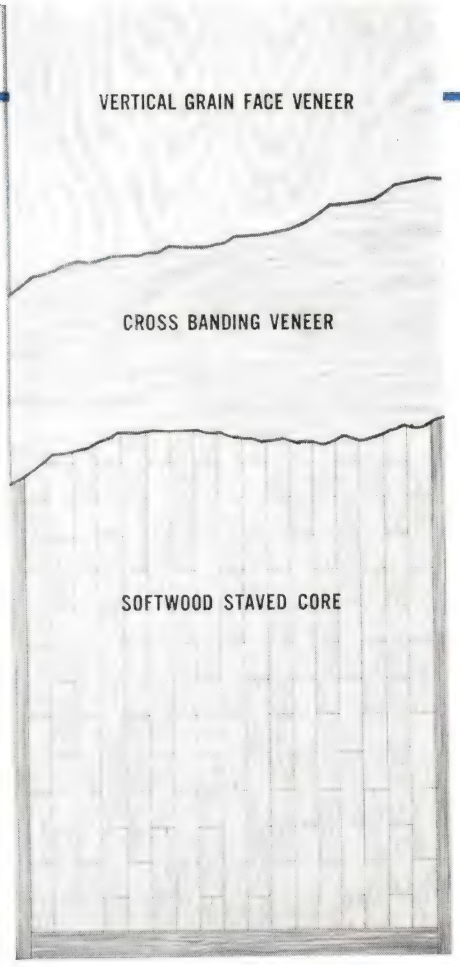
Roddiscraft standard 1-3/4" Solid Core doors developed an average sound transmission loss of 30.9 decibels. This is only a little less than specially constructed sound resistant doors of much greater cost.

RESISTANT TO ABUSE

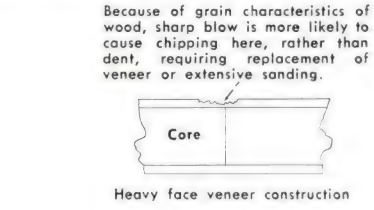
Core, crossbandings and face veneers are welded into a single unit with the inherent strength of true plywood construction.

WATERPROOF

Use of phenolic resin glue provides two completely waterproof shields over the entire area of the door. Doors are suitable for both interior and exterior applications.



Compare the advantages of Roddiscraft construction over heavy face veneer construction

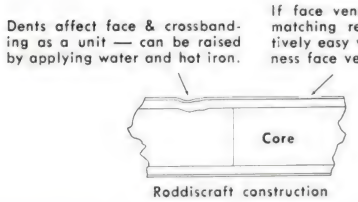


Heavy face veneer construction

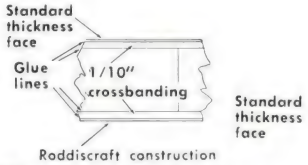


Heavy face veneer construction

Veneers are held at glue line, but excessive thickness makes exposed surface vulnerable to temperature & humidity changes



Roddiscraft construction



Roddiscraft construction

Waterproof glue line close to surface prevents movement of face veneers caused by climatic action



Specifications: Solid Core Flush Veneered Doors for Exterior and Interior Use

General

All doors (so indicated on plans) shall be five-ply Flush Veneered doors made by Roddis Plywood Corp., Marshfield, Wisconsin. Doors shall be constructed in strict accordance with Roddiscraft Standard Construction covered by their two-year Guarantee Bond, and permanently identified with the red-white-and-blue dowel. Doors shall be of sizes and thicknesses called for.

Cores

Cores shall be made of low density* wood blocks no more than 2½" wide of varying lengths assembled with the grain running parallel and vertically (from top to bottom of door). Cores shall be railed on two sides with 3/4" thick hardwood strips—double thickness strips top and bottom of any hardwood or softwood. Those on side edges to be same kind of wood as face veneer. The whole assembly shall be glued under pressure with water-resistant Resin Glue and thoroughly kiln dried, seasoned and planed smooth.

Crossbandings

Crossbandings of 1/10" thick, thoroughly dried, hardwood veneer shall be laid with the grain at right angles to that of the core and glued with waterproof phenolic resin glue (pressure and heat) to both sides of the core. Crossbandings shall run full to the four edges of the door.

Face Veneers

Thoroughly dried, standard thickness face veneers** laid with the grain at right angles to that of the crossbandings, shall be glued with phenolic resin glue (pressure and heat) to both faces of the door and belt sanded smooth.

Face veneers shall be as follows: NOTE: Here describe any special requirements of species, figure, pattern, inlays, etc. If more than one type is required, specify each separately and locate here or by reference to door schedules or special detail drawings.

Metal Door Bottoms and Glazing Strip

All exterior doors shall be provided with 28-gauge copper moisture-protecting door bottoms (and glazing strip) in accordance with Roddiscraft standard details.

Glazing

(Not by door manufacturer)—All glass for glazed doors shall be (specify).

Glazing shall be in accordance with details, using removable wood glazing molding set in white lead or varnish to seal against moisture absorption.

Where called for, doors shall be equipped with (specify grade and type—specify size) mirrors in accordance with details.

Fitting

Here specify factory sizing and fitting of doors and hardware.

Painting and Finishing

. . . ere specify factory finishing.

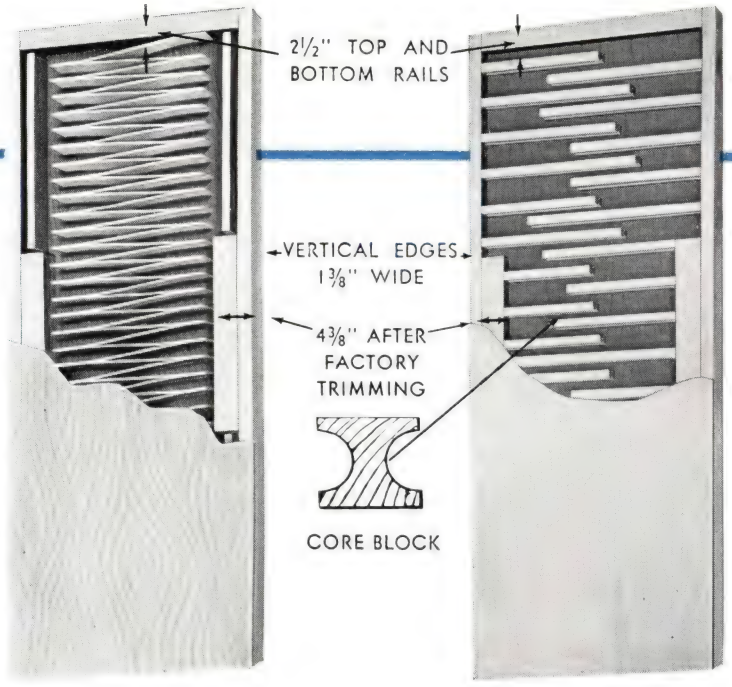
**Low density wood blocks are those weighing not more than 2300 pounds per 1000 board feet when kiln dried to a moisture content of 6%.*

***Standard thickness of face veneers before sanding: Rotary cut or sliced plain figure Birch, Maple, Oak, Gum, Quartered Figured Gum, Walnut, Mahogany, and most foreign woods, 1/28"; White Pine, 1/16"; Quartered Oak, 1/24".*

LOOK FOR THE RED-WHITE-AND-BLUE DOWEL!

Housemart Hollow Core

Roddiscraft FLUSH VENEERED DOORS



Accordion type veneer core
Identified by the Red Dowel

Fluted block core
Identified by the Blue Dowel

The two types of Roddiscraft Hollow Core doors are illustrated above. Selected strips of veneer are spot glued at intervals to form the design of the accordion type core. Wood strips in the block core are fluted to save weight without sacrificing strength.

Extra-strength . . . light weight

Roddiscraft offers two types of hollow core doors which are alike in all respects except for core construction—accordion type veneer core and fluted block core.

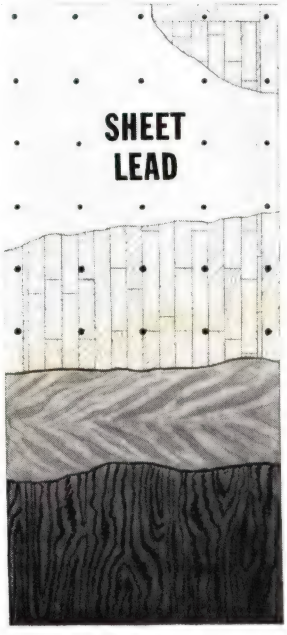
Built into the famous Housemart Hollow Core Door is the same high quality which has made the Roddiscraft Solid Core Door the favorite of numerous architects for years.

CONSIDER THESE ADVANTAGES

1. Every Roddiscraft Housemart Door has pleasingly matched, standard thickness face veneers . . . for color and grain.
2. Standard door sizes as well as specified sizes are manufactured in all available woods.
3. Roddiscraft factory finishes Housemart doors to specification . . . cuts louvre and light openings . . . installs louvres on specification.
4. Eased edges of face panels prevent splitting and chipping in handling.
5. Adequate and proper face support in combination with electronic bonding assure smooth, even faces.
6. Housemart doors carry the Roddiscraft two-year Guarantee Bond, your assurance of satisfactory service. (See Page 8 for guarantee details).

X-Ray

Roddiscraft FLUSH VENEERED DOORS



Designed for beauty . . . with complete protection

Here's the answer to providing complete safety for personnel working with X-ray equipment. The Roddiscraft X-ray doors are designed for good looks. They match regular Roddiscraft Flush doors. Equipped with a continuous sheet of lead set midway between a divided wood core, the X-Ray Door is otherwise identical to the famous Roddiscraft Solid Core Door.

Roddiscraft X-Ray doors are manufactured only on special order. Any thickness of lead may be specified according to the amount of protection required.

Specifications

X-Ray Proof doors (so indicated on plans) shall be Roddiscraft X-Ray doors manufactured by Roddis Plywood Corporation, Marshfield, Wisconsin.

Divided wood cores composed of softwood strip-blocks bonded together under heat and pressure with urea resin glue and banded four sides shall house a continuous sheet of lead running full to the four edges of the door. This assembly shall be secured by the use of lead covered bolts spaced 8" on centers. 1/10" hardwood crossbandings and standard thickness face veneers shall be bonded to the core under heat and pressure with phenolic resin glue and the doors belt sanded smooth.

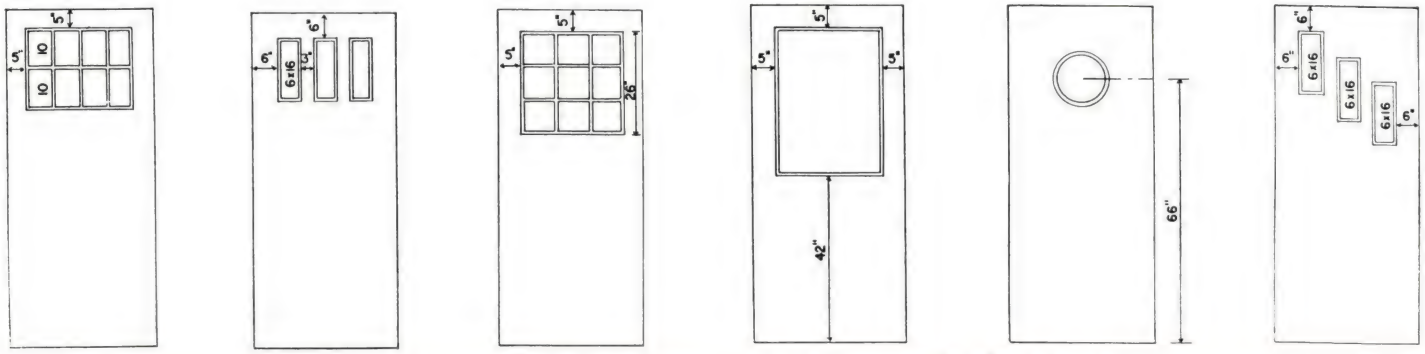
Vertical edge strips shall be of same species as face veneers. Lead thickness shall be as indicated on plans.

Roddiscraft Does the Complete Job

FACTORY-FINISHED DOORS—Roddiscraft doors can be furnished completely factory finished to architectural specification.

DETAIL WORK—Numerous door installations require light and louvre openings and louvre installation. Roddiscraft is equipped to perform these detail operations to specification. Construction methods used are time tested.

MOISTURE PROTECTION—When specified, Roddiscraft installs copper glazing strips at the bottom of light openings and at the bottom edges of doors. Roddiscraft recommends that when millwork firms install glazing, the stops on the exterior sides of the light openings be set in white lead or spar varnish, and the glass imbedded in putty.



Illustrated above are several representative glass layouts for Flush Doors.

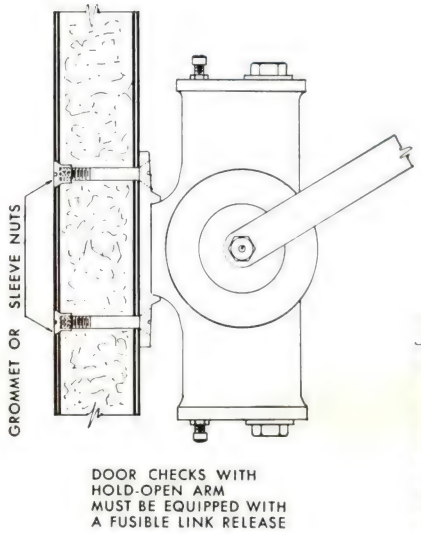
details

Roddiscraft
B-LABEL FIRE DOORS

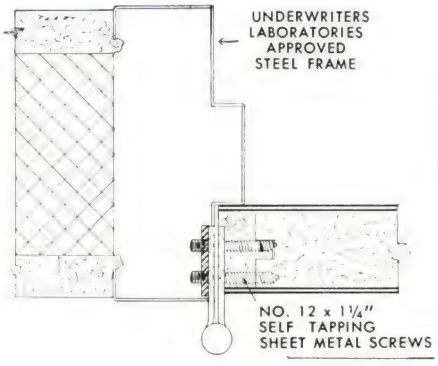
Quality for Over 60 Years

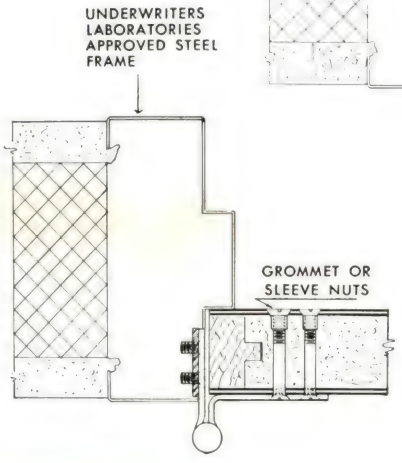
Preferred method of installing tubular lock, half surface hinge, door check mounting, full mortise hinge

DOOR CHECK MOUNTING

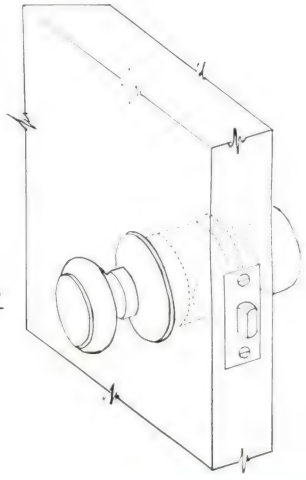


FULL MORTISE HINGE





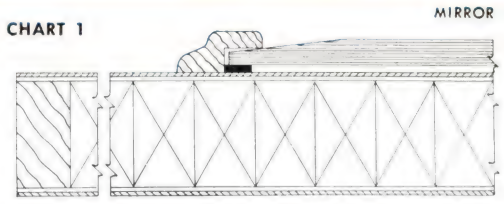
HALF SURFACE HINGE



TUBULAR LOCKSET

CHART 4A

CHART 1



MIRROR DOOR — MIRROR PLANTED ON

STANDARD LOUVRE CONSTRUCTION FOR FLUSH DOORS

CHART 2

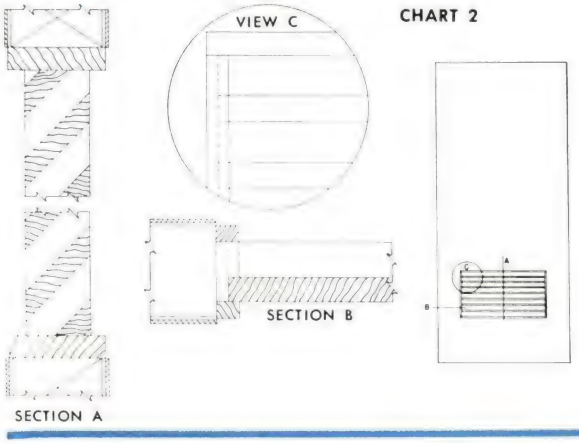
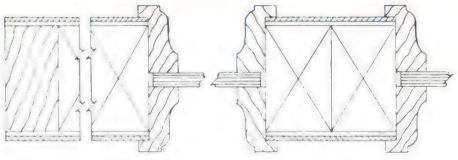
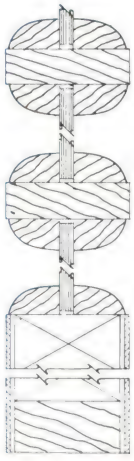


CHART 1A

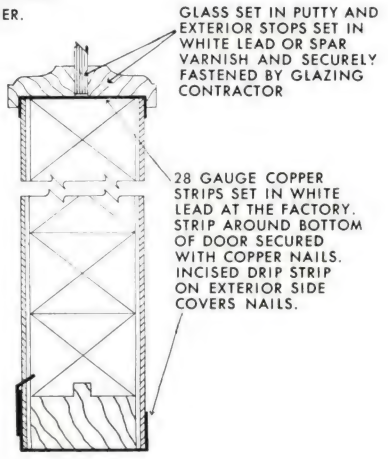
FLUSH DOOR
LIGHT OPENING DETAILS



INDIVIDUAL LIGHT OPENINGS CUT OUT WHEN BARS ARE 1" OR WIDER.

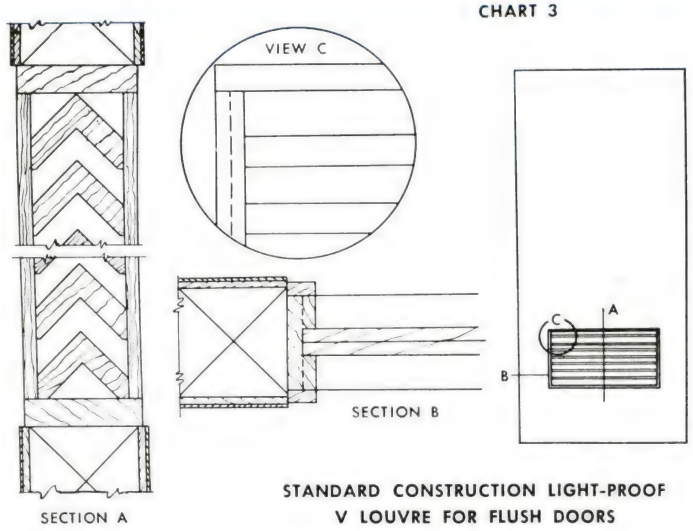


SOLID BARS USED WHEN MEASUREMENTS ARE LESS THAN 1"



RECOMMENDED MOISTURE PROTECTION FOR EXTERIOR DOORS

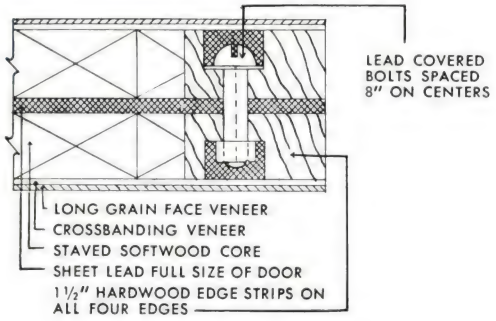
CHART 3



STANDARD CONSTRUCTION LIGHT-PROOF V LOUVRE FOR FLUSH DOORS

CHART 4

STANDARD FLUSH X-RAY DOOR — LEAD LINED



Large detail drawings of the items shown above, plus others as listed below, are available on request. Write to the nearest Roddiscraft warehouse for any or all of the following:

Chart No. 1 —Mirror door construction.

Chart No. 1A—Flush door light opening details and copper glazing strip detail.

Chart No. 2 —Standard louvre construction for flush doors.

Chart No. 3 —Standard construction light-proof V louvre for flush doors.

Chart No. 4 —Standard flush X-ray door.

Chart No. 4A—Preferred method of installing B-Label Fire Door hardware.

Chart No. 5 —Sound resistant door installation.

Chart No. 6 —Stock detail—Dutch door shelf and brackets.

Chart No. 6A—Applied moldings for flush doors.

Chart No. 7 —Glass layouts for flush doors—R605, R615, R619, R643, R611.

Chart No. 8 —Glass layouts for flush doors—R636, R629, R633, R613, R601.

Chart No. 9 —Glass layouts for flush doors—R604, R600, R602, R621, R603.

Roddiscraft Doors are guaranteed for 2 YEARS



The Standard Door Guarantee of the National Woodwork Manufacturers Association listed below is the basis for the Roddiscraft two-year guarantee. While the NWMA guarantee covers one year, the Roddiscraft guarantee covers a two-year period. The Roddis Plywood Corporation is a member of this organization.

All doors produced by members of the National Woodwork Manufacturers Association, Inc., are guaranteed by the manufacturer for one year from date of shipment by the manufacturer to be of good material and workmanship, free from defects which render them unserviceable or unfit for the use for which they were manufactured. Natural variation in the color or texture of the wood are not to be considered as defects.

Doors must be accorded reasonable treatment by the purchaser. Doors must be stored or hung only in dry buildings and never in damp, moist or freshly plastered areas. Doors must not be subjected to abnormal heat, dryness or humidity. The utility or structural strength of the door must not be impaired in the fitting of the door, the application of the hardware, or cutting and altering the door for lights, louvres, panels and any other special details. Immediately after fitting, the entire door including top and bottom edges must be painted, varnished or sealed to prevent undue absorption of moisture. The manufacturer will not assume responsibility for doors which become defective because of failure to follow the above recommendations.

A warp or twist of not to exceed 1/4 inch shall not be considered a defect.

Doors must be inspected upon arrival for visible defects and all claims or complaints based thereon must be filed immediately and before the doors are hung and before the first coat of painter's finish is applied.

The manufacturer agrees to repair or replace in the white, unfitted and without charge, any door found to be defective within the meaning of this guarantee.

Doors must not be repaired or replaced without first obtaining the consent of the manufacturer.

Interpretation of Standard Door Guarantee

"A warp or twist of not to exceed 1/4 inch shall not be considered a defect." This refers to any distortion in the door itself and not its relationship to the frame or jamb in which it is hung. Therefore, a warp or twist exceeding 1/4 inch shall be considered a defect only:

1. When warp is determined by applying a straight edge to the concave face of the door, or
2. When twist is determined by placing the face of the door against a true plane surface. A simple device to determine and measure "twist" may be made by placing two cross-members on a post, one about door height and the other slightly above the floor. The cross-members must be perfectly straight and true and plumbed into perfect alignment.

For the purpose of this Guarantee, a building shall be construed to be "moist" or "freshly plastered" if at the time of the delivery of the doors, or at any time subsequent thereto and prior to the completion of the painter's finsh, including the painting, varnishing or sealing the entire door including top and bottom edges, the relative humidity in the room or rooms in which the doors are to be installed or stored as determined by use of a standard hygrometer, exceeds 50% at 70 degrees Fahrenheit.

USE Roddiscraft NATIONWIDE WAREHOUSE SERVICE

Each Roddiscraft warehouse is a service center equipped to assist you in every possible way.

Call on your nearest warehouse for information regarding the application of any of our products.

CAMBRIDGE 39, MASS.
229 Vassar Street

CHARLOTTE 6, N. C.
123 E. 27th Street

CHICAGO 32, ILL.
3865 West 41st Street

CINCINNATI 4, OHIO
836 Depot Street

CLEVELAND 4, OHIO
2717 East 75th Street

DALLAS 10, TEXAS
8200 Lovett Street

DETROIT 14, MICH.
11855 East Jefferson Street

HOUSTON 10, TEXAS
2403 Sabine Street

KANSAS CITY 3, KANSAS
35-53 Southwest Boulevard

LOS ANGELES 58, CALIF.
2620 East Vernon Avenue

LOUISVILLE 10, KY.
1201-5 South 15th Street

MILWAUKEE 8, WIS.
4601 West State Street

MIAMI 38, FLORIDA
255 N. E. 73rd St.

NEW HYDE PARK, L. I., N. Y.
1756 Plaza Ave.

NEW YORK 55, N. Y.
920 East 149th Street

PHILADELPHIA 34, PA.
Richmond & Tioga Streets

PORT NEWARK 5, N. J.
103 Marsh Street

ST. LOUIS 16, MO.
3344 Morganford Road

ST. PAUL 4, MINN.
635 North Prior Ave.

SAN ANTONIO 6, TEXAS
727 North Cherry Street

SAN FRANCISCO 24, CALIF.
345 Williams Avenue

SAN LEANDRO, CALIF.
720 Williams Street

RODDIS PLYWOOD CORPORATION
MARSHFIELD, WISCONSIN

RPC 5—10-54—74M

It takes the best to make the best.

THOMASON
flush doors



That's why THOMASON flush doors are produced from the finest quality of foreign and domestic woods. By boat . . . by rail . . . from all parts of the world come the rare and rugged woods that go into the production of THOMASON flush doors.

Architects can specify and builders can now purchase from one source all of their flush door requirements. Available in any practical sizes and measurements as well as such face veneers as Birch, Gum, Philippine Mahogany, African Mahogany, Oak, Knotty Pine, Walnut, and many others, the THOMASON PLYWOOD CORPORATION may be considered as *the* single source for all such needs. Their fully integrated and modernly equipped plants enable the THOMASON flush door to be manufactured under unsurpassed production controls.

THOMASON PLYWOOD CORPORATION

THOMASON flush doors—top quality throughout

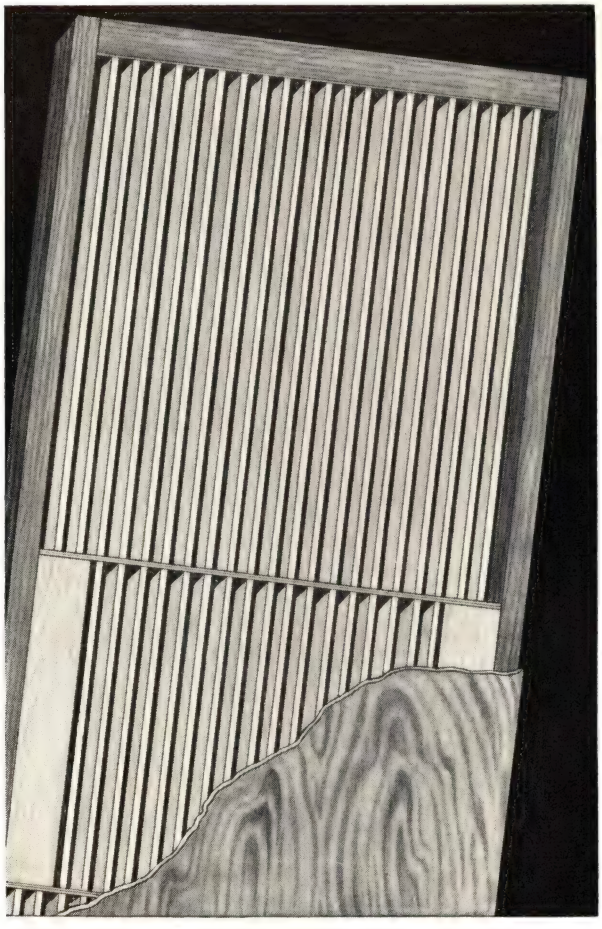
TOP QUALITY THROUGHOUT

In addition to the fact that all face veneers used in the construction of a THOMASON flush door meet or exceed U. S. Commercial Standard CS-35-49, the high production standards of the THOMASON PLYWOOD CORPORATION are absolute assurance of highest quality throughout. Among other things this means that the face veneer on every THOMASON flush door has been carefully matched for color of wood, figure of grain, and similarity of color and figure on both sides of the door. Sanding of faces produces a satin-smooth finish which provides an excellent surface for stain, paint, natural or varnish finishes.

for:

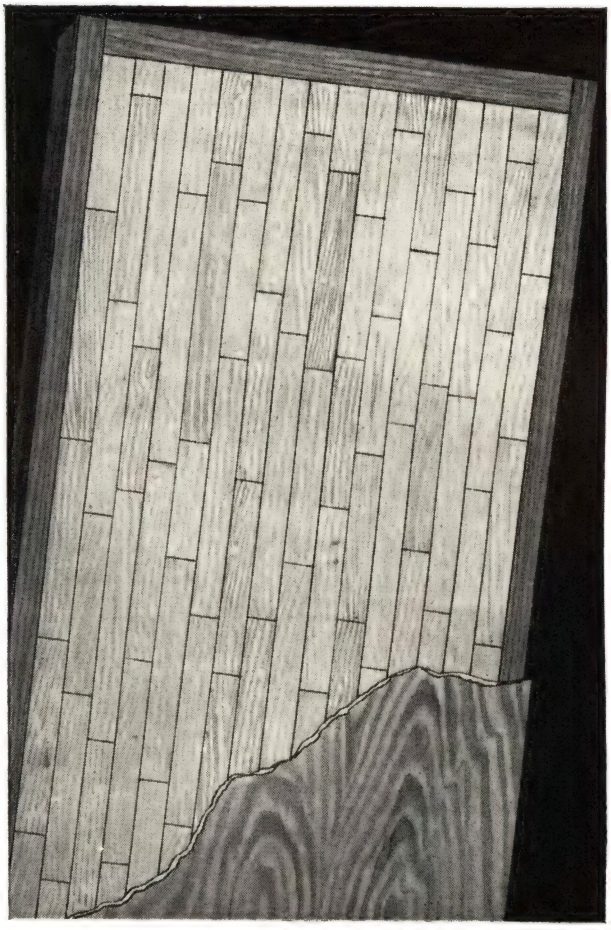
residences
apartments
offices
hotels
schools
hospitals
institutions
public buildings

hollow core



The interior of the THOMASON hollow core flush door is constructed from strips, in a vertical position, spaced approximately one inch apart; stiles are 1½" wide and rails are 2½" wide. All elements are securely butt-jointed and air vents are strategically placed so as to permit normal expansion and contraction; for convenience, lock blocks are on both sides of the door measuring 3" x 24½", thus providing a 4½" x 24½" area for locking; the stiles are of clear hand selected poplar lumber and their two-ply construction provides the ultimate in insurance against warpage.

solid core



The interior of the THOMASON solid core flush door is of a stave construction. The core blocks are firmly joined under intense heat and pressure and machined to very close tolerances; cross bands and carefully selected face veneers are bonded to the cores under hot plate presses. The THOMASON solid core flush door can safely be cut at any desired place in the door allowing many individual light openings and panel effects to be chosen from.

economy ladder type

To satisfy a growing demand for flush doors and to be able to offer a more complete service there was recently added to the THOMASON line an all-wood ladder type flush door. This door is constructed by placing ¾" wooden strips horizontally in a frame approximately 4" apart and bonding three-ply panels 3/20" on either side. Many of the same face veneers are available that are used in the grid type door and several species are offered in two and three grades.

plastic faced

To meet the growing demand for modern doors THOMASON'S Phenoweld (Plastic) Faced flush doors were designed and built. They are now available in domestic and foreign wood grain plastics, as well as decorative plastics. Except for the edges, no painting or refinishing is needed, thus, care and maintenance are reduced to a minimum. Their skillful combination of outstanding beauty and sturdy construction makes them a valuable asset for any interior or exterior use.

sizes and measurements

thickness: 1⅛", 1⅜", 1¾"

height: 6'-0", 6'-6", 6'-8", 6'-10", 7'-0"

standard width: 1'-6" to 3'-0"

stiles: 1½"

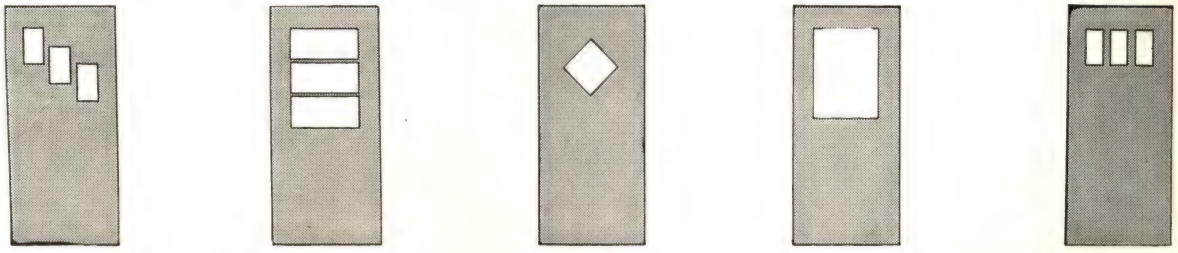
rails: 2½"

double lock blocks: 23" x 4½"

faces: 3/20" three ply or ⅛" two ply

note: Frames permit cutting down 1" top and bottom. Special sizes, light openings, louvres, kickplates and veneers may be ordered to specifications.

light openings exterior flush doors



These doors are available either plain or in many various patterns of light openings. The above are some of the more popular designs which may be purchased. The THOMASON flush door may be ordered in both hollow core and solid core for exterior use. A completely water-proof glue is used for bonding and these doors are fully guaranteed.

THOMASON plywood for every building need

Thomason Plywood Corporation also manufactures a complete line of cut to size plywood for the furniture and cabinet trade in addition to architectural plywood. Plywood for the building trade is made any thickness, width and length to the customer's specifications. Builders have the advantage of securing doors and plywood in combined shipments, assuring you that your construction will go forward with no expense due to lack of delivery on these materials.

Thomason secures the finest foreign and domestic veneers sliced 1/28″ thick to supply the faces for their furniture, stock panels and building trades plywood. We work closely with the architect to secure rare woods and produce the perfect matched panels giving the pleasing effect to his complete satisfaction.

All Thomason plywood is made with urea resin bond for cabinet and interior use, thus assuring a high water resistant bond. All exterior plywood is manufactured with waterproof melamine resin. All lumber core panels are manufactured from Appalachian Poplar core, carefully cut and kiln dried to 6% of moisture content, ripped to the correct width to prevent warping using 1/20″ sound hardwood cross bands and equalizing backs to give a pleasing appearance and assuring a completely balanced panel.

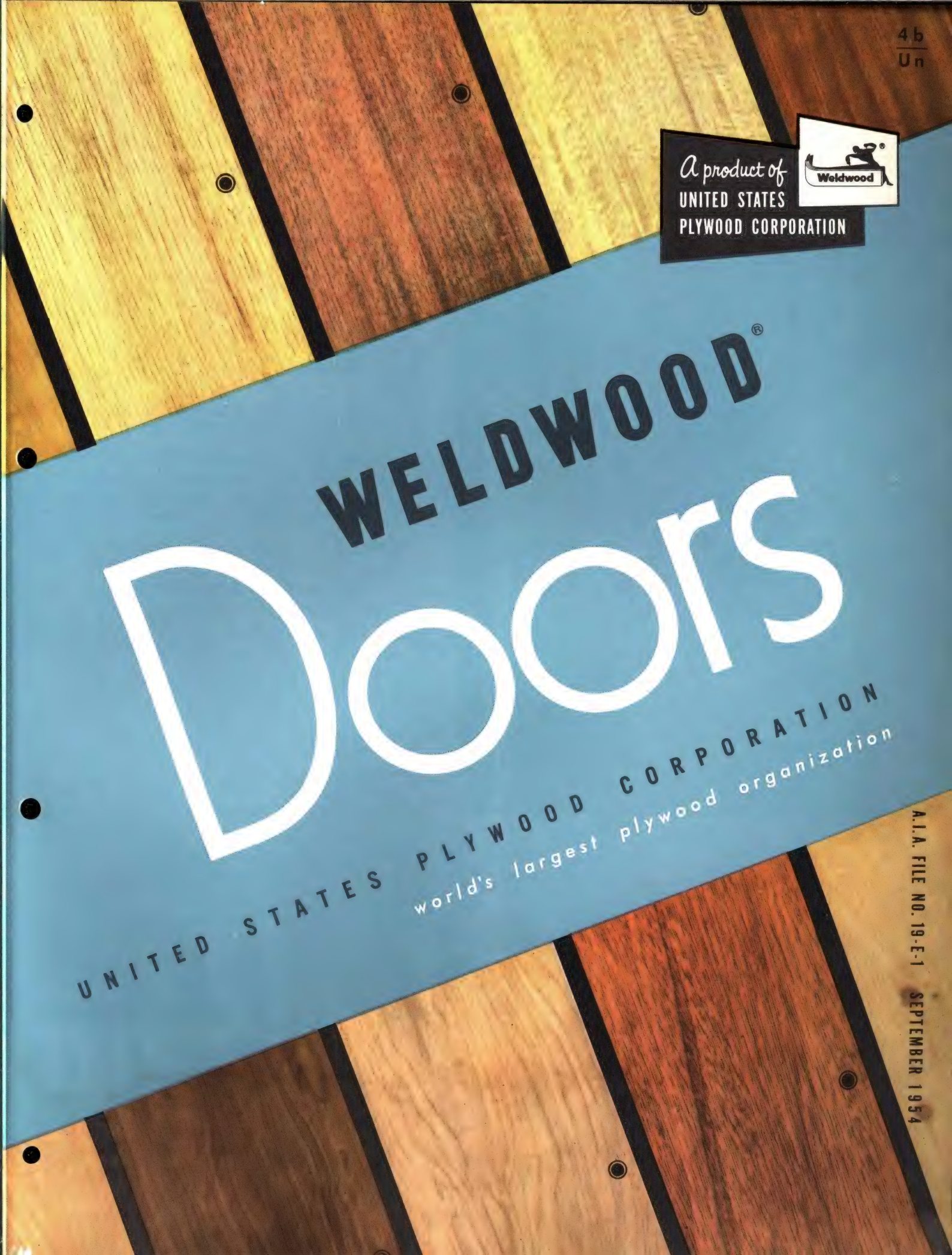
The decorative faces on Thomason plywood are secured throughout the world, sliced 1/28″ thick and book matched to afford a continuity of grain throughout the area.

Panels are available faced on one side and/or two sides according to the customers needs.

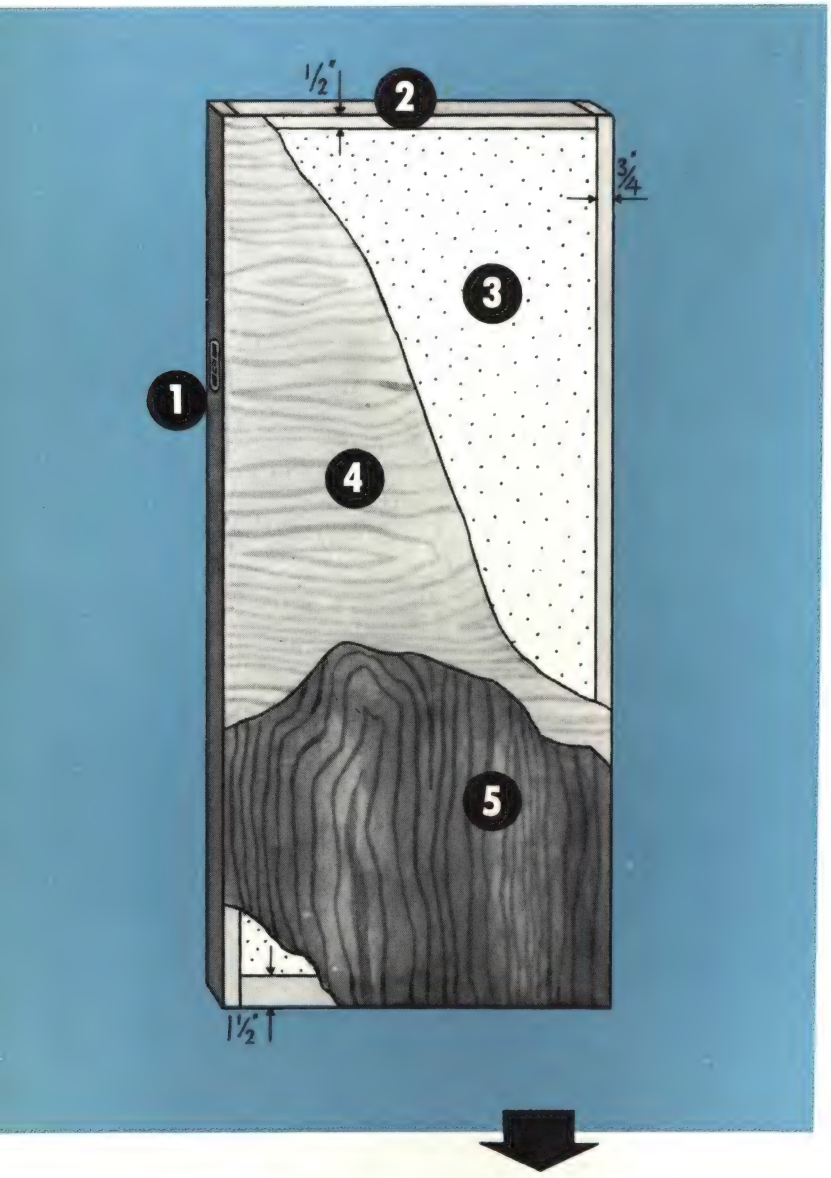
Thomason has a complete line of counterfronts up to 16′ in all the popular foreign and domestic woods.

THOMASON
PLYWOOD CORPORATION
Fayetteville, North Carolina

4b
Un


A product of
UNITED STATES
PLYWOOD CORPORATION
Weldwood
WELDWOOD®
Doors
UNITED STATES PLYWOOD CORPORATION
world's largest plywood organization
A.I.A. FILE NO. 19-E-1
SEPTEMBER 1954

Weldwood Fire Door



1. label. Combination Underwriters' Laboratories — U. S. Plywood Corp. label attached on hinge stile edge 1/3 down from top of door.

2. fireproofed edge banding. Door is completely banded on all four edges with solid birch hardwood treated with Class "A" fireproof agent

3. Weldrok® core. Weldrok is a strong, lightweight, incombustible mineral material. The core is made up of accurately designed sections joined together with tongue-and-groove joints.

4. cross banding. 1/16" hardwood veneer cross banding is bonded to the core with WATERPROOF phenolic resin glue.

5. face veneer. Handsome birch veneer forms the hardwood faces. A wide variety of other decorative sliced or rotary cut woods is also available.

bears underwriters' laboratories label for class "B" and "C" openings*

This means that they have been thoroughly tested, both for fire resistance and structural integrity, by this official agency for the stock fire insurance underwriters. The Class "B" label is recognized nationwide by all building authorities.



This metal label is fastened to the hinge stile edge of every Weldwood Fire Door.

Factory Mutual Laboratories (FM), the New York City Board of Standard and Appeals (Approval Calendar No. 620-47SM), and Building Officials Conference of America. (BOCA 51-3)

Weldwood Fire Doors are a must for hospitals, schools, institutions, offices and apartment buildings . . . where the rich beauty of real wood-faced doors and absolute fire protection are essential.

These fire doors are made with an incombustible mineral core material called WELDROK. They are DIMENSIONALLY STABLE—stay straight and are LIGHTER in weight than other fireproof doors. The original cost of a Weldwood Fire Door is moderate and maintenance cost is practically negligible . . . once you've installed this door, only an occasional waxing is required to keep the fine hardwood face veneers beautiful . . . and you are sure they will last for the LIFE of the building.

Light openings up to 100 sq. inches in area can be provided in the Weldwood Fire Door. Light sizes: 10" x 10" and 8" x 12".

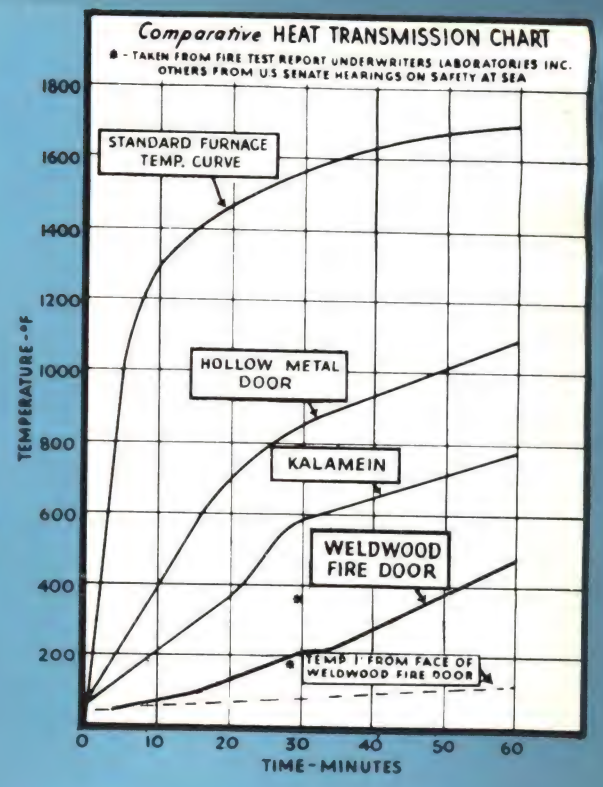
**Class "B" openings are openings in vertical shafts. Class "C" openings are room and corridor partition openings.*

WELDWOOD *Fire* DOOR GUARANTEE

Weldwood Fire Doors, when properly installed under normal service conditions, are guaranteed against warping, twisting or manufacturing defects for the LIFE of the installation. Any door found defective will be replaced without charge . . . INCLUDING ALL LABOR COSTS OF HANGING AND REFINISHING.

When considering fire doors and protection against loss due to fire, *Heat Transmission* is also an important factor. Indeed, in many cases, the damage caused by transmission of heat can be as great as the damage caused by the flames on the other side of the door. That is why the high insulating value of the Weldwood Fire Door is a real feature. In the fire test, the exposed side of the door was subjected to 1700° F. At a distance of one foot from the other side of the door, the highest temperature registered was only 102° F. This means *full* protection against loss of life and property. (See the chart of comparative values of kalamein and hollow metal doors.)

The low heat transmission indicated on the chart provides a substantial margin of safety in the reduction of fire spread.



stock face veneers

Birch, Korina, mahogany, rift oak and walnut. Also a wide variety of other fine hardwood faces available on special order.

stock sizes and weights

size	thickness	weight	size	thickness	weight
2/4 x 6/8	1¾"	56 lbs.	2/6 x 7/0	1¾"	70 lbs.
2/6 x 6/8	1¾"	66 lbs.	2/8 x 7/0	1¾"	74 lbs.
2/8 x 6/8	1¾"	71 lbs.	3/0 x 7/0	1¾"	84 lbs.
3/0 x 6/8	1¾"	80 lbs.	3/4 x 7/0	1¾"	92 lbs.
2/0 x 7/0	1¾"	56 lbs.	3/6 x 7/0	1¾"	98 lbs.
2/4 x 7/0	1¾"	65 lbs.			

Fire Door Vision Panel and Suggested Hardware Adaptations are shown on the next page

SPECIFICATIONS

All Fire Doors for use in Class "B" or lower classification locations shall be Weldwood Fire Doors as made by the United States Plywood Corporation, approved by the Underwriters' Laboratories, Inc., and labeled accordingly.

face veneers — Face veneers shall be thoroughly kiln-dried hardwood of standard thickness—1/28"—and smoothly belt sanded. Rotary cut unselect birch is standard; other sliced or rotary cut domestic or foreign woods are available.

core — The core shall be made of Weldrok, an incombustible mineral material, consisting of hydrous calcium silicates with asbestos fiber binder. The core sections shall be joined together with tongue-and-groove joints as approved by the Underwriters' Laboratories. The core shall be smoothly sanded prior to application of cross bands and face veneers.

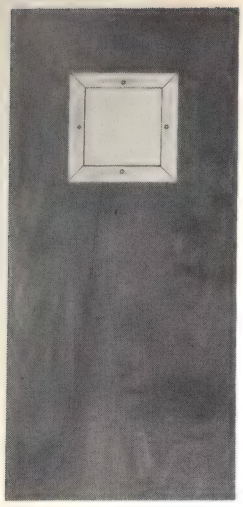
banding — The banding shall be of birch treated with Class "A" fireproofing agent. The top banding shall be ½" in thickness; the side banding shall be ¾" and the bottom banding shall be 1½" in thickness made by laminating two ¾" pieces.

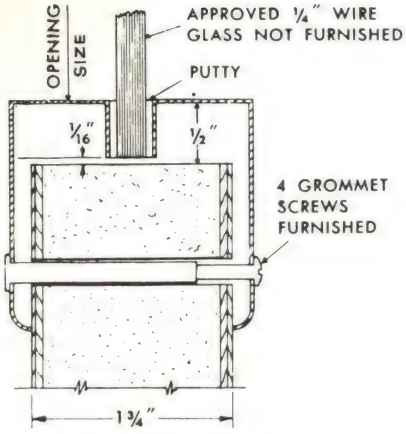
cross bands — Cross bands shall be thoroughly kiln-dried hardwood, 1/16" thick extending the full width of the door.

adhesives — The core and edge banding shall be bonded together with a waterproof resin glue. The entire core shall be sized on two sides to insure perfect glue bond between core and cross band. The core, cross band and face veneer shall be bonded with waterproof Tego film phenolic glue by the hot plate process.

sizes — The thickness of all fire doors shall be 1¾". Available in range of standard sizes, maximum height—7'0".

vision panel — If required, a vision panel frame for a 10" x 10" or 8" x 12" light shall be provided carton packed and complete with screws. A baked finish of light brown metal paint shall be provided on all surfaces. Glazing with ¼" wire glass shall be done by others.





vision panel detail 10" x 10" or 8" x 12"
Only sizes available

Suggested Hardware and Installation Specifications For Weldwood Fire Doors

The following covers recommended hardware for swinging Labeled WELDWOOD Fire Door for vertical shafts and corridor and room partition openings.

CLEARANCE: Maximum clearance for WELDWOOD Fire Doors shall be 1/16" at the sides and top and 3/16" at the bottom. In fitting door to opening to establish proper width clearance and bevel, plane the lock stile edge only.

The Underwriters' Label is placed one-third (⅓) from the top on the hinge stile. It is obvious nothing can be trimmed from this edge. The installed door must always have the Label at the top.

IMPORTANT: Never trim from the top of the door. In fitting for height, always trim from bottom edge, but never reduce height more than ¾". Never cut door down either in width or height to fit smaller opening than the size for which the door is manufactured. If these steps are followed, the door will operate perfectly.

lock sets for weldwood fire door

Lock and latch sets with ½" bolt throw (or greater) approved by the Underwriters' Laboratories.

Cylindrical-type lock set is installed on the lock stile side by boring two (2) holes as illustrated and secured in position. Examples: Sargent No. 4505½, Schlage Heavy Duty D51 PD—or equal. Mortise-type lock set is installed in lock stile and secured by screwing face plate to ¾" hardwood edge banding. It is recommended that lock sets with screwless roses be used to avoid the problem of very short rose attachment screws which may in time work loose. Examples: Russwin No. 1024½, Sargent No. 7605½—or equal.

hinges for weldwood fire door

Steel full mortise butt type hinges are installed on hinge stile edge, the leaf of hinge applied to door to be secured with 1¼" x 12 gauge flat head self-tapping sheet metal screws. When applying screws do not extend pilot holes deeper than the thickness of the wood edge banding which is ¾". Examples: McKinney No. T.B.714½ — Stanley BB-146 — or equal — recommended for Weldwood Fire Doors.

Steel half surface hinges are secured by bolting thru the door, as illustrated. Half surface hinges should be not less than 4½" x 4½" made from not less than ⅛" steel and be of ball bearing type. Examples: McKinney No. T.B.772½ — Stanley No. BB-133 — or equal.

Butt Hinges should be not less than 4½" x 4½", made from not less than ⅛" steel, and be of the ball bearing type. Three (3) hinges are recommended for all WELDWOOD Fire Doors.

door closers and pulls:

Certain concealed and semi-concealed closers are suitable for the Weldwood Fire Door. The LCN type 303 concealed closer and the Russwin 400 semi-concealed closer, for example, have been tested by the Underwriters' Laboratories installed in the Weldwood Fire Door and found satisfactory. It is recommended that both of these closers be secured in the top edge of the Fire Door with self-tapping sheet metal screws, in place of the wood screws normally supplied.

Door Pulls and surface-mounted Door Closers must be installed with some type of through bolts, as illustrated.

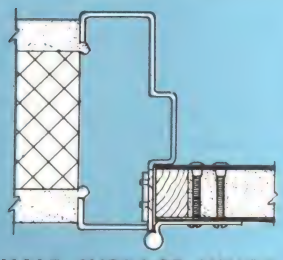
door frames:

All WELDWOOD Fire Doors should be installed in listed and labeled metal frames, 16 gauge for 3'6" and under, 14 gauge recommended for openings over 3'6" in width.

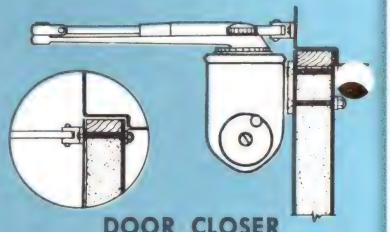
Consult hardware manufacturers' catalogs for finishes and any additional information.



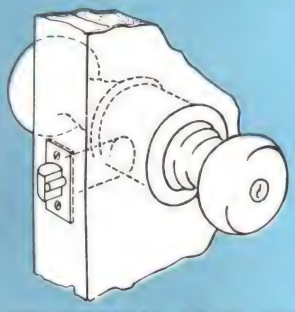
FULL MORTISE HINGE



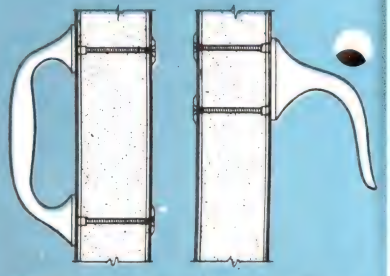
HALF SURFACE HINGE



DOOR CLOSER

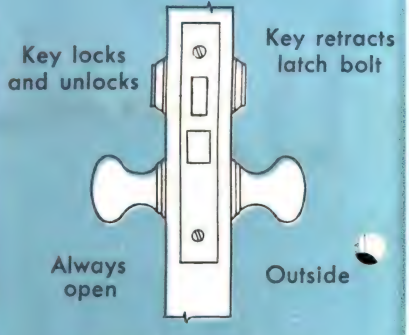


CYLINDRICAL LOCK SET



Regular Type Hospital Type

DOOR PULLS



MORTISE LOCK SET

Weldwood "Stay-Strate" Flush Door— guaranteed and registered

The Weldwood "Stay-Strate" Door is the finest solid-core flush veneer door . . . the only flush veneer door unconditionally guaranteed for the "Life of the Installation." Under this guarantee, defective doors will be replaced without charge—including all labor costs. In addition, each door is assigned an individual registration number.

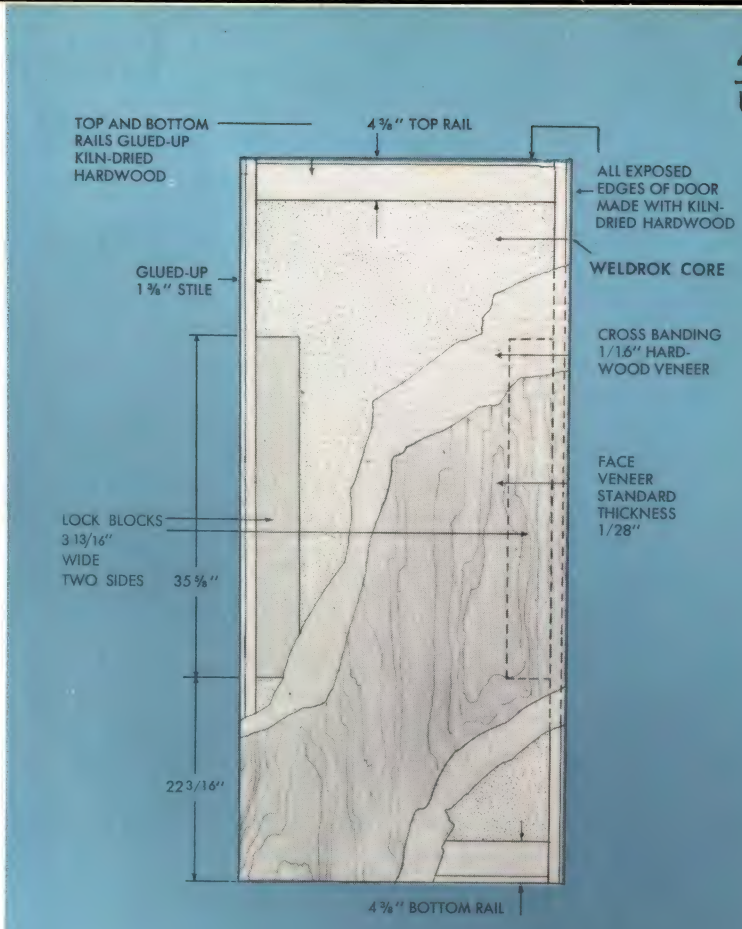
The Weldwood "Stay-Strate" Door is an ideal interior and exterior door for residences, offices, apartments, schools, hotels, hospitals, and other institutional uses.

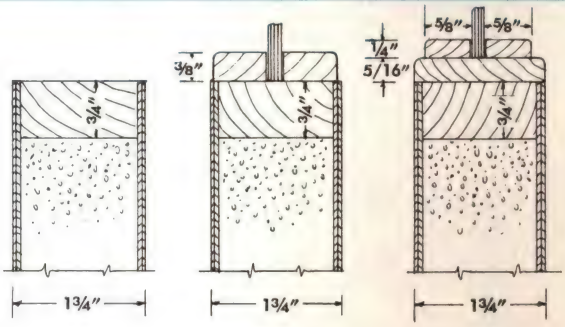
It's a proven door with a maximum degree of *dimensional stability, greater fire resistance and added insulation value.* The exceptional performance of this Weldwood door is due to its Weldrok core material. This material is incombustible, inert, extremely homogenous and has a low moisture content. It resists vermin and decay. It is the same mineral core material that is used in the Weldwood Fire Door.

Another Weldwood "Stay-Strate" Door advantage is its excellent sound reduction property. While this door cannot be classed as "sound-proof," the sound transmission loss is approximately 31 decibles, if properly hung.

face veneers

They are made with beautiful faces of birch, oak, walnut, Korina and other fine hardwoods. All veneers are "standard thickness" for superior performance. See page 8 for specific advantages.





light and metal louvre opening details



This "Life of installation" guarantee is on every "Stay-Strate" Door.

SPECIFICATIONS

All Flush Veneered Doors (as indicated) shall be WELDWOOD "Stay-Strate" Flush Veneer Doors—with Mineral Core, as made by UNITED STATES PLYWOOD CORPORATION

face veneers: Face veneers shall be thoroughly kiln dried hardwood, laid with grain at right angles to the grain of the cross-bands. STANDARD THICKNESS: 1/28"—sliced or rotary cut woods. (Insert specie(s) and any special requirements.) Both faces shall be smoothly belt sanded.

core: The core shall be made of Weldrok, an incombustible mineral material, consisting of hydrous calcium silicates with asbestos fiber binder. Each core shall be made of three or more pieces securely bonded together by the high frequency giuing process.

cross bands: Cross bands shall be thoroughly kiln dried hardwood, 1/16" thick, extending the full width of the door and laid with the grain at right angles to the face veneers.

edge bands: Top and bottom rails shall be thoroughly kiln dried hardwood, total width 4⅜", built up of stock securely glued together. Side edge bands shall be thoroughly kiln dried hardwood, total width 1⅜", built up of two (2) pieces of stock securely glued together. Exposed edges shall be one piece and of same wood as face veneer on the long edges.

adhesive: Crossbandings and faces shall be laminated to core with 100% waterproof phenolic resin glue, by hot plate process, providing a door especially adapted for exterior use.

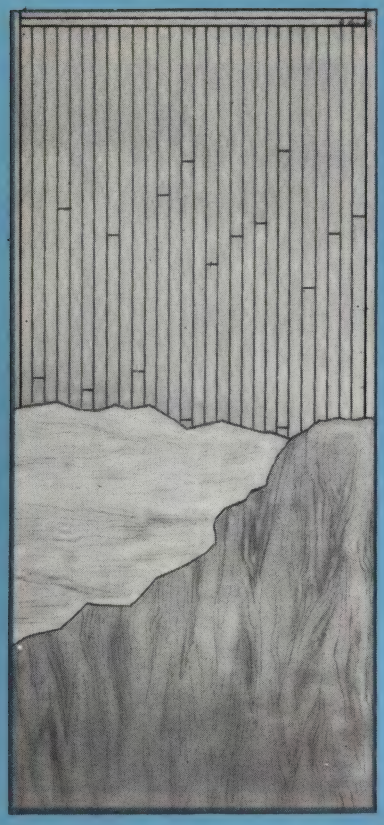
lock blocks: Lock block on two (2) sides. Lock blocks 3-13/16" wide, 35⅝" long, shall be provided. Inside edge of lock block shall be not less than 5-3/16" from outer edge of door. Minimum distance from botton of lock block to bottom of door shall be 22-3/16".

prefit: All doors shall be trimmed square and factory prefit to standard book sizes

sizes: Doors shall be available in a wide range of sizes in 1¾" stock thickness. Also in 2¼" and 1⅜" thicknesses on special orders.

light and louvre openings: Where specified, doors shall be provided by the door manufacturer with light and louvre openings in accordance with the WELDWOOD Standard Details which include circular, rectangular and divided lights.

Glass beads for light openings shall be provided tacked in loose. All glazing and installation of metal louvres done in the field.



Weldwood Staved Lumber Core Door

the all-purpose door—for exterior or interior use

Weldwood Staved Lumber Core Doors are ideal for use in hotels, hospitals, schools, apartments, churches and residences where the highest quality door of this type is required for *interior* and *exterior* use.

This architectural door is particularly suitable for use with matching plywood. Algoma grade plywood paneling and this Weldwood door make a perfect quality team.

The staved lumber core is constructed of pine, or equal species (see note below), with every other core piece running the full length of the door. This provides additional strength not obtained in the conventional door of this general design. The use of narrow core pieces with the grain alternated makes the door dimensionally stable.

The Weldwood Staved Lumber Core Door is *guaranteed* not only against defective material or workmanship which makes the door suitable for the purpose intended but also against delamination for the *life of the door.*

face veneers

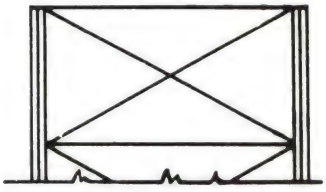
Birch, Korina, mahogany, rift oak, walnut and a wide variety of other fine hardwood veneers are available on order. All veneers are "Standard thickness." See page 8 for specific advantages.

sizes and thicknesses

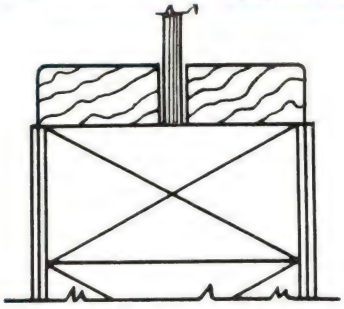
1⅜", 1¾", 2" and 2¼" thicknesses are available. Also 1⅛" and 1¼" stall doors. The complete range of standard sizes can be furnished on order to meet your needs.

Note: Where code requirements or preference makes necessary, a hardwood core of basswood, or equal species, will be provided on order.

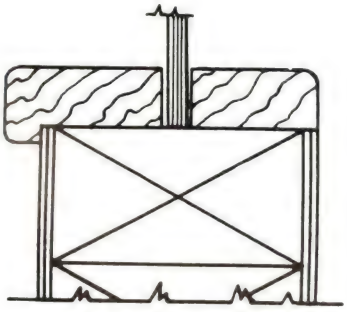
light and metal louvre opening details



louvre opening W-1



interior light opening W-1a



exterior light opening W-2a

SPECIFICATIONS

All flush doors (as indicated) shall be Weldwood Staved Lumber Core Doors—as made by United States Plywood Corporation.

face veneers: Face veneers shall be standard thickness, thoroughly kiln-dried hardwoods and laid with the grain at right angles to the grain of the cross bands. Standard thickness: 1/28" sliced or rotary cut domestic or foreign woods. (Insert specie(s) and any special requirements.)

cross bands: Cross bands shall be thoroughly kiln-dried hardwood, 1/16" thick, extending the full width of the door and laid with the grain at right angles to the face veneers.

cores: Cores shall be built up of narrow pieces of pine or equal specie, every other piece running the full length of the door with the grain alternated to provide dimensional stability. (Insert requirements for hardwood core.)

edge bands: The stile edge bands shall be thoroughly kiln-dried ¾" hardwood to match the faces. Top and bottom edge bands of 2 pieces of ¾" glued up hardwood shall be applied. All edge bands shall be laminated to the core with waterproof resin glue by the high frequency process.

adhesive: Cross bands and faces shall be laminated to the cores with 100% waterproof resin glue, by the hot plate process.

sanding: Both faces shall be smoothly belt sanded before leaving the factory, providing perfect surfaces for paint or natural finishes.

prefit: All doors shall be trimmed square and factory prefit to standard book size.

sizes: Doors shall be available in a wide range of sizes and in thicknesses of 1⅜", 1¾", 2" and 2¼". Stall doors available in 1⅛" and 1¼" thicknesses.

light and louvre openings: Where specified, doors shall be provided with light and louvre openings in accordance with Weldwood details which include circular, rectangular and divided lights, and wood louvres.

Glass beads for light openings shall be provided, tacked in loose. All glazing and installation of metal louvres shall be done in the field.

Weldwood Hollow-Core Flush Doors

In the field of moderately priced hollow-core doors, the Weldwood Flush Hollow-Core Door is quite popular. Thousands of these doors have been installed in a wide variety of interior applications and are being used with complete satisfaction.

Weldwood hollow-core doors are made with handsome hardwood faces which can be painted or finished "natural." Available in a wide range of standard sizes with faces of Gum, Birch, Oak, Walnut, African Mahogany and Philippine Mahogany. Stock thicknesses: 1⅜" and 1¾". Also available in Exterior grade in 1¾" thickness.

Glidaway® SLIDING DOOR UNITS*

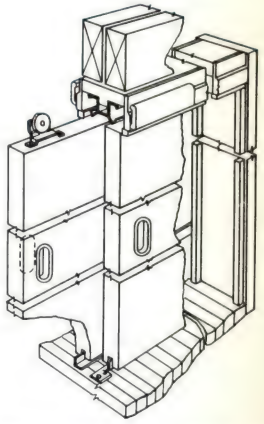
for use with 1⅜" Weldwood Hollow-Core Doors

New, improved Glidaway Sliding Door Units are prefabricated sliding door frames—furnished knocked-down and *complete with all hardware.* Designed for use in 2 x 4 stud partitions in new construction, the Glidaway line includes 3 standard units: wardrobe sliding door units; double pocket sliding door units; and single pocket sliding door units. All 3 types are quality-made sliding door units that will work smoothly, easily and quietly—eliminating unsightly floor tracks of the old-fashioned sliding doors.

New features of the Glidaway Sliding Door Unit including Har-vey Hardware: rustproof track made of extruded aluminum and v-grooved to eliminate chattering; self-lubricating Oilite bearings that give smooth, silent rolling without maintenance; high-pressure laminate rollers that give a lifetime of satisfactory performance; solid brass hangers with stainless steel rivets, making the entire unit completely corrosion-resistant. In addition, these sliding door units are treated with a water-repellent wood preservative that protects the wood from warping, swelling, etc. — and also protects against fungus, decay or rot.

1⅜" Weldwood Hollow-Core Doors—available in a variety of fine hardwood faces—are specially adapted for use in any of the 3 standard Glidaway Sliding Door Units.

*Available only in warehouses east of the Rocky Mountains.



Glidaway door frames are simply and easily installed. For complete installation details write for the assembly directions.

Novoply® WARDROBE SLIDING DOOR UNITS

Constructed with doors of amazing NOVOPLY, the flattest wood panel ever developed. NOVOPLY is a 3-Ply, all wood panel, consisting of a 1/16" surface of wood veneer flakes, a core of medium-sized chips and another 1/16" layer of flakes. Flakes and chips are resin-impregnated and the three plies are formed and fused together under heat and pressure.

Features: Won't warp
Solid ¾" NOVOPLY
Complete pre-cut packaged unit
Precision rolling hardware installed
NOVOPLY sliding doors can be finished natural or painted equally well.

NOVOPLY SLIDING DOORS are guaranteed against warping in excess of ⅛", providing doors are properly installed and finished on both sides. Guarantee is limited to free replacement of doors, not including labor.

Here is shown typical NOVOPLY wardrobe sliding door units. The units are supplied packaged complete: NOVOPLY doors with hardware and select jambs, headers and fascias.

More than one NOVOPLY sliding door unit can be joined together to build a complete sliding storage wall. This luxury feature is available at modest cost.



All of our distributing Branches stock NOVOPLY wardrobe sliding door units. A list of these Branches is on the back page of this brochure. Please contact the nearest Branch for sizes and specifications of units stocked.

Advantages of Standard Thickness Face Veneers

All Weldwood Flush Doors employ *standard thickness face veneers.*

This standard thickness varies from 1/16" to 1/28", dependent on the species, texture and hardness of the wood involved. Basically standard thickness veneer as compared to 1/8" and thicker means superior door construction and provides a door which will perform better and render longer, more satisfactory service on the job. The thickness of the face veneers does not in any way affect the appearance or interfere with application of finishes. Specific advantages include:

(a) Waterproof resin glue laminated under high pressure and heat actually bonds the entire door into a solid block which is permanently waterproof, providing a strong, durable exposed surface.

(b) The less moisture-absorbing wood exposed on the door surface beyond the waterproof resin glue line, the better the performance and life of the door.

(c) Because of the reduced wood veneer thickness, the edges of joined veneers will not cup, shrink or swell. Standard thickness veneers also insure more perfect book matching than can be obtained from thicker veneers.

(d) Reduced face checking in thin face veneers as compared to that occurring in thick veneers of the same species has been demonstrated by test of plywood panels of various constructions exposed, without protection of finishes, to the weather for a period of several years.

Doors to Match Architectural Weldwood Paneling

All types of Weldwood Doors to match Architectural Weldwood Plywood are available on special order.

RELATIVE COST OF DOORS FACED WITH POPULAR FACE VENEERS*

Natural Birch	Red or White Birch	Pl. Sliced Korina	Pl. Sliced Oak	Striped Mahogany	Pl. Sliced Walnut	Rift Oak
Base	+10%	+15%	+15%	+15%	+30%	+35%

***These relative cost percentages are "approximate" only and reflect the difference in price of doors faced with popular veneers in relation to those faced with natural birch.**

DISTRIBUTION UNITS

ALBANY, N. Y.	Fuller Road	Phone: 2-3321
BALTIMORE, MD.	2020 Mosher St.	Wilkens 5-5025
BOSTON, MASS.	3890 Mystic Valley Pkwy.	Mystic 6-9390
BROOKLYN, N. Y.	89-17 Union Turnpike	Virginia 9-6200
BUFFALO, N. Y.	300 Greene St.	Bailey 8383
CHICAGO, ILL.	6450 W. Cortland St.	National 2-5300
CHICAGO SOUTH, ILL.	9633 Cottage Grove Ave.	Essex 5-8000
CINCINNATI, OHIO	6225 Wiehe Rd.	Jefferson 1727
CLEVELAND, OHIO	3131 St. Clair Ave.	Main 1-9350
COLUMBIA, S. C.	Laurel & Huger Sts.	Phone: 2-9345
COLUMBUS, OHIO	925 Burrell Ave.	Klondike 3306
CULVER CITY, CAL.	3571 Hayden Ave.	Texas 0-5666
DETROIT, MICH.	6845 Dix Ave.	VI 3-1200
EAST HARTFORD, CONN.	580 Tolland St.	Jackson 8-6575
FRESNO, CAL.	2990 Butler Ave.	Fresno 2-3195
GLENDALE, CAL.	4901 San Fernando Rd., W.	Citrus 4-2133
GRAND RAPIDS, MICH.	1339 Elizabeth Ave., N. W.	Phone: 7-2471
HARRISBURG, PA.	3307 N. 6th St.	Harrisburg 8-8131
HIGH POINT, N. C.	Prospect St. at Sou. Railway	Phone: 3451
INDIANAPOLIS, IND.	1828 English Ave.	Melrose 8-1346
KNOXVILLE, TENN.	2734 Middlebrook Pike, N. W.	Phone: 5-0233
LOS ANGELES, CAL.	4480 Pacific Blvd.	Logan 8-3441
MILWAUKEE, WISC.	3354 N. 35th St.	Uptown 3-6400
NEWARK, N. J.	540 Ferry St.	Mitchell 3-7850
NEW HYDE PARK, N. Y.	101 Nassau Terminal Rd.	Floral Park 4-1900
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PITTSBURGH, PA.	860 Pennsylvania Ave.	Allegheny 1-5005
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RICHMOND, VA.	707 E. 7th St.	Phone: 82-5646
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UNITED STATES PLYWOOD CORPORATION

Executive Offices: Weldwood Bldg., 55 West 44th Street, New York 36, N. Y.

No. 1406-5 ... in U. S. A.



WOODALL GLIDE-ALL® Sliding Doors

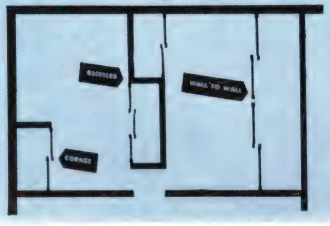
Patent No. 2111448

Glide-All Sliding Doors are the outstanding result of a modern approach to the builder's problem of supplying the demand for better living facilities in today's construction.

A completely new concept in design was employed, without influence of "tradition" or acceptance of rule-of-thumb practice. The finest quality materials known today were selected, each best for its useful part in the structure. The most modern engineering principles and manufacturing techniques were applied. New equipment was especially designed and built for greatest production efficiency. This is why Glide-All Sliding Doors provide the ultimate answer for sliding wall panels . . . smooth-operating, sturdy, low in cost, simple to install and adjust.

Hundreds of thousands of installations in all types of construction—luxury homes and apartments—modest, low cost homes and housing projects—and rapidly increasing use from coast-to-coast—are proving the advantages of Glide-All Sliding Doors. Architects, builders and home owners alike are sold on their modern, pleasing appearance . . . the unusual storage space they make possible, even in smallest rooms . . . their low cost and simple installation . . . and their quiet trouble-free performance over the years.

8′ Floor-To-Ceiling Height Means More Closet Space At Lower Cost



Simple floor-to-ceiling installation allows freedom in design and provides more accessible storage space with less construction time and materials. Top track is mounted on ceiling after plastering or dry wall work is done. Threshold is installed before or after floor covering is laid. Jambs are left unfinished or trimmed to suit job. Doors may be painted, papered or finished to complement room decor.

ATTRACTIVE IN APPEARANCE

So neat and simple, in the modern trend to functional design, they decorate with the wall . . . make rooms seem larger. When open they expose massive, accessible storage space.

LOW IN COST

Engineered for today's specific building requirements . . . made of carefully selected top quality materials . . . in modern plants with modern facilities—resulting in low product costs. Floor-to-ceiling, wall-to-wall installation saves expense of construction time and materials.

EASY TO INSTALL

Without costly preparation, they're installed in 3 simple steps . . . in *minutes* not hours, by even unskilled labor . . . by anyone who can use a screwdriver.

SIMPLE TO ADJUST

Positive adjustment features assure perfect fitting of panels to out-of-square jambs, ceilings or floors. This eliminates serious problems in installation and in later adjustments, as the structure may move or settle.

SOUNDLY ENGINEERED AND CONSTRUCTED FOR SILENT, TROUBLE-FREE OPERATION

35 years of manufacturing experience, a new basic design, the best materials for the product and use of modern production techniques and equipment, are combined to create smooth operating life-time Glide-All Sliding Doors.

A.I.A. File No. 17-D

Glide-All Doors are produced in 5 modern plants across the Nation . . . available from distributors throughout United States and Canada. • For complete information write plant nearest you.

GLIDE-ALL SLIDING DOORS ARE A PRODUCT OF

WOODALL INDUSTRIES INC.

DETROIT 34 MICHIGAN

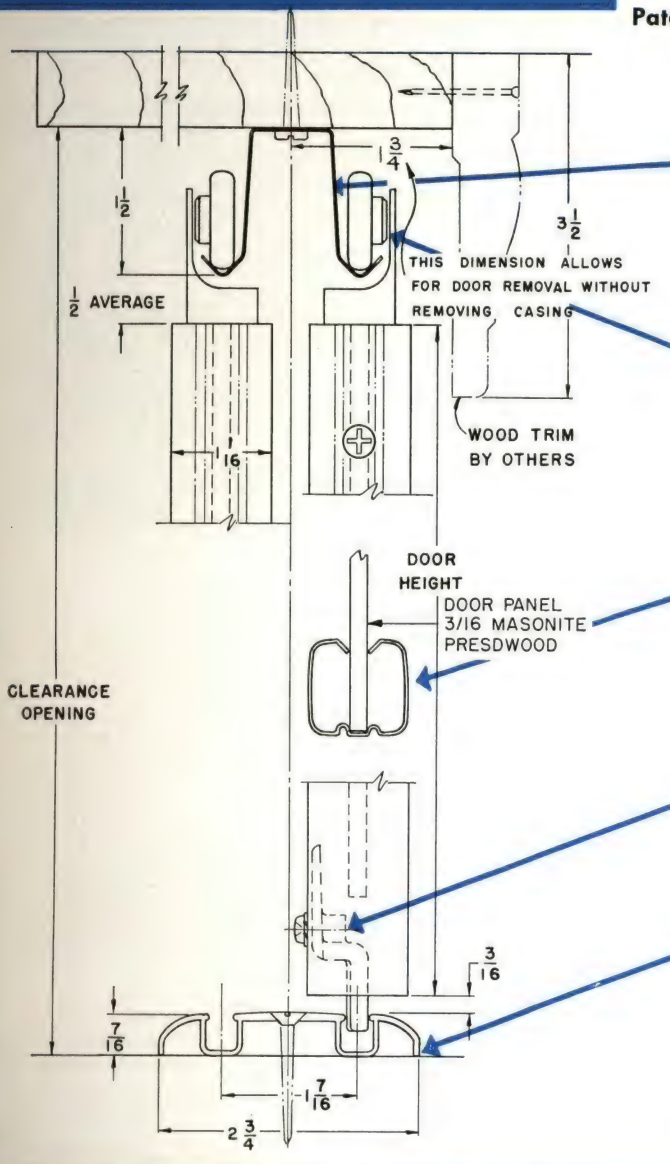
CHICAGO, 3500 Oakton St., Skokie, Illinois
LAUREL, Miss., P.O. Box 673
NEW YORK, Glen Cove Rd., Mineola, N. Y.
SAN FRANCISCO, 1970 Carroll Ave.
EL MONTE, Calif., 801 West Valley Blvd.

HANGING ROLLER TYPE

MODEL H

WOODALL GLIDE-ALL® Sliding Doors

Patent No. 2111448



TRACK

Track is formed of heavy-gauge Galvannealed steel, especially formed for smooth, solid, noiseless operation of the roller assembly. Slots are cut in the sides for easy mounting and removal of panels—without accidental "run off." Track is quickly fastened to ceiling or joist with ordinary wood screws. Aluminum extruded track is optional where special requirements demand it.

ROLLER ASSEMBLY

Unique Roller Assembly is easily adjusted to suit variations in height of opening, and off-square or out-of-plumb conditions. Full ¾" adjustment is quickly made by loosening a single screw and moving the special ratchet mount to desired height. Tough, molded Nylon rollers, the finest material for the purpose, assure quiet, smooth, lifetime operation.

DOOR PANELS

Of 3/16" Masonite Duolux* proven for its ideal panel qualities: strong, dense, smooth—doesn't split, splinter or dent.

All four edges of the panels are reinforced with specially designed, rolled steel tubing. This modern skyscraper-like construction, provides great strength, rigidity and assists in preventing warpage.

In **Model F** type doors the tubing is set flush with front face of panel.

All the steel tubing is galvannealed and bonderized to provide proper surface for finishing.

ADJUSTABLE BOTTOM GUIDES

The bottom guides, inserted in side tubes, provide quiet, smooth guiding action and rattle-free stability. Of precision molded, long wearing Nylon, they are easily adjusted over a full ¾" range to insure proper engagement into threshold to meet variable conditions.

ALUMINUM THRESHOLD

The heavy Aluminum threshold is decorative and neat appearing with an attractive satin finish. (Also available in bronze finish.) It fastens to the floor with screws or adhesive. A ⅛" vertical bevel at bottom allows laying of tile, linoleum or carpeting flush to threshold.

Glide-All Sliding Doors are regularly supplied unfinished, ready for paint. Also available, on special order, completely prime coated or with simulated wood grain finish. Write for details.

*Panels are supplied in either "Tempered" or "Standard" grades as desired. Consult price list for details.

MODEL H STANDARD SPECIFICATIONS*

Sliding Doors shown on drawings and referred to in specifications shall be Glide-All Sliding Doors Model H as constructed by Woodall Industries, Inc.

Door panels shall be of Masonite Duolux (specify "Standard" or "Tempered") not less than 3/16" in thickness, with patented Galvannealed and Bonderized steel tubes on all edges.

Upper roller assemblies installed in side tubes shall have Nylon rollers and provide for ¾" variation in height of opening.

Bottom door guides shall be adjustable and made of molded Nylon.

Upper track shall be of Galvannealed steel drilled for No. 10 R.H. wood screws for mounting, and slotted for easy installation of door.**

Threshold shall be of extruded aluminum, drilled and countersunk for No. 10 oval head wood screws for fastening to floor. Undrilled track for installation with adhesive is available. Write for details.

If accessory door pulls are desired, specify circular recessed "F" type in either spun satin aluminum or bronze finish, or extruded aluminum "H" type pull.

We reserve right to change specifications without notice.

*Consult price list for further optional specifications and additional information.

**Extruded Aluminum track is available for special requirements when needed.

MODEL H STANDARD PANELS AND OPENINGS

STANDARD PANEL WIDTH	18½"	24"	30½"	32⅝"	36½"
WIDTH OF FINISHED OPENINGS 2 PANELS	36"	47"	60"	64¼"	72"
Stock No., Clearance Opening 8'	H2A96	H2B96	H2C96	H2D96	H2E96
Stock No., Clearance Opening 6' 8"	H2A80	H2B80	H2C80	H2D80	H2E80
WIDTH OF FINISHED OPENINGS 3 PANELS	53½"	70"	89½"	96"	107½"
Stock No., Clearance Opening 8'	H3A96	H3B96	H3C96	H3D96	H3E96
Stock No., Clearance Opening 6' 8"	H3A80	H3B80	H3C80	H3D80	H3E80
WIDTH OF FINISHED OPENINGS 4 PANELS	72"	94"	120"	128½"	144"
Stock No., Clearance Opening 8'	H4A96	H4B96	H4C96	H4D96	H4E96
Stock No., Clearance Opening 6' 8"	H4A80	H4B80	H4C80	H4D80	H4E80

Other widths and heights available on special order. Send plans for recommendations on special installations.

SPECIAL SIZES AVAILABLE FOR WEST COAST BUILDERS—WRITE FOR DETAILS

MODEL F STANDARD SPECIFICATIONS*

Sliding Doors shown on drawings and referred to in specifications shall be Glide-All Sliding Doors Model F (Flush Panel) as constructed by Woodall Industries, Inc.

Door panels shall be of Masonite Duolux (specify "Standard" or "Tempered") not less than 3/16" in thickness, with patented Galvannealed and Bonderized steel tubes on all edges.

Upper roller assemblies installed in side tubes shall have Nylon rollers and provide for ¾" variation in height of opening.

Bottom door guides shall be adjustable and made of molded Nylon.

Upper track shall be of Galvannealed steel drilled for No. 10 R.H. wood screws for mounting, and slotted for easy installation of door.**

Threshold shall be of extruded aluminum, drilled and countersunk for No. 10 oval head wood screws for fastening to floor. Undrilled track for installation with adhesive is available. Write for details.

Each panel shall be equipped with a circular satin finish Aluminum door pull recessed flush with face of panel. Bronze finish is available on special order.

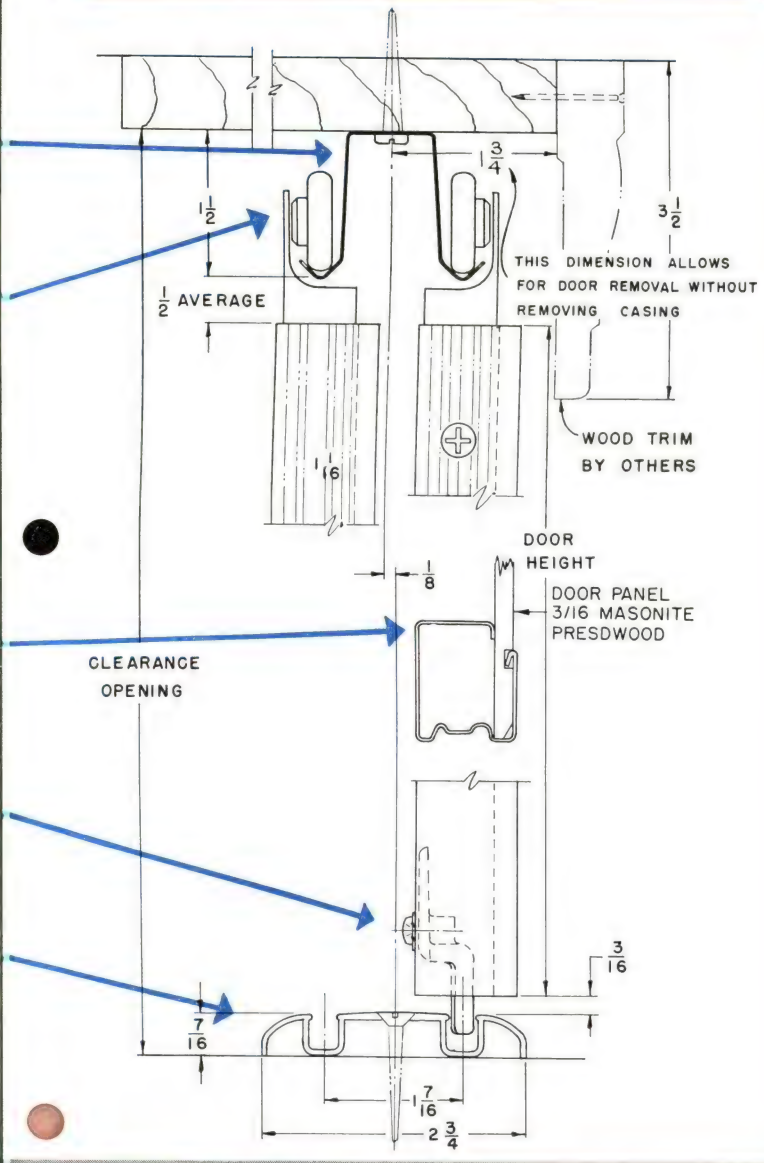
We reserve right to change specifications without notice.

*Consult price list for further optional specifications and additional information.

**Extruded Aluminum track is available for special requirements when needed.

HANGING ROLLER TYPE • FLUSH PANEL

MODEL F



MODEL F STANDARD PANELS AND OPENINGS

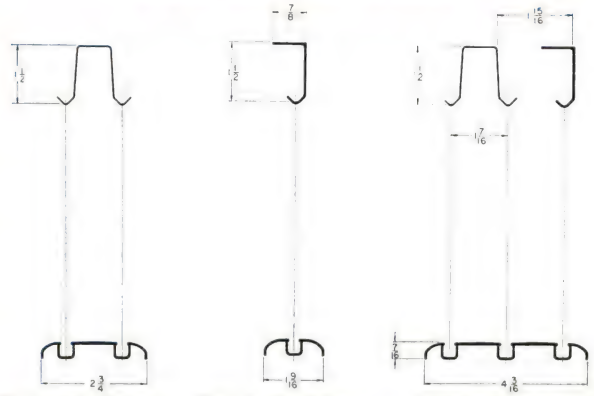
STANDARD PANEL WIDTH	18½"	24"	30½"	32⅝"	36½"
WIDTH OF FINISHED OPENINGS 2 PANELS	36"	47"	60"	64¼"	72"
Stock No., Clearance Opening 8'	F2G-96	F2H-96	F2I-96	F2J-96	F2K-96
Stock No., Clearance Opening 6' 8"	F2G-80	F2H-80	F2I-80	F2J-80	F2K-80
WIDTH OF FINISHED OPENINGS 3 PANELS	53½"	70"	89½"	96"	107½"
Stock No., Clearance Opening 8'	F3G-96	F3H-96	F3I-96	F3J-96	F3K-96
Stock No., Clearance Opening 6' 8"	F3G-80	F3H-80	F3I-80	F3J-80	F3K-80
WIDTH OF FINISHED OPENINGS 4 PANELS	72"	94"	120"	128½"	144"
Stock No., Clearance Opening 8'	F4G-96	F4H-96	F4I-96	F4J-96	F4K-96
Stock No., Clearance Opening 6' 8"	F4G-80	F4H-80	F4I-80	F4J-80	F4K-80

Other widths and heights available on special order. Send plans for recommendations on special installations.

SPECIAL SIZES AVAILABLE FOR WEST COAST BUILDERS—WRITE FOR DETAILS

DETAILS

TRACK AND THRESHOLD

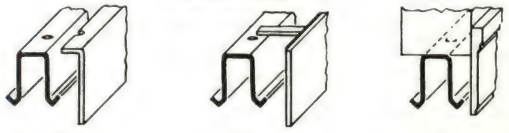


Standard double track and threshold.

Single track and threshold available on special order.

Triple track and threshold available on special order.

VALANCES



ALUMINUM | PRESDWOOD | CASING BY OTHERS

When casing or wood trim is not used to conceal upper track, accessory valances are available. The extruded aluminum valance has slotted holes to permit fast installation or easy removal of doors and permit placing valance closer to door face. The attractive exposed side may be left unfinished to match threshold and pulls, or may be painted to match walls. It is also available in bronze finish on special order. A specially designed Tempered Presdwood valance is also available.

DOOR PULLS

Model F (flush panel) doors are factory equipped with circular satin-finish aluminum door pulls recessed flush with panel face (bronze finish available on special order).



On Model H doors, the vertical reinforcing tubes serve as full-length pulls. However, modern, extruded satin finish aluminum pulls are available as accessories. (Bronze finish available on special order.)



LOCKING DEVICE

Where privacy and security are desirable a locking latch can be supplied for Model F doors. Details available upon request.

INSTALLATION

All Glide-All Doors are installed as easy as A-B-C



A Top track is easily mounted on ceiling with screws.

Bottom threshold is fastened to floor with screws or adhesive. **B**





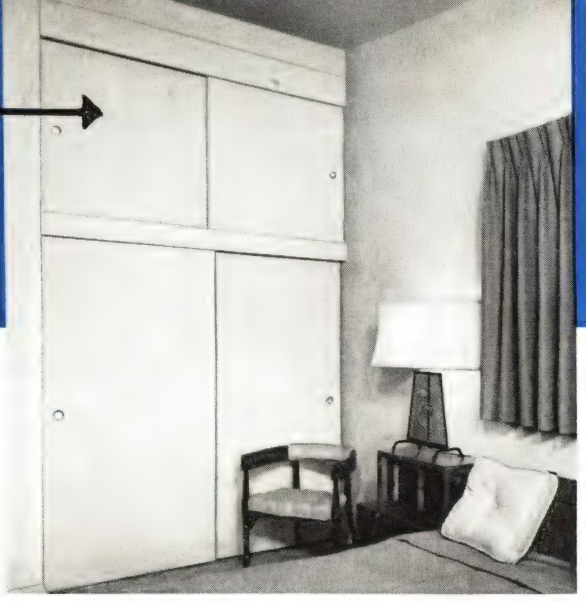
C Doors are installed by placing top rollers in upper track and engaging bottom adjustable guide in threshold.

All Glide-All Sliding Doors are available with factory applied prime coating, and special wood grain finishes. Write for details.

WOODALL

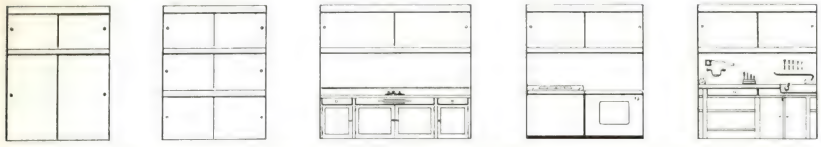
GLIDE-ALL, JR.

Sliding Doors



FOR WARDROBES, CLOSETS, CABINETS AND COUNTERS

A new, practical small door panel, complete and ready-to-install. Eliminates time, cost and labor of building "special" cabinet-size doors. Designed and constructed to supply the increasing demand for handy, small storage space facilities. Engineered and built like their popular companions, Glide-All Sliding Doors, they are made of tough, durable Masonite Duolux panels reinforced with steel tubing—they smoothly slide on specially molded Nylon friction-free adjustable glides. They have 1001 uses in residential, commercial, institutional and industrial construction.

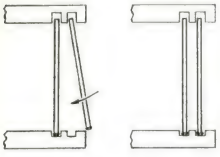


DOOR PANELS

Panels are 3/16" Masonite Duolux*. Vertical edges are reinforced by specially designed rolled steel sections that are set flush with panel face, and are galvannealed and bonderized for proper acceptance of paint finish.

FRICTION-FREE GLIDES

Precision molded Nylon shoes, of special design, provide smooth, quiet, friction-free gliding action—there is no "tipping" or "jumping out" of panels. Shoes are easily adjusted to assure proper fitting to jambs.



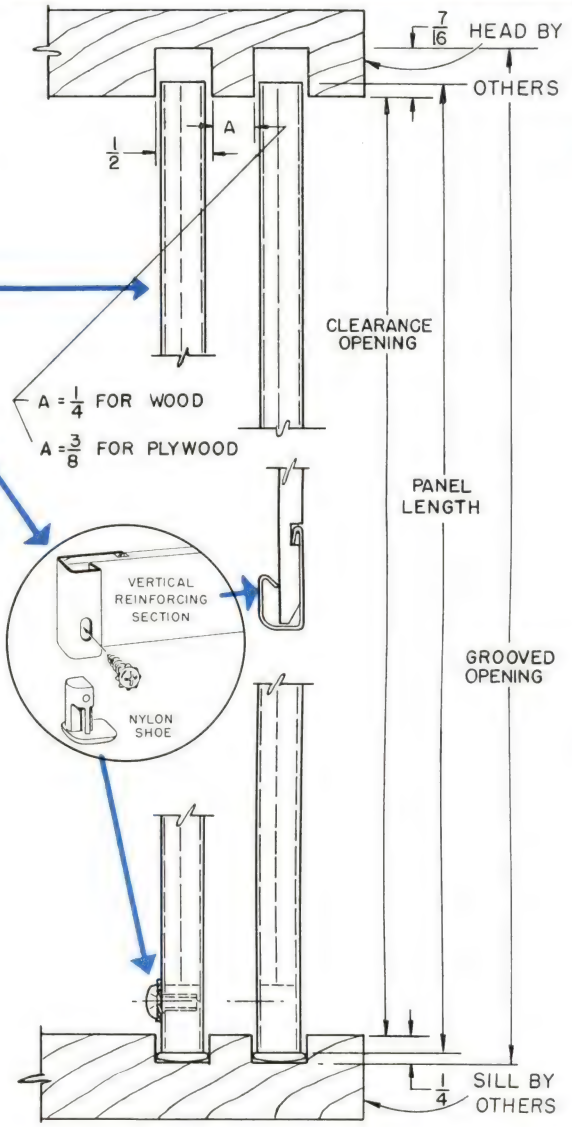
INSTALLATION

Installation is effected by inserting top of panel into upper groove in header, and lowering into bottom channel.

DOOR PULLS



Recessed, circular door pulls, ¾" in diameter, inserted flush with panel face, are factory installed. Satin finish aluminum is standard. Bronze finish available on special order.



Standard Panels and Openings

STANDARD PANEL WIDTH	18½"	24"	30½"	32⅝"	36½"
WIDTH OF FINISHED OPENINGS	36"	47"	60"	64¼"	72"
STOCK NO.—CLEARANCE OPENINGS					
16" high	JRA-16	JRB-16	JRC-16	JRD-16	JRE-16
20" high	JRA-20	JRB-20	JRC-20	JRD-20	JRE-20
24" high	JRA-24	JRB-24	JRC-24	JRD-24	JRE-24
30" high	JRA-30	JRB-30	JRC-30	JRD-30	JRE-30
36" high	JRA-36	JRB-36	JRC-36	JRD-36	JRE-36

Intermediate heights are easily made by trimming next larger panel. Special widths are available on order. Send plans for recommendations on unusual installations.

*Supplied in either "Tempered" or "Standard" grades as desired. Consult price list for details.

A.I.A. File No. 17-D

Glide-All Doors are produced in 5 modern plants across the Nation . . . available from distributors throughout United States and Canada. • For complete information write plant nearest you.

GLIDE-ALL SLIDING DOORS ARE A PRODUCT OF

WOODALL INDUSTRIES INC.

DETROIT 34, MICHIGAN

CHICAGO, 3500 Oakton St., Skokie, Illinois
LAUREL, Miss., P.O. Box 673
NEW YORK, Glen Cove Rd., Mineola, N. Y.
SAN FRANCISCO, 1970 Carroll Ave.
EL MONTE, Calif., 801 West Valley Blvd.

Pella®

WOOD FOLDING DOORS



ARCHITECTS: BELLMAN, GILLETT AND RICHARDS—TOLEDO

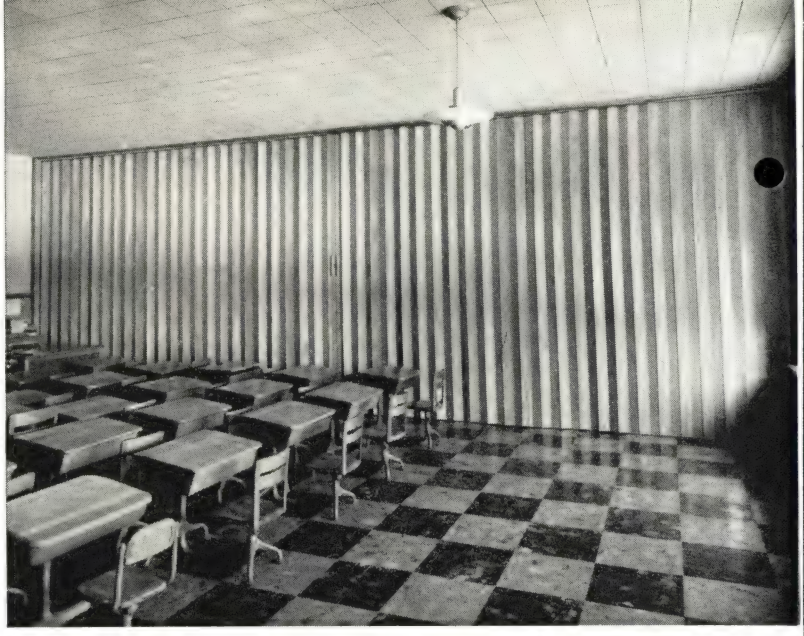
ABOVE: In coffee shop of Commodore Perry Hotel, Toledo, Ohio, Pella Folding Doors provide privacy in decorative manner.
BELOW: Same room with Pella Doors folded against pilaster.



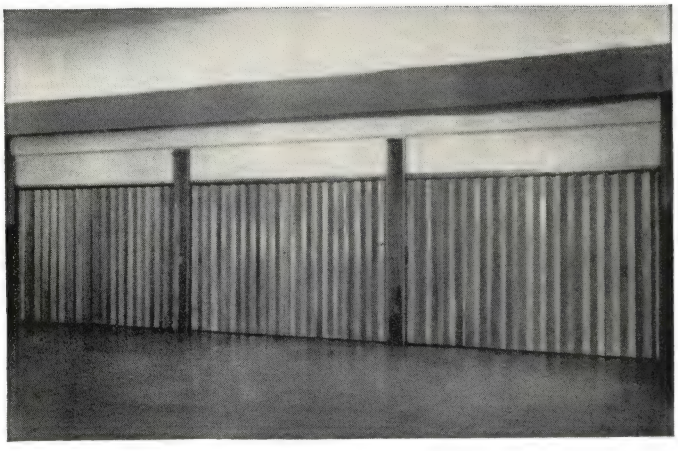
A.I.A. File 16 M



AT WICKLIFFE ELEMENTARY SCHOOL, Youngstown, Ohio, Pella Wood Folding Doors quickly convert the auditorium into two much-needed classrooms. "Our Pella Doors," states Marcus V. McEvoy, Superintendent, "harmonize beautifully with woodwork furnishings and trim. Best of all, mechanical operation is so simple a sixth grade child can open and close the Pella Folding Doors."



VERSATILE Pella®



Only *PELLA* offers the natural beauty of WOOD in a quality folding door of lasting construction. Individual laminated panels, 3/8" thick and 3 5/8" wide, joined by continuous spring hinging, stack to 6" for the average interior door opening. Track with concealing wood mould, all attaching hardware *and latch* are supplied as standard items. Pella doors are prefitted to install quickly and easily in any prepared opening. Available in pine, oak, mahogany or birch veneer. Specify painted, clear varnished or unfinished. Custom-built to your specifications or available in stock sizes.

ABOVE: In Newton, Iowa, the FIRST METHODIST CHURCH finds Pella Wood Folding Doors ideal for dividing off Sunday School rooms from the main Sunday School auditorium. 2-way, 3-way, 4-way end posts, two type of track switches and curved track are available to help you solve problems of space division and door storage.

RIGHT: View in FIRST METHODIST CHURCH, Newton, Iowa, with Pella Doors open.

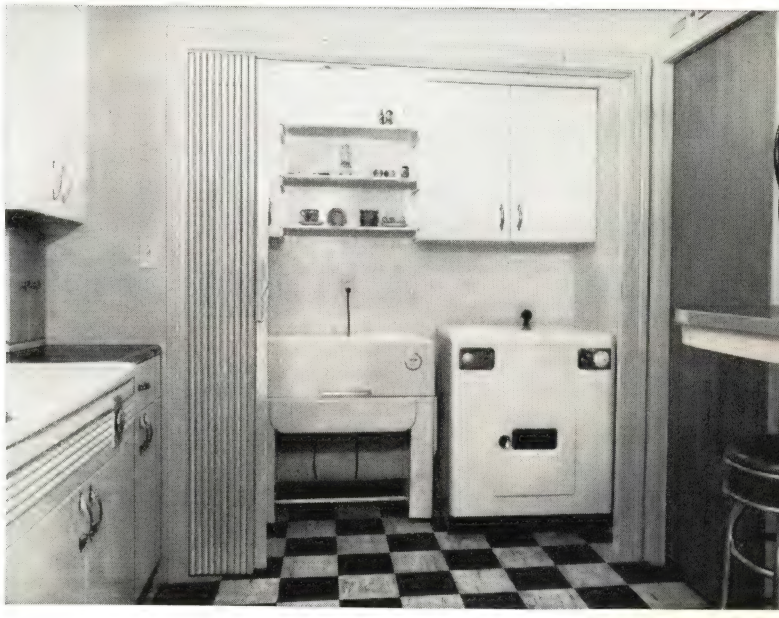




Between living, dining and kitchen areas, Pella Wood Folding Doors provide welcome privacy.

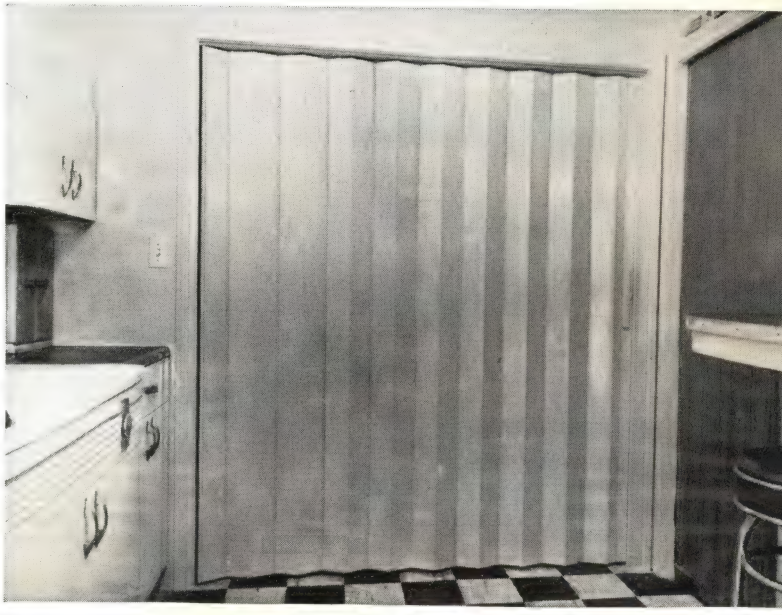
For HOMES, OFFICES, SCHOOLS, CHURCHES, COMMERCIAL BUILDINGS

WOOD FOLDING DOORS



RIGHT ABOVE: Pella Wood Folding Doors open to give easy access to laundry appliances.

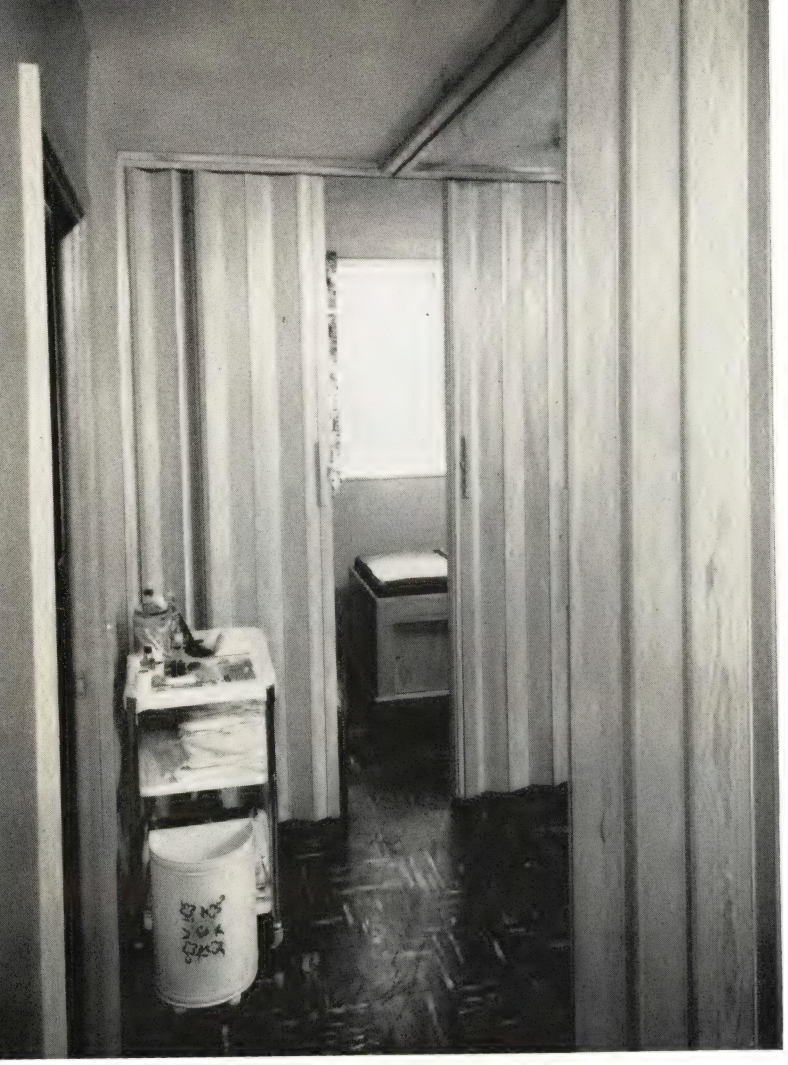
RIGHT BELOW: With Pella Doors closed, end of kitchen becomes a decorative feature. Pella Wood Folding Doors are the ideal solution to problems of closing off work and storage areas in today's open plan homes and apartments.



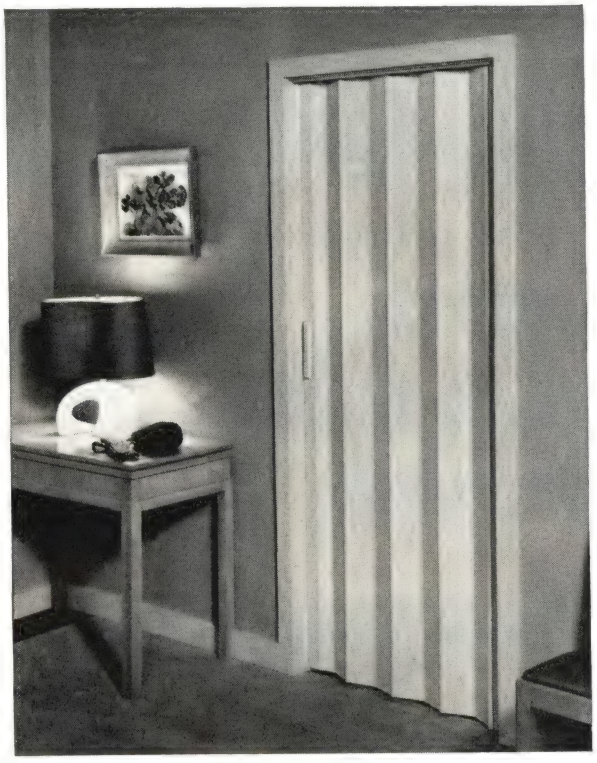
USE PELLA WOOD FOLDING DOORS

- ★ For any interior door opening
- ★ For room partitions
- ★ As space dividers
- ★ For closet fronts
- ★ To conceal storage spaces and utility rooms in homes and institutions
- ★ To close off counters in stores, restaurants and bars
- ★ To conceal filing spaces, cloak rooms in offices
- ★ To close off shelves in stores
- ★ In built-in custom cabinets

Pella® WOOD FOLDING DOORS



LEFT: Preparation and examining cubicles in this physician's office utilize Pella Folding Doors. Elimination of swinging doors means extra floor and wall space for circulation and equipment.



ABOVE: Pella Folding Doors are constructed of laminated wood panels faced with Pine, Birch, Oak or Mahogany veneers. Available unfinished, painted or varnished.



ABOVE: Pella Folding Doors with joining end posts make a practical and decorative bar closure.

RIGHT: Hung directly from ceiling, Pella Folding Doors can save on stub wall construction costs for closets.



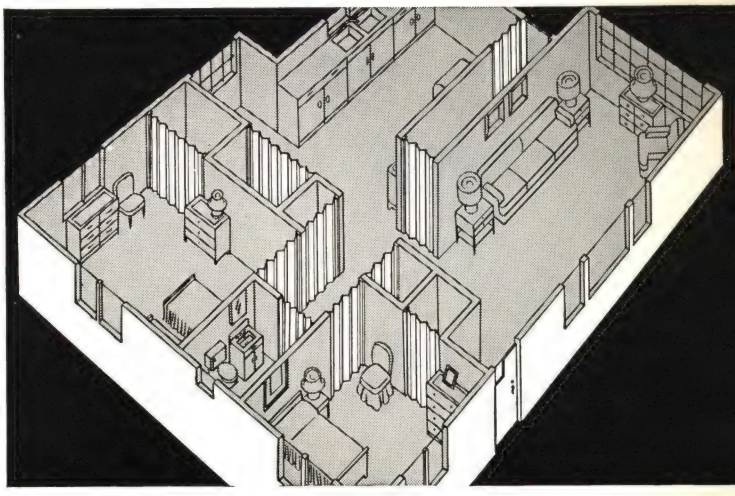
Pella® OFFERS MODERN CONVENIENCE AND ECONOMY

MAKE SUBSTANTIAL SAVINGS ON NEW CONSTRUCTION

Building costs can be effectively reduced by using Pella Wood Folding Doors in homes, churches, schools and commercial buildings. The average swing-type door uses from 5½ to 11 sq. ft. of floor space and 18 sq. ft. of wall space. Pella Doors convert this waste space into usable area. Actually, Pella Doors pay for themselves when you consider the extra space they provide.

Pella Folding Doors cut labor and material costs, too. THREE Pella Doors can be installed in the time normally required to fit and hang ONE swing-type door. Anyone can install a Pella Folding Door quickly and easily.

You can make substantial savings on wall construction by using floor-to-ceiling Pella Doors and by installing them across entire closet fronts. You can also use Pella Doors to form movable partitions between rooms. Costly double wall construction, necessary to provide recess for sliding doors, is also eliminated with Pella Wood Folding Doors.



Pella® DOORS ARE AVAILABLE IN STOCK OR CUSTOM SIZES — PAINTED, VARNISHED OR UNFINISHED

CUSTOM Pella Wood Folding Doors are built to specifications in widths up to 30′ 2¼″ and heights up to 10′ 1″.

There are two grades of custom doors: (1) Varnish Grade Pine; (2) Hardwood Veneer (choice of Red Oak, Unselected Birch or Philippine Mahogany).

Any of the above doors can be ordered (1) Finished or (2) Unfinished.

Factory-finished doors are offered in white, two shades of ivory or clear varnish. Colors matched by special order.

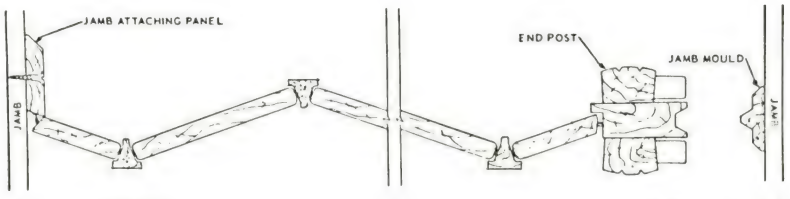
STOCK Doors are available in the following widths: 2′ 4″, 2′ 6″, 2′ 8″, and 3′ 0″; height of all stock doors is 6′ 8″. Stock doors are available in Pine and Philippine Mahogany. Finished or Unfinished. Unfinished doors are sanded and ready for finishing.

SOUND-RETARDANT PROPERTY

Results of tests made by the Armour Research Foundation's acoustical laboratory show that a standard Pella Wood Folding Door installation gives an average 20.75 decibel reduction in a frequency range of 350 to 4,000 cycles per second.

COMPLETELY PACKAGED

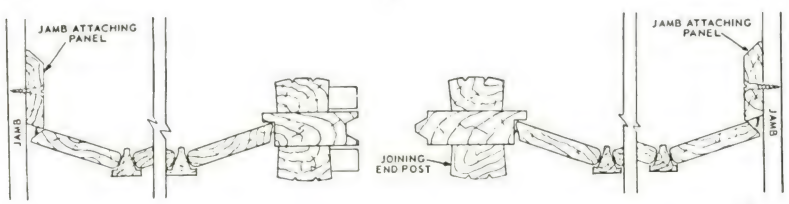
Pella Wood Folding Doors are assembled at the factory and come ready for quick, easy installation. Package contains door, all necessary hardware (including latch) and fittings, and illustrated installation instructions.



SINGLE PELLA DOOR—Pella Doors are ideal between kitchen and dining areas. They fold back compactly when food and dishes are being carried from room to room, provide "atmosphere" and privacy during the meal. Every inch of space right up to the edge of the door can be used for chairs, pictures and other furnishings.



PELLA DOOR WITH DOUBLE END POSTS—Pella Folding Doors with double end posts are ideal for double closets. Suspended from a track at the top, they open and close from either side, giving full accessibility to the closet area. Garments are easier to locate. Closets have a neater appearance.



PELLA DOORS WITH JOINING END POST—Double bedroom closets are fully accessible when two Pella Doors are installed in the same opening with end posts joining at the center. Hung from the ceiling, they cut inside wall construction and provide extra drawer space at the bottom.

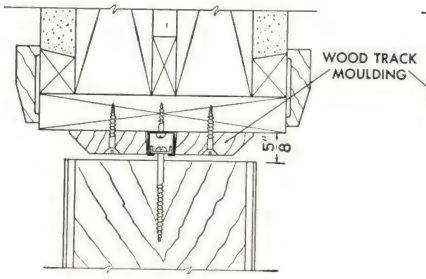
DETAILS

Pella® WOOD

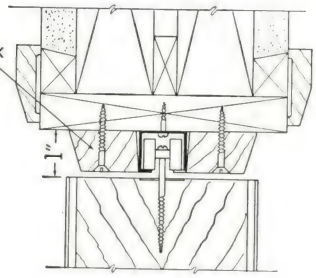
HEAD SECTION

SCALE: 1/4" EQUALS 1"

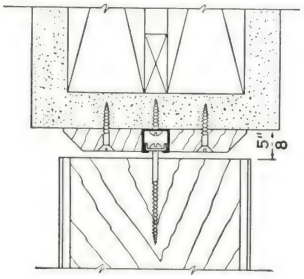
LIGHT TRACK INSTALLED ON WOOD



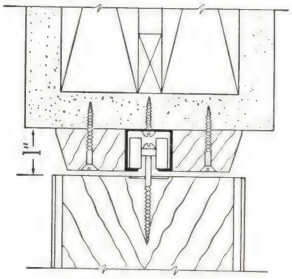
HEAVY TRACK INSTALLED ON WOOD



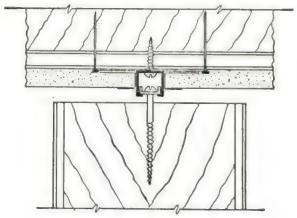
LIGHT TRACK INSTALLED ON PLASTER



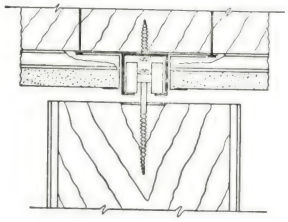
HEAVY TRACK INSTALLED ON PLASTER



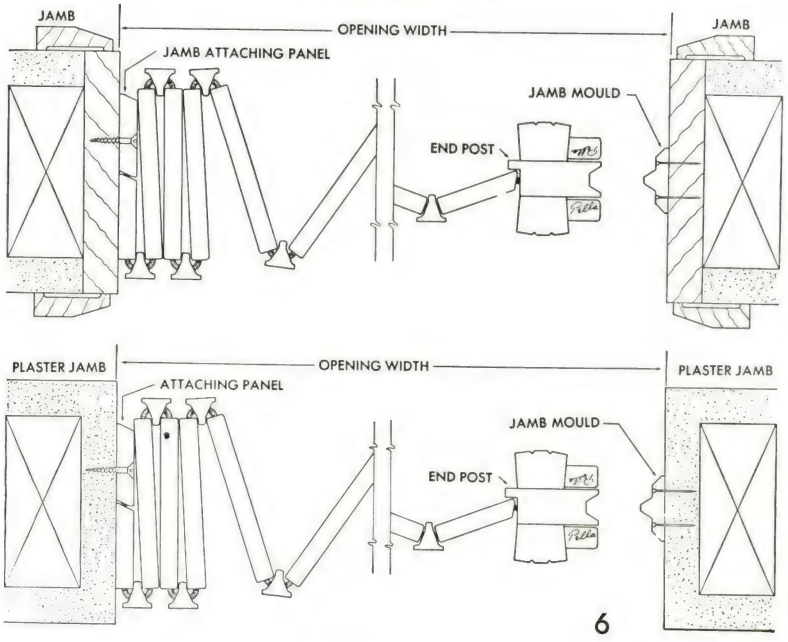
LIGHT TRACK RECESSED IN PLASTER



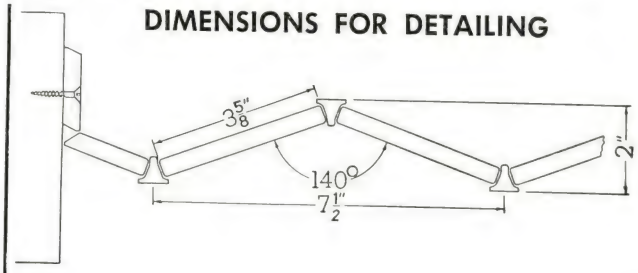
HEAVY TRACK RECESSED IN PLASTER

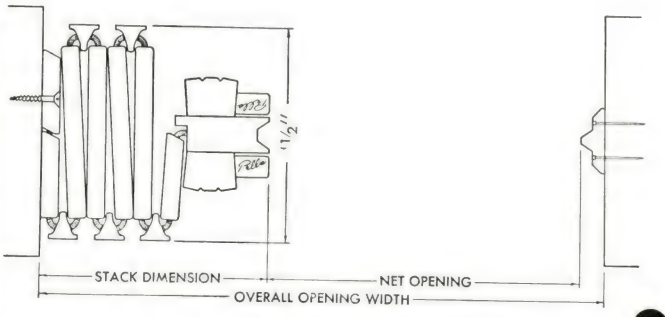


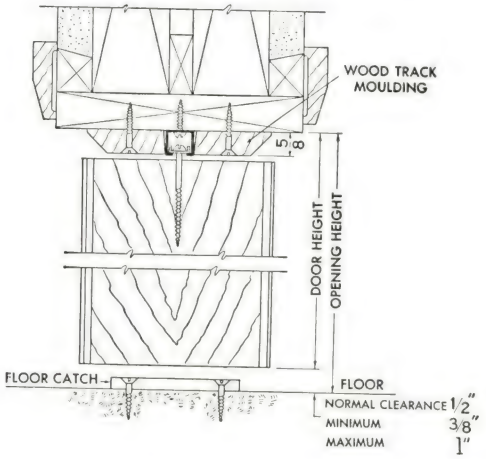
JAMB SECTION



DIMENSIONS FOR DETAILING



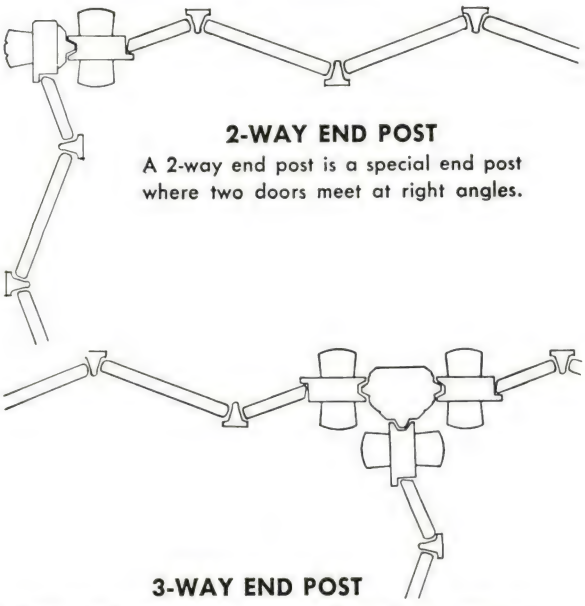




OPENING WIDTH	STACK SIZE	OPENING WIDTH	STACK SIZE	OPENING WIDTH	STACK SIZE
21"	4½"	133½"	19½"	249¾"	35"
24¾"	5"	137¼"	20"	253½"	35½"
28½"	5½"	141"	20½"	257¼"	36"
30⅜"	6"	144¾"	21"	261"	36½"
32¼"	6"	148½"	21½"	264¾"	37"
36"	6½"	152¼"	22"	268½"	37½"
39¾"	7"	156"	22½"	272¼"	38"
43½"	7½"	159¾"	23"	276"	38½"
47¼"	8"	163½"	23½"	279¾"	39"
51"	8½"	167¼"	24"	283½"	39½"
54¾"	9"	171"	24½"	287¼"	40"
58½"	9½"	174¾"	25"	291"	40½"
62¼"	10"	178½"	25½"	294¾"	41"
66"	10½"	182¼"	26"	298½"	41½"
69¾"	11"	186"	26½"	302¼"	42"
73½"	11½"	189¾"	27"	306"	42½"
77¼"	12"	193½"	27½"	309¾"	43"
81"	12½"	197¼"	28"	313½"	43½"
84¾"	13"	201"	28½"	317¼"	44"
88½"	13½"	204¾"	29"	321"	44½"
92¼"	14"	208½"	29½"	324¾"	45"
96"	14½"	212¼"	30"	328½"	45½"
99¾"	15"	216"	30½"	332¼"	46"
103½"	15½"	219¾"	31"	336"	46½"
107¼"	16"	223½"	31½"	339¾"	47"
111"	16½"	227¼"	32"	343½"	47½"
114¾"	17"	231"	32½"	347¼"	48"
118½"	17½"	234¾"	33"	351"	48½"
122¼"	18"	238½"	33½"	354¾"	49"
126"	18½"	242¼"	34"	358½"	49½"
129¾"	19"	246"	34½"	362¼"	50"

FOLDING DOORS

END POSTS

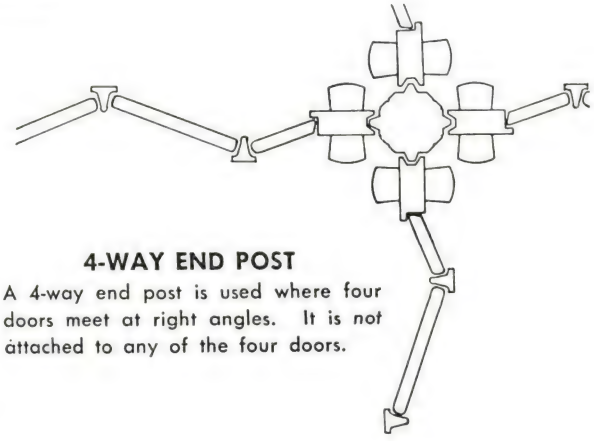


2-WAY END POST

A 2-way end post is a special end post where two doors meet at right angles.

3-WAY END POST

A 3-way end post is used where three doors meet at right angles. It is *not* attached to any of the three doors.

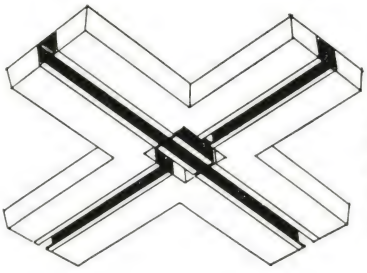


4-WAY END POST

A 4-way end post is used where four doors meet at right angles. It is *not* attached to any of the four doors.

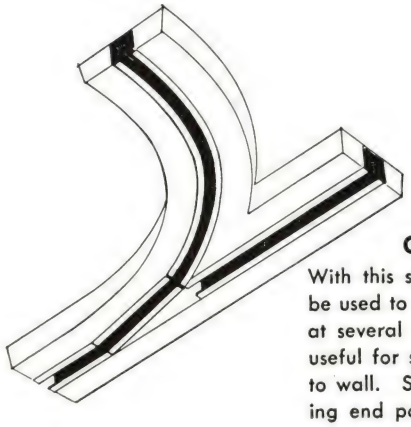
TRACK SWITCHES

Use of Pella track switches enables Pella Door sections to be moved for use or for storage practically anywhere in a given room. They are particularly useful in church, school, club and commercial work.



CROSS OVER SWITCH

Permits one Pella Door to cross track of another door section which operates at right angle. Cross over frog is manually operated.



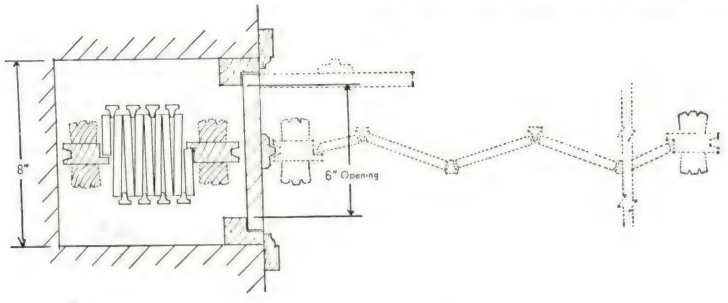
CURVE SWITCH

With this switch, one door section can be used to divide a room into two parts at several predetermined points. Also useful for storing folded doors parallel to wall. Switch is operated by engaging end post of door and turning.

CURVED TRACK AVAILABLE WITH LITTLE AS 1 FT. RADIUS

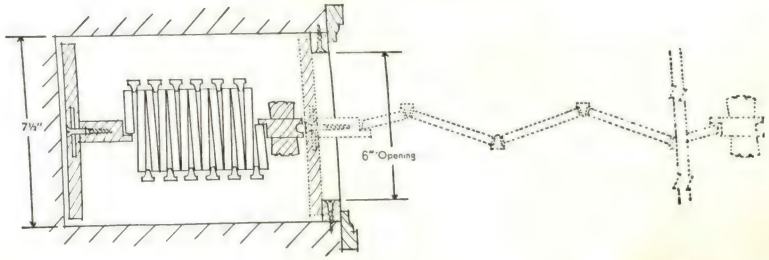
Ideal for moving Pella Folding Doors around structural members and for achieving free form wall effects. Pella curved track and track mould are available in the following radii: 1, 2, 3, 4, 6, 8, 10 feet.

RECESSED POCKET INSTALLATIONS



WITH HINGED RECESS DOOR

This type installation enables a Pella Folding Door to be stacked into the recessed area and the door closed to cover end of door. Depth of pocket is determined by adding 2" to the stack dimension of the double end post door required. (Door stops, hinged pocket door and trim by others)



WITH SLIDING RECESS PANEL

This type installation also enables entire door to be stacked into the recessed area. When door is in use, panel travels forward and covers opening to recessed area. Pocket depth is determined by adding ½" to stack dimension of double end post door. (Sliding panel stops and trim by others)

CONCEALED TRACK

Beveled track mould is furnished with each Pella Folding Door. It comes drilled and complete with screws for attaching to door header or ceiling.

STEEL ROLLERS OR STEEL SLIDES

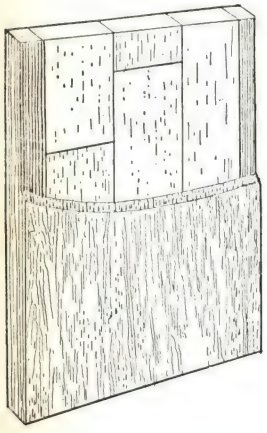
Steel ball bearing rollers are furnished on doors requiring **heavy** track. Steel slides are used on doors that use **light** track.

LATCH IS STANDARD EQUIPMENT

Spring-type latch is furnished and mounted in door end post at factory. Saves labor on the job.

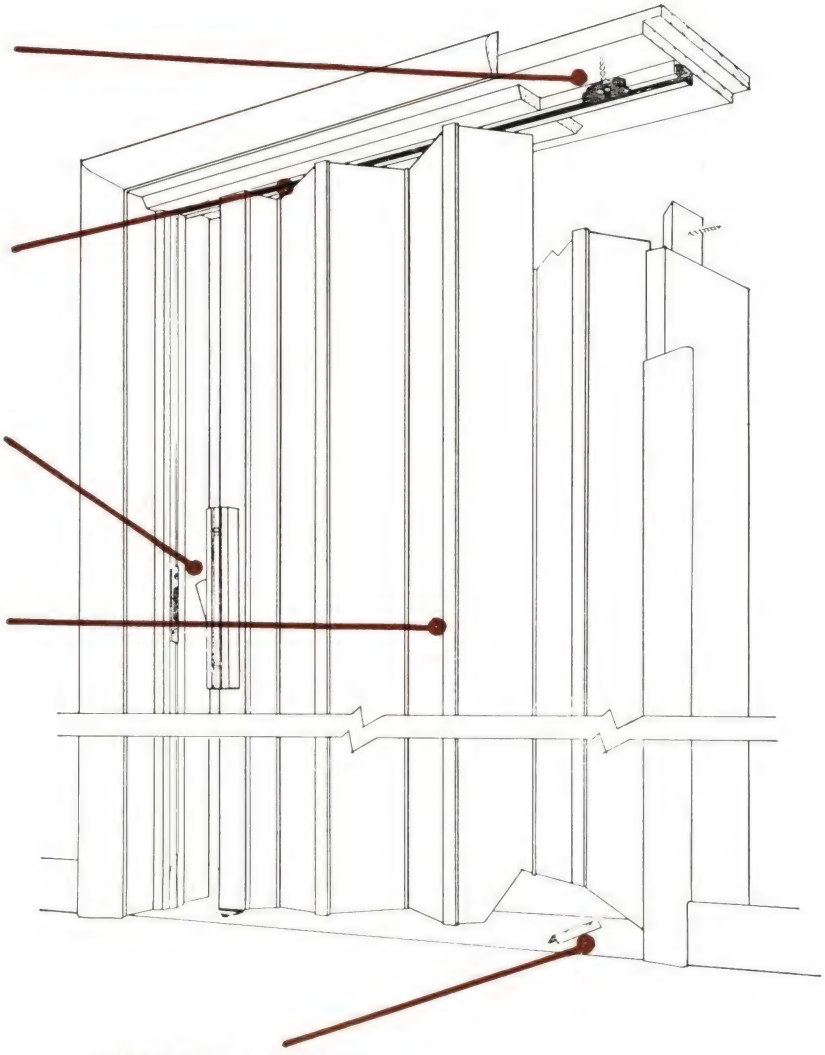
EXCLUSIVE SPRING HINGING

Steel springs hold Pella door panels together and also act as hinges. These springs run horizontally through the door panels and are spaced 14 7/10" apart.



LAMINATED DOOR PANEL

Core blocks of Pella door panels are laminated with waterproof, plastic glue. Pella's special design and processing of panels assures vertical alignment.



FLOOR STOP ASSURES "TIGHT STACK"

When Pella door is folded back, metal catch on bottom of end post engages floor stop. This holds folded door tight against jamb.

SPECIFICATIONS

1. GENERAL: Doors shall be of wood, folding, accordian-type suspending from a track at the head. There shall be no guides or track at the floor. All spring hinges shall be concealed in the closed position. Doors shall be factory assembled.

2. TRACK AND HANGERS: Track shall be no less than 20 gauge in thickness and shall have a corrosion-resistant coating. Doors up to 6' 1½" in width and up to 8' 1" in height shall be supplied with ½" x ½" track and equipped with sliding shoe hangers. Doors in size combination over 6' 1½" in width and 8' 1" in height shall be supplied with ⅞" x 13/16" track and ball bearing wheel hangers. Hangers shall be installed on alternate panels.

3. PANELS: All panels shall be made of carefully selected, kiln-dried lumber. Panels shall have glued-up block cores faced with veneers bonded with waterproof plastic glues. Panels shall be ⅜" thick and 3⅝" wide.

4. HARDWARE: All metal parts shall be either stainless steel or plated with suitable corrosion-resistant coatings. Spring hinges shall be made of .024 hard drawn high basic spring wire, galvanized before drawing, and shall be 5/32" in diameter. Doors shall be supplied complete with all necessary screws, latches and installation hardware. It shall be possible to install all hardware without cutting or mortising the door openings.

5. TRIM: Doors shall be supplied with wood head mould to conceal the track and a jamb mould for jamb closure.

NOTE: Specifications subject to change without notice.

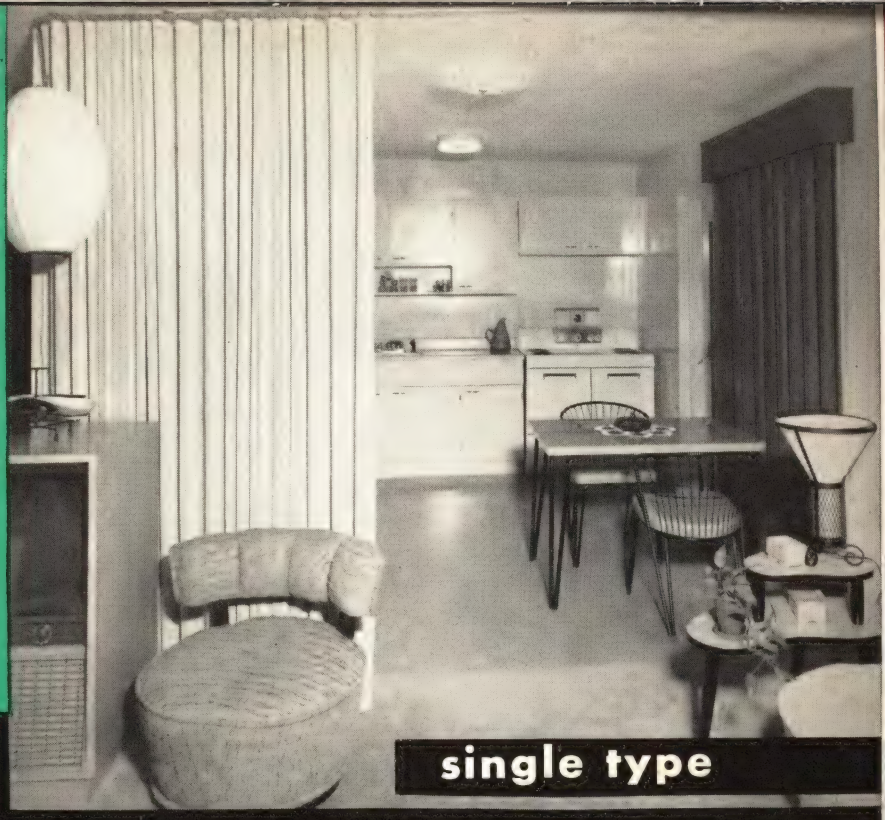
ROLSCREEN COMPANY

PELLA, IOWA

OTHER Pella® PRODUCTS

. . . include Pella Casement and Multi-Purpose Windows, Pella Venetian Blinds and Pella Rolscreens. For list of Pella Sales Representatives, see back cover of Pella Window Catalog in Sweet's.

Form No. D-55



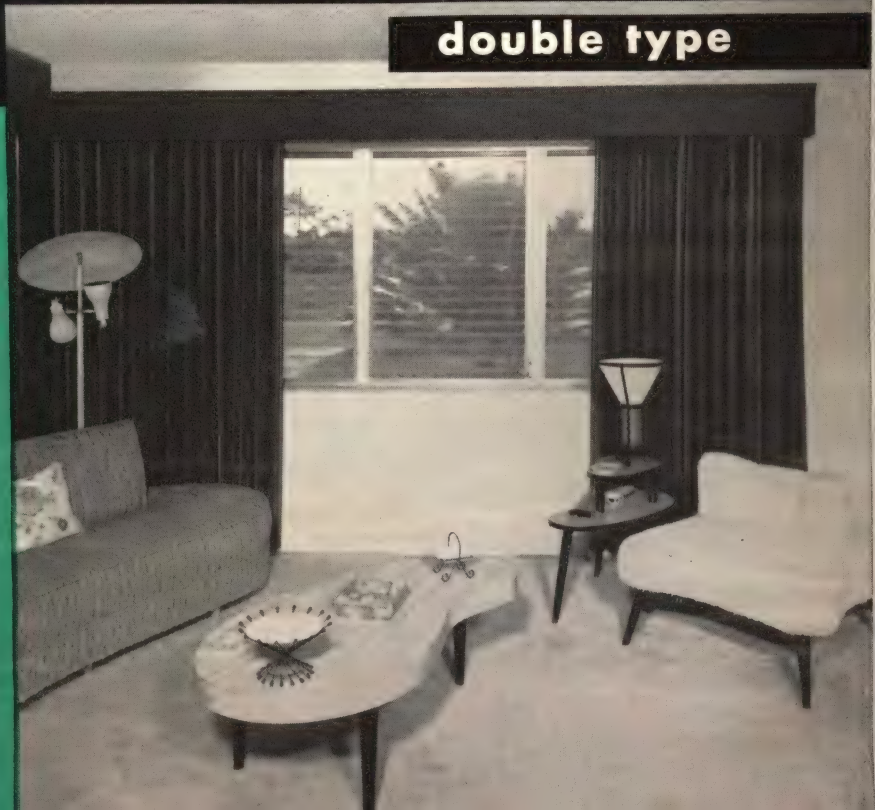
single type

For New or Remodeled

- Homes
- Apartments
- Restaurants
- Beauty Salons
- Clubs
- Offices
- Hospitals
- Churches
- Schools
- Stores
- Shops

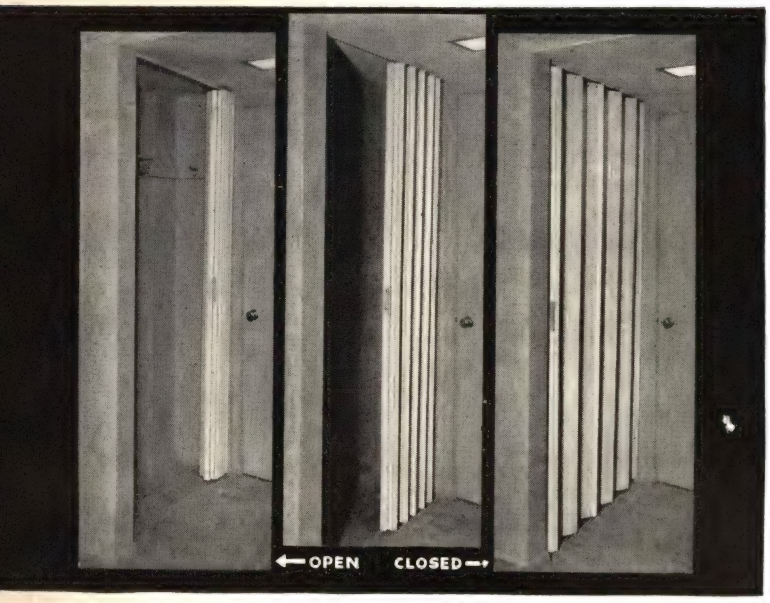
WARREN FOLDING DOORS

double type



WARREN SHADE CO., INC.
Minneapolis 13, Minn.

WARREN FOLDING DOORS



Wherever an inside closing, separation or decorative effect is desired, attractive Warren Folding Doors are the modern, low cost answer. Architects, contractors and decorators specify single and double models for new or existing homes, apartments, churches, clubs, beauty salons, hospitals, offices, restaurants, schools or stores.

Designed for Satisfaction

These doors are 7/8" wide kiln-dried basswood slats woven together horizontally at 4" vertical spacings with seine hard-twist twine. Basswood moulding is applied at vertical edges. Slats are square-edged or beveled (where more privacy is desired). Brass clips riveted to the top of the slats cover every three out of five slats. Swiveling nylon glides, a part of the clips, slide along the overhead straight track. Two standard heights and eight widths in a variety of colors are available. Special sizes and curved tracks can also be furnished.

Trouble-Free Operation

Single doors open smoothly from the left or right, double ones from each side, by simply using the handles or edge moulding to pull the door along the overhead track. The doors fold back against the wall, taking minimum space—from 4 1/2" to 14 1/2", depending on the size of the opening.

Guarantee

Due to the high grade materials and craftsmanship of all Warren Folding Doors, a full year guarantee against imperfections in their materials or construction is given. These doors are backed by more than 40 years of service to jobbers, dealers and the public.

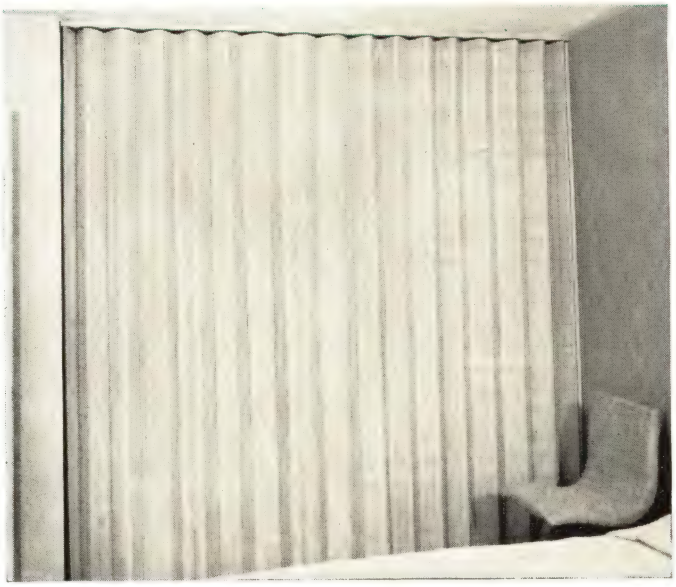
USES . . . . . .



Separating—Warren folding doors of narrow wood slats in colors the same as or harmonizing with the walls make an ideal separator or divider between two rooms. A den might be separated from the living room by these doors—or one bedroom separated into two. The doors are adaptable to large rooms such as classrooms, restaurants, church auditoriums, hospital wards and offices.



Concealing—To conceal the contents of clothes closets, kitchen shelving or kitchenettes, or to hide in-a-door beds or commercial displays, these doors are useful. As long as there is no light behind them, they are opaque. If it is important to be unable to see through the doors, those with beveled edge slats are recommended. Air circulates freely through them, eliminating moisture and smoke.



Providing Privacy —In doctor's offices, beauty shops, fitting rooms, dressing rooms, these folding doors take up little space, yet provide separate rooms when desired. Inexpensive to install, they blend into the surroundings and create an attractive atmosphere. They afford small room privacy without using valuable floor and wall space required by ordinary doors.



Decorating —The pleasing folds of the Warren doors go with traditional rooms equally as well as modern rooms. The soft pastel colors or natural tones may be used to match or contrast with other colors in the home. These doors also may be utilized to decorate large picture windows or double hung windows—wherever easy-to-keep, smart appearing decorating treatment is wanted.

Features and Advantages

Decorative Beauty—Warren's Folding Doors lend beauty and smart appearance to rooms wherever they are used. The smooth basswood slats hang in flowing lines when opened out—fold accordion-like when closed. Their pleasing colors add to the decorative effect of the room.

Economy—The high popularity of Warren's Folding Doors in both new and older homes is partially due to a price range home owners need not fear. Yet attractiveness and dependability are not sacrificed. These doors may be installed for approximately ¼ of the cost of installing ordinary hinged doors. In some cases ceiling to floor installations may be preferred to costly wall construction.

Space Saving—These doors permit use of space or corners taken up by ordinary hinged doors when opened. With today's high cost of construction, this is a factor to consider. The wall and floor space may be used for the TV, radio, chest of drawers, or other furniture.

Adaptability—In existing homes, the Warren door may be easily installed by attaching to ceiling or door frame. Or it may be neatly built in with enclosed channel in new homes, apartments or other dwelling units.

No Bottom Track—No floor channels or guides are required. The door operates entirely from the overhead channel across the opening.

Simple Installation—In a short time a person can install one or a set of Warren's Folding Doors. Simply fasten the track to ceiling or door frame. Next insert the nylon glides in the track—no tools are needed for this. Then attach one side of the door to the wall or jamb. If desired, both sides may be unattached—leaving the door free swinging.

Ventilation—The clearance at the bottom of the door and the floor is ¾". Also there is approximately 1/16" space between slats. This assures constant ventilation—preventing dampness or moisture in closets and providing even room temperatures, especially important for air conditioning and heating systems.

Lasting Dependability—Warren Folding Doors are constructed to meet daily wear and tear. The basswood slats, seine hardtwist twine, solid brass hardware and nylon glides assure years of dependable use.

Low Maintenance—No maintenance is required other than dusting occasionally or wiping with a damp cloth.

Choice of Colors—These doors are supplied in 10 colors and white, for use with any color scheme. A special lacquer finish is applied to each side.

Complete Package—Each door is shipped as a completely finished package, including all hardware for hanging, screws to fit this hardware and simple clear instructions as to installation.

WARREN folding doors

Standard and Special Construction

Standard —Single and double standard door heights are 6'8" and 8'0". Standard single door widths are 2', 2'4", 2'6", 2'8", 3'0", 3'6", 4'0", 5'0", 6'0", 7'0", and 8'0". Double door widths are twice the above widths. Standard slats are square edged. Standard overhead channel track is straight. Colors of Warren folding doors are listed below:

L-1 Snow White	L-9 Light Jade (green)	L-3 Old Ivory
L-2 Eggshell		L-4 Canary
L-54 Natural	L-7 Pastel Peach	L-8 Oriental Red
L-13 Dove Gray	L-5 Cerulean Blue	L-16 Country Club Green

Natural wood finish is stock color. The 10 other colors are also available at small additional cost.

Special —Single and double type doors in special heights up to 12' and in any width are available at extra cost. Also curved track doors. Colors are the same as those above.

Specifications

Furnish and install in (type room) as shown on drawings _____ (number) (single or double) _____ (standard size and width or special size and width) Warren folding doors as manufactured by Warren Shade Company, Inc., 2905 East Hennepin Avenue, Minneapolis 13, Minnesota. Doors shall be completely fabricated by the manufacturer, ready to hang.

Construction —Doors shall be of kiln-dried basswood (square edged or beveled edged) 1/10" thick, 7/8" or 3/8" wide slats woven together at approximately 1/16" spacing horizontally by No. 15 seine hardtwist twine at 4" spacing vertically. Vertical edges shall be finished with basswood mouldings with slat fabric attached thereto.

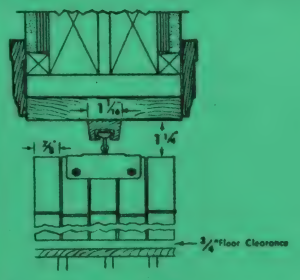
Hardware —Doors shall be furnished with solid brass hangers attached to the top of the door, hangers being neatly riveted through three out of every five slats. Swiveled nylon glides shall be fastened to hangers, ready for insertion in overhead wood channel, which is complete with screws supplied by the manufacturer. Clear Vinylite moulded plastic handles and nylon latch, complete with screws, shall be included.

Finish —Doors shall be finished in _____ (color letter and number) lacquer on both sides.

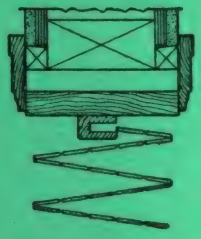
Specifications are subject to change without notice.

Planning Assistance —For help in planning your Warren Folding Door installations, consult any of the representatives listed below or write direct to the factory. We welcome the opportunity to be of assistance to you.

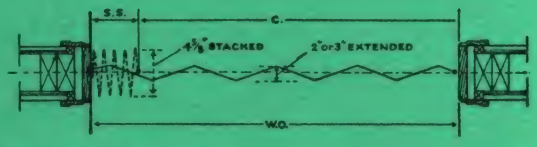
Installation



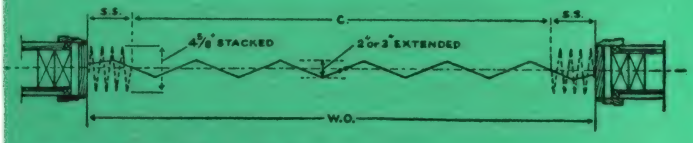
Installation of Wood Track on Wood



Fastening of Anchor Moulding



Single Folding Door or Room Divider (attached at left)



Double Folding Door or Room Divider (attached left and right)

Dimensions in Inches

C	W.O.	S.S. Single Door	C	W.O.	S.S. Single Door
19 1/4	24	4 1/2	53 3/4	64	10 1/4
22 3/4	28	5 1/4	57 1/4	68	10 3/4
26 1/8	32	5 7/8	60 1/2	72	11 1/2
29 5/8	36	6 3/4	63 3/4	76	12 1/4
35	42	7	67 1/8	80	12 7/8
40 1/2	48	7 1/2	70 1/2	84	13 1/2
50 1/4	60	9 3/4	73 7/8	88	14 1/8

W.O.—Width of Opening C—Clearance S.S.—Stock Size

WARREN SHADE COMPANY, INC. **Telephone: Gladstone 5939**

2905-7-9 EAST HENNEPIN AVE., MINNEAPOLIS 13, MINN.

Also manufacturers of Ideal and Rayn-tite Porch Shades, and Mayfair Wood Slat Window Shades

Eastern Branch—173 Union St., Worchester, Mass. **Western Branch—917 Bransten Road, San Carlos, Calif.**

REPRESENTATIVES

ARKANSAS, Little Rock
Crawford Door Sales
222 Scott

DISTRICT OF COLUMBIA, Washington 5
The Shade Shop
830 Thirteenth St., N. W.
Republic 6262

FLORIDA, Ft. Lauderdale
Lauderdale Bldg. Specialties
12 S. E. 1st St.
Phone 3-1709

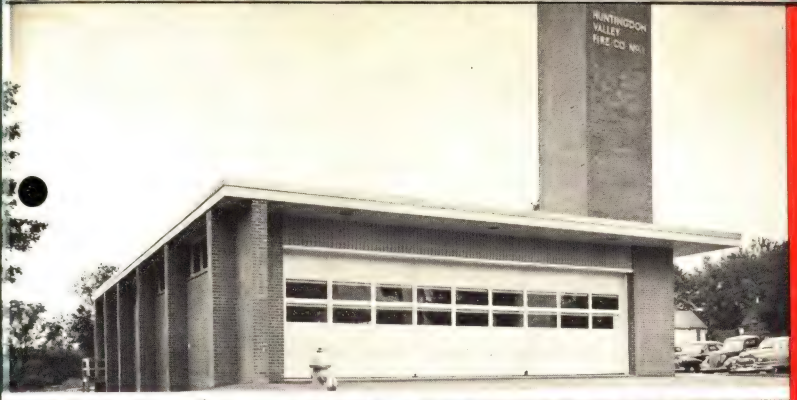
ILLINOIS, Chicago 1
Warren Shade Company
228 N. LaSalle, Room 1256

MICHIGAN, Detroit 10
Paul Haas Company
6535 Livernois
Tyler 6-3630

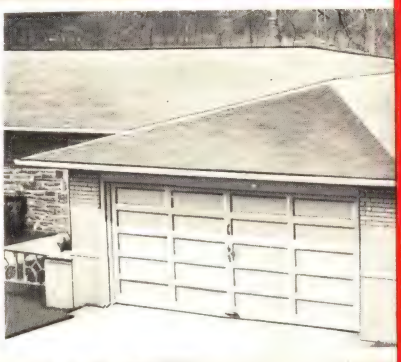
MISSOURI, Kansas City 2
Abbey-Simons Company
3843 Broadway
Phone VA 2345

NEW YORK, New York
John P. Horgan
152 W. 42nd St.
WI 7-4143

OKLAHOMA, Tulsa
Murray R. Womble Company
1333 S. Boston



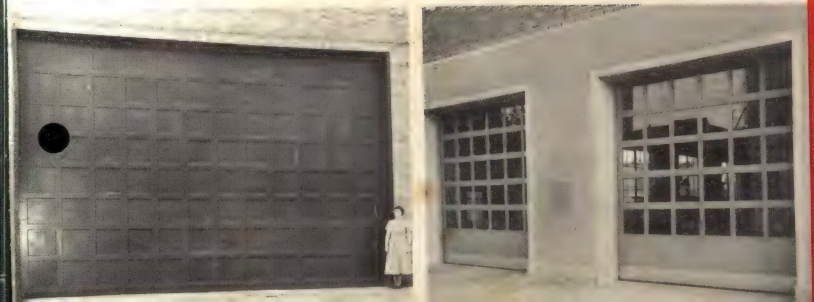












ATLAS "Quieteez"*

OVERHEAD DOORS

with lifetime gliding, weathertite

"Dynaseal"

ATLAS "Dynaseal" DOORS
STRENGTH
DEPENDABILITY

*REG. U.S. PAT. OFF.

Nationally known for unexcelled custom quality

MADE IN QUAKERTOWN, PA.
BY THE ATLAS OVERHEAD DOOR CO.

ATLAS custom quality OVERHEAD DOORS

". . . a size and style for every purse and purpose!"

Leading architects, engineers, builders and other critical users specify ATLAS Overhead Doors because their fine custom quality and unfailing dependability assure lasting satisfaction.

The addition of "Dynaseal," however, establishes a new standard with its dynamic-seal closing. "Dynaseal" doors fit so snug against the stops that they're completely weathertite and rattlefree even in a gale. Yet they glide open, away from the stops, with the greatest of ease.

There's a size and style for every purse and purpose and every ATLAS Overhead Door, its hardware and operating equipment, is designed, engineered and produced by skilled specialists at the modern, coordinated ATLAS production center at Quakertown, Bucks County, Pennsylvania (Delaware Valley, U. S. A.).

Although built to the highest standards, ATLAS Overhead Doors cost no more than other prominent makes. First cost is usually the last cost, resulting in savings year after year. You get unexcelled ATLAS custom quality and the smooth, easy, quiet of "Quieteez" action . . . PLUS lifetime-gliding, weathertite "Dynaseal" . . . whether you specify the lowest cost Atlas SPECIAL; the popular, extra-duty Atlas CHAMPION or the distinguished made-to-order Atlas CUSTOM. Each leads its field in styling, in quality, in safety and in operating ease. Each is factory guaranteed against defects in workmanship and materials for a full year. Each may be automatically operated, when desired, with one of the ATLAS Electric Operators described on opposite page.

A detailed data book with complete specifications for every size and type ATLAS Overhead Door will be sent on request to architects.

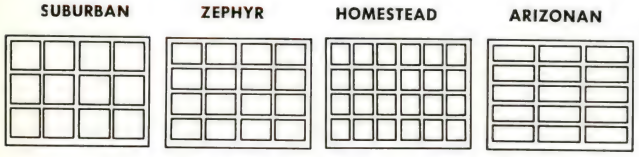
MINIMUM REQUIREMENTS

HEADROOM: 4 section doors only to 100 sq. ft. in area, standard 13"; special 9", (3½" headroom hardware available for doors to 10' wide x 7' high). 4 and 5 section doors to 128 sq. ft., standard 14"; special 10". 5 and 6 section doors to 140 sq. ft., standard 15"; special 10". All other doors to chain hoist size, 18". Chain hoist doors to 180 sq. ft., 20"; to 215 sq. ft., 22"; to 250 sq. ft., 24". Larger doors, 28". Headroom must be unobstructed 2 ft. more than door height into building. Electric operated doors require extra clearances (see Page 3).

SIDEROOM: All doors to chain hoist size, 3½" on each side. Chain hoist doors require 7" on operating side (11" if disengaging chain hoist), 4½" on other side. If steel jambs, add 1" to above. If 3" track, add 1½" more.

types and sizes

the Atlas SPECIAL



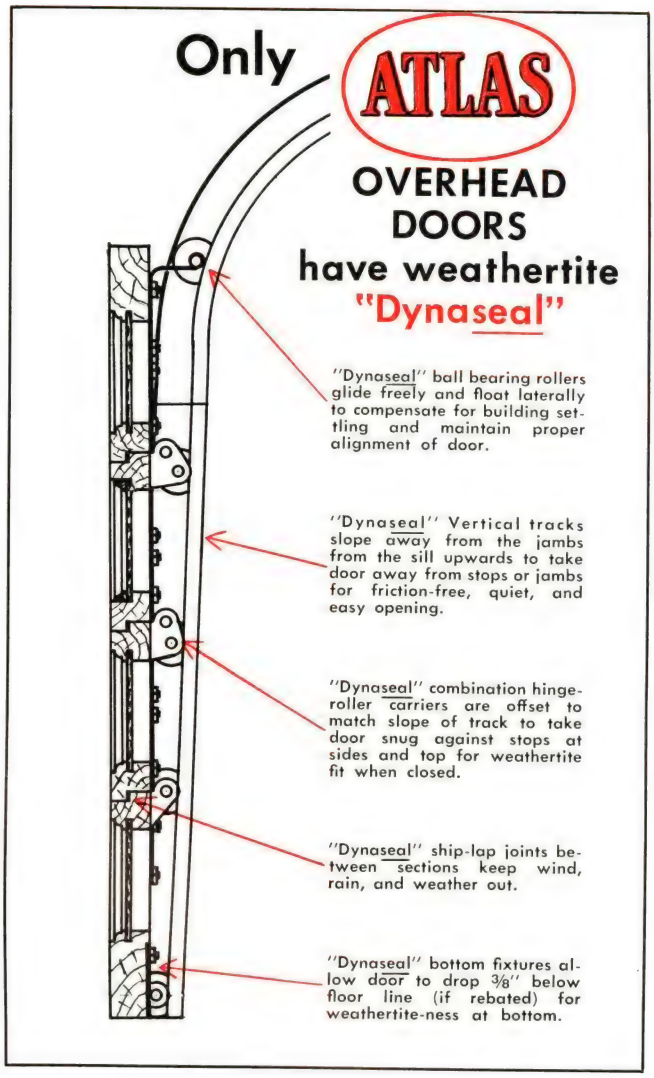
This excellent quality 1⅜" slimline garage door family is made in 14 popular stock sizes in the styles above. All include standard gauge "Quieteez" action hardware with the weathertite "Dynaseal" principle.

the Atlas CHAMPION



America's finest stock overhead door, made in 8 one-car and 6 two-car residence garage sizes. It's a deluxe lifetime door at popular prices, 1¾" thick A.L.S. with custom width stiles and rails, blind mortise and tenon joints waterproof glued and steel pinned. The "Quieteez" action hardware is standard and weathertite "Dynaseal", of course.

The Atlas CHAMPION is also made-to-order in any size up to 200 sq. ft. in area (not over 20' wide) with most types of auxiliary equipment, when required.



STOCK SIZES (Atlas SPECIAL and Atlas CHAMPION)

NOTE: Available in all styles unless initials follow size . . . indicating door only available in styles designated. H means HOMESTEAD, C means COLONIAL, etc.

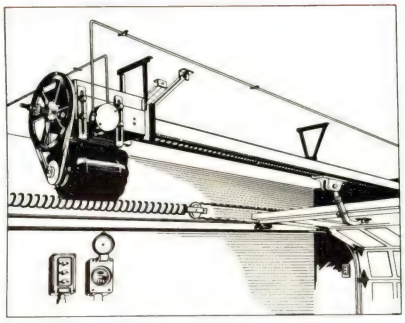
One-car: 8' wide x 6'6", 7', 7'6" (HC) and 8' (HC) high; 9' wide x 6'6" (SAHC) and 7' (SAHC) high; 10' wide x 6'6" (AHC) and 7' (AHC) high.

Two-car: 14' wide x 6'6" (HC) and 7' (HC) high; 15' wide x 6'6" (AHC) and 7' (AHC) high; 16' wide x 6'6" (AHC) and 7' (AHC) high.

the Atlas CUSTOM

These unexcelled made-to-order ATLAS Overhead Doors are individually made to your exact requirements in any size up to 24' wide and/or 20' high (and larger under certain conditions). Although usually made in our standard designs they can also be ordered in special designs and materials. Standard thickness of stiles and rails is 1¾" and the panels ⅜" exterior grade waterproof plywood. Atlas CUSTOM "Dynaseal" hardware is of extra gauge prime steel, designed and reinforced specifically for each size door; factory finished with sprayed aluminum. A full range of special equipment is available with Atlas CUSTOM Doors, including Chain Hoist, Wicket Doors, High Lift, Center Tracks (all described and illustrated on opposite page), Vertical Lift (takes door straight up), Removable Posts (permit clear openings the width of two or more doors), etc. Write to the factory for special data on these and other special equipment needs.

ATLAS "Lightning Lift" ELECTRIC OPERATORS

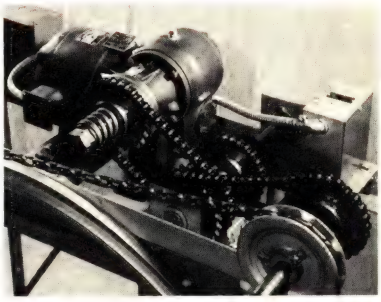


These fully ball bearing, silent spiral shaft drive operators are made in a wide choice of models to conveniently and dependably operate any size overhead door and no auxiliary equipment is required for their use with overhead doors previously installed. Designed for dependable service even in continuous use, each is made to order to suit the size and type door it is to be used with. Each includes self-contained, easy-adjust limit switches, safety friction clutch, sturdy magnetic reversing contactor with mechanical interlock and ingenious ATLAS floating bearings which give positive protection against misalignment and excessive wear. Standard speed is 1½ ft. door travel per second. Each operator is fully assembled and tested at the factory with choice of Constant Contact (door moves only while button is held) and Momentary Contact (continues movement to fully open or close after momentary push of button) controls. One inside control station included with each. Optional equipment includes extra control stations, weatherproof outside controls, quick disconnect tow bars, chain hoist disengaging device, and Atlas Safety Control which shuts off power if door encounters obstruction.

MINIMUM REQUIREMENTS

"Lightning Lift" models require 9", "Rador" models require 2½", above top of door when open, 4'6" more than door height into building. "Gearmotor" models require 3" more headroom than required for chain hoist operated door it will be used with and 24" total sideroom on operator side. If mounted above cross head shaft, requires 15" EXTRA headroom but no extra sideroom.

ATLAS "Gearmotor" ELECTRIC OPERATORS



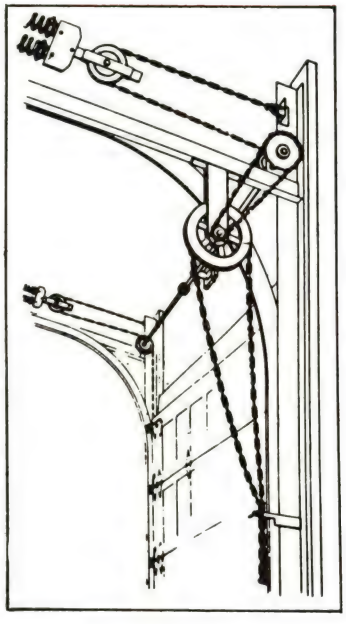
The toughest and most durable door operators made today. Designed for unusual and "brute" jobs, they drive the cross head shaft of chain hoist equipped doors and can be mounted at either side of the door or above the cross head shaft. Each is made-to-order to suit the job to be done, with safety friction clutch and choice of momentary or constant contact controls. Standard speed: ¾ ft. door travel per second.

MOMENTARY Contact Models only include self-contained rotary limit switches, heavy duty magnetic reversing relay with mechanical interlock, quick disengaging device for chain hoist operation in event of power failure. Electrical brake and/or Atlas Safety Control which shuts off power if door encounters obstruction (permits operation at 1½ ft. door travel per second) are optional.

ATLAS "Rador" ELECTRIC OPERATORS

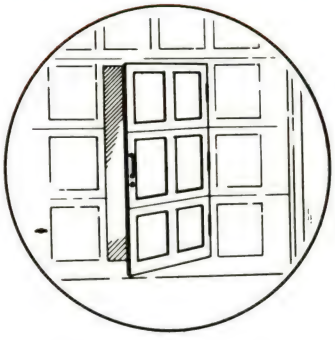
Remote control by radio transmission is the outstanding feature of these residence garage door operators. A touch of a button on the car dashboard opens and closes the door and turns the garage light on and off, too. A low-voltage 1-button control station permits operation from inside the garage or house. Can be ordered without radio, which can be added later when desired. Standard speed 1 ft. per second. Roller chain drive; safety clutch, limit switches and quick-disengaging tow-bar for emergency hand operation in event of power failure are standard.

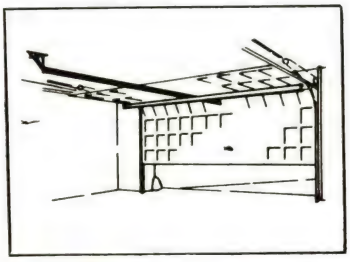
ATLAS door equipment and accessories



chain hoist

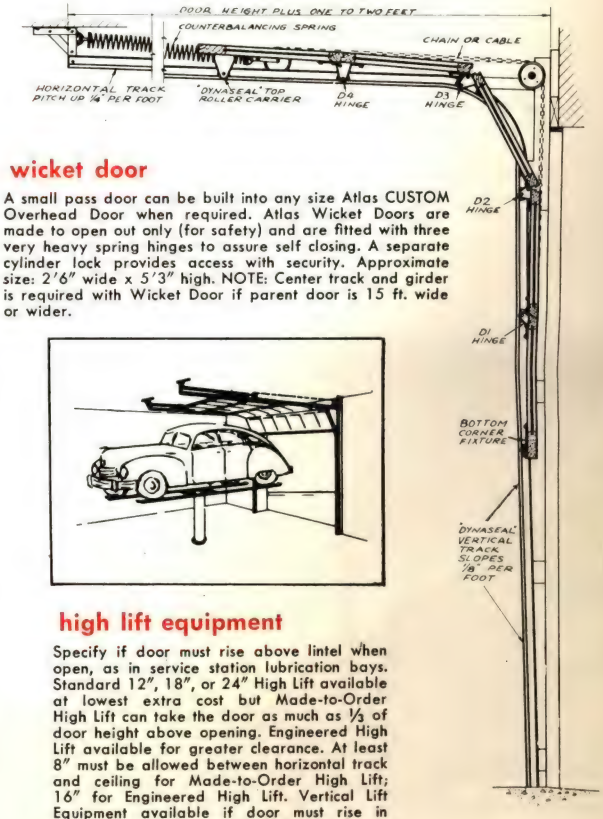
Atlas Heavy Duty Chain Hoists are fully ball bearing with a 9 to 1 ratio to enable even the largest Atlas Doors to operate as fast and easily as those of moderate size. Recommended for use with all doors 17 ft. wide or wider; 13 ft. high or higher or 160 sq. ft. or more. Auxiliary Chain Hoist with disengaging mechanism should be specified if door will also be electric motor operated.





center track and girder

Recommended equipment for all Atlas Overhead Doors 20' wide and wider. Required equipment with all doors over 24' wide (15' wide and wider if door is built with wicket door) to distribute door weight and prevent sag when open. Includes special rollers attached along vertical center line of door which run onto a 3" horizontal steel I beam supported by a 6" transverse junior beam. REQUIRED HEADROOM: Not less than 20" (total). SIDEROOM: Not less than 6" on each side (total).



wicket door

A small pass door can be built into any size Atlas CUSTOM Overhead Door when required. Atlas Wicket Doors are made to open out only (for safety) and are fitted with three very heavy spring hinges to assure self closing. A separate cylinder lock provides access with security. Approximate size: 2'6" wide x 5'3" high. NOTE: Center track and girder is required with Wicket Door if parent door is 15 ft. wide or wider.

high lift equipment

Specify if door must rise above lintel when open, as in service station lubrication bays. Standard 12", 18", or 24" High Lift available at lowest extra cost but Made-to-Order High Lift can take the door as much as ⅓ of door height above opening. Engineered High Lift available for greater clearance. At least 8" must be allowed between horizontal track and ceiling for Made-to-Order High Lift; 16" for Engineered High Lift. Vertical Lift Equipment available if door must rise in vertical plane. REQUIRED HEADROOM: Door height plus one foot.

ATLAS custom quality overhead doors

general specifications (subject to change without notice)

RESIDENTIAL GARAGE DOORS

Overhead garage doors shall be standard Atlas CHAMPION "Colonial" (or other design) as manufactured by ATLAS Overhead Door Co. of Quakertown, Pa. Rails and stiles to be of clear, kiln-dried Douglas Fir with blind mortise and tenon joints, bonded with waterproof glue and steel pinned. Section indicated shall be prepared for (DSB) glass. Remaining sections to be panelled with 1/4" exterior grade waterproof plywood.

Hardware shall be ATLAS "Quieteez" type with weathertite "Dynaseal". The 2" tracks shall be of rolled steel with steel angle clips for jamb mounting. Track rollers and sheave pulleys shall be fully ball bearing. Counterbalancing shall be by extension type, oil tempered steel springs, custom tailored to the exact weight of door, with preformed galvanized aircraft cable lift. Locking device shall be of cremone type with lock bars engaging track at both sides of door, controlled by full size cylinder lock and cast aluminum lock handles. All hardware shall be factory finished with sprayed aluminum.

COMMERCIAL DOORS

Overhead doors shall be of commercial type as manufactured by ATLAS Overhead Door Co. of Quakertown, Pa., in the sizes shown on plans. Rails and stiles shall be 1¾" thick, clear, kiln-dried Douglas Fir or Sitka Spruce with blind mortise and tenon joints bonded with waterproof glue and pinned with steel dowels. Sections indicated shall be prepared for (double strength) glass. Remaining sections shall have 3/8" exterior grade waterproof Fir plywood panels.

The hardware shall be of the weathertite "Dynaseal" type, of heavy gauge steel, designed and reinforced to suit the size and weight of each door and shall be factory finished with sprayed aluminum. Doors less than 200 sq. ft. in area shall have 2" tracks of .093" rolled steel and larger doors shall have 3" tracks of .125" rolled steel, reinforced as required to support weight of door. Counter-balancing shall be by helically wound, oil tempered steel springs of the extension type, custom made for the exact weight of each door and connected to the door by welded link load chain with a factor of safety of three. Chain sheaves and track rollers shall be fully ball-bearing of seamless steel (on largest doors, chain sheaves are of heavy cast iron with pressed in high load ball-bearings). All hardware shall be secured to the door by 1/4" zinc or cadmium plated thru carriage bolts. Locking device shall be cremone type with lock bars engaging track on both sides of door, controlled by full size cylinder lock and cast aluminum lock handles (not required if door is chain hoist or electric motor operated).

HIGH LIFT

Doors indicated shall be High Lift type with special tracks made to raise door (state distance above floor) when open. Counter-balancing shall be by helically wound, oil tempered extension springs, custom made for the exact weight and lift of door.

CHAIN HOIST

Doors indicated shall be equipped with ATLAS fully ball-bearing heavy duty chain hoist with 9 to 1 ratio and case hardened load chain of suitable size for size of door. Chain hoist to have chain locking device.

CENTER TRACK

Doors indicated shall have horizontal center track to prevent sagging when open; to consist of 3" I beam supported by 6" transverse junior I beam across full width of door.

ELECTRIC OPERATORS

ATLAS "Lightning Lift" Silent Spiral Shaft Type

Overhead doors indicated shall be equipped with electric operators of the "Lightning Lift" silent spiral shaft type as manufactured by ATLAS Overhead Door Co. of Quakertown, Pa. They shall be fully ball-bearing, with safety friction clutch, self-contained adjustable limit switches, floating shaft bearings, and heavy duty magnetic reversing contactor with mechanical interlock. Capacitor type motor shall be of power to suit size of door and wired for..... volts,.....cycles,.....phase, A.C. (Required number) control stations shall be furnished for each operator and they shall be of the Momentary Contact type with 3-buttons marked Up-Down and Stop (or Constant Contact type with 2-buttons marked Up and Down.)

ATLAS "Gearmotor" Heavy Duty Side Mount Type

Overhead doors indicated shall be equipped with electric operators of the "Gearmotor" type as manufactured by ATLAS Overhead Door Co. of Quakertown, Pa. They shall be fully ball-bearing with safety friction clutch, quick disengaging device for emergency chain hoist operation in event of power failure, self-contained adjustable rotary limit switch, heavy duty magnetic reversing contactor with mechanical interlock. Reduction gear motor shall be of power to suit size of door and wired for.....volts,..... cycles,.....phase, A.C. (Electrical brake and/or Atlas Safety Control should be specified if required) (Required number) control stations shall be furnished for each operator and they shall be of the Momentary Contact type with 3-buttons marked Up-Down and Stop (or Constant Contact type with 2-buttons marked Up and Down.)

ATLAS "Rador" Residential Type

Overhead doors indicated shall be equipped with electric operators of the "Rador" type as manufactured by ATLAS Overhead Door Co. of Quakertown, Pa. They shall have roller chain drive with safety clutch, limit switches, quick disconnect tow bar and one-button low-voltage control station. (ALTERNATE:) Radio receiver and transmitters shall be provided for (1 or more) cars for remote control.

ATLAS overhead doors and electric operators are serving America's leaders

Abbotts Dairies, Inc.
Allied Chemical & Dye Corp.
American Airlines
American Oil Company
American Rolling Mills Co.
American Soc. for Testing Materials
Anheuser Busch, Inc.
Atlantic & Pacific Tea Co.
Atlantic Refining Company
Armour & Company
Bell Telephone Company
Bethlehem Steel Co.
Bridgeport Brass Co.
Canada Dry Ginger Ale, Inc.
Cities Service Oil Co., Inc.
Continental Can Company
E. I. duPont deNemours & Co.
Electric Auto-Lite Co.
Esso Standard Oil Co.
Firestone Tire & Rubber Co.
Freihofer Baking Company
Ford Motor Company
General Chemical Company
General Electric Co.
Goodrich, B. F. Co.
Gulf Oil Corporation
H. J. Heinz Company
Koppers Company, Inc.
Lehigh Valley Oil Company
Lehigh Valley Transit Co.
National Biscuit Co.
New York Shipbuilding Corp.
Park & Tilford Distillers
Pennsylvania, Commonwealth of
Pennsylvania Power & Light Co.
Pennsylvania Railroad Co.
Philadelphia, City of
Philco Corporation
Public Service Co. of New Jersey
RCA Victor Manufacturing Co.
Richfield Oil Corporation
Sears, Roebuck & Company
Shell Oil Corporation
Sinclair Oil Corporation
Socony-Vacuum Oil Co., Inc.
Standard Oil Company (N. J.)
Sun Oil Company
Sylvania Electric Products Co.
The Texas Company
Tidewater-Associated Oil Co.
United States Government
U. S. Army and Air Force
U. S. Navy and Coast Guard
Westinghouse Electric Corporation



ATLAS "Quieteez"

the custom quality overhead door with weathertite "Dynaseal"

UPWARD ACTING
MARVEL-LIFT

Crawford Doors

for
residential garage installations

FABRICATING PLANTS

Los Angeles	Chattanooga	Detroit
San Francisco	Williamsport, Pa.	Terrell, Texas
Portland, Ore.	Cadillac, Mich.	Phillipsburgh, N. J.
Tacoma	Ottawa, Canada	

DISTRIBUTING WAREHOUSES in 92 major cities
SALES AND SERVICE companies everywhere



CRAWFORD DOOR COMPANY
***MAIN PLANT:* 20263 HOOVER ROAD**
DETROIT 5, MICHIGAN

CUSTOMIZED DOORS

Crawford Customized Designs have been introduced to meet the demand for a really distinctive, beautiful, individual garage door—without the "custom door" price tag. Stock "Rosettes" and "Mouldings" are applied to the stock door in an endless variety of designs and patterns. (See following pages for a few of the designs possible).

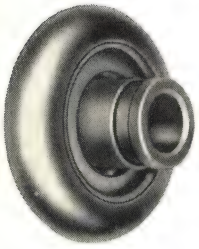
ONE CAR

This most popular door features Crawford's Marvel-lift mechanism (see features below). It operates so easily that a six year old child can raise and lower it. Hardware is zinc plated for rust proofing. Magi-cote, a three minute immersion in toxic water repellent dip is optional (east of the Rockies). Wood sections are available in a variety of standard designs, (see following pages), to blend with any architectural style. Can be equipped with electric operators controlled by radio from the dash of your car (see inside back cover).

FEATURES



Doors are counterbalanced by safety torsion springs on a continuous steel shaft assuring level easy operation without binding. Inclined tracks allow a snug fitting door when closed yet frees the door from the stops immediately upon opening for easy operation.



rollers

Ten ball bearing rollers with hardened inner and outer races and one-piece steel tire, zinc plated for rust proofing.



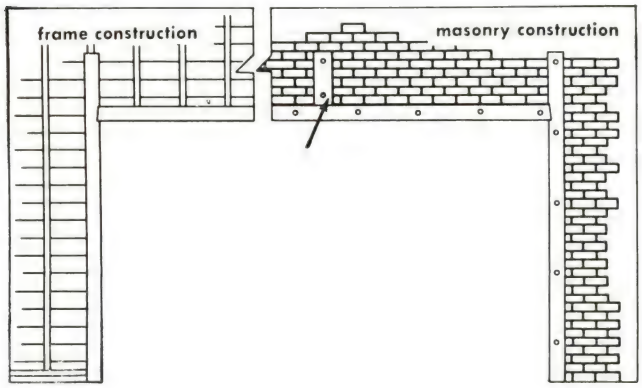
lock assembly

Located at either side. No reaching, no climbing over rear of car. Five pin tumbler cylinders may be substituted, master-keyed with house lock, steel parts zinc plated.

OPENING PREPARATION

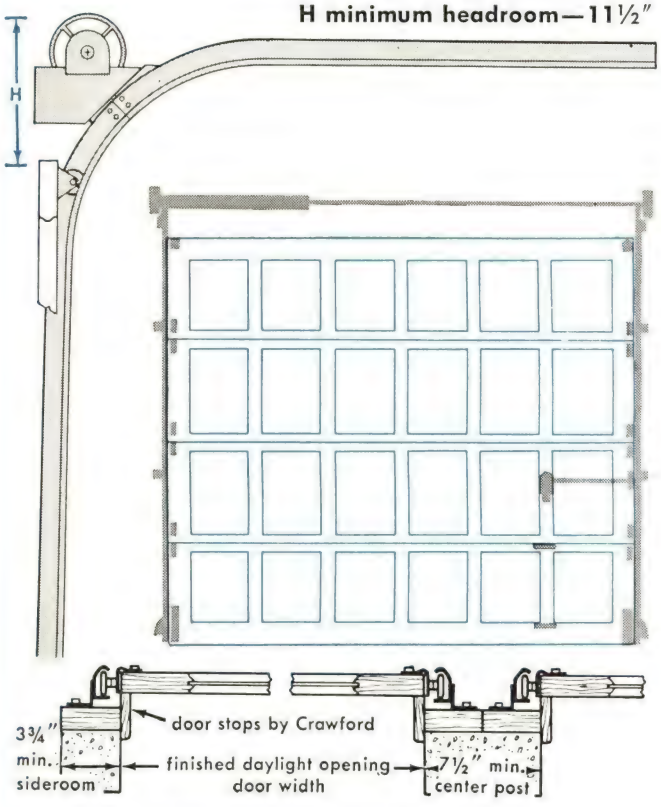
section and panel schedule

Note: All casings must be flush. All bolts and nuts must be countersunk. Side casings must extend above openings 11′ minimum, or to ceiling.



CLEARANCE DATA

1 car





Patented weather proof joint provides continuous hinge across full width of door

	models		
	46	S.1 and S-2	R
sections high	4	4	5
panels wide	6	—	3 unequal

TWO CAR

This door also features the Crawford Marvel-lift mechanism with its safety torsion springs mounted on a continuous steel shaft, assuring easy operation even by a six year old child. Magi-cote, a three minute immersion of all wood sections in toxic water repellent is optional. Wood sections are available in a variety of standard designs, see following pages, to blend with any architectural style. Electric operators with radio control push buttons mounted on the dash of your car are available, see inside back cover.

MARVEL-LIFT

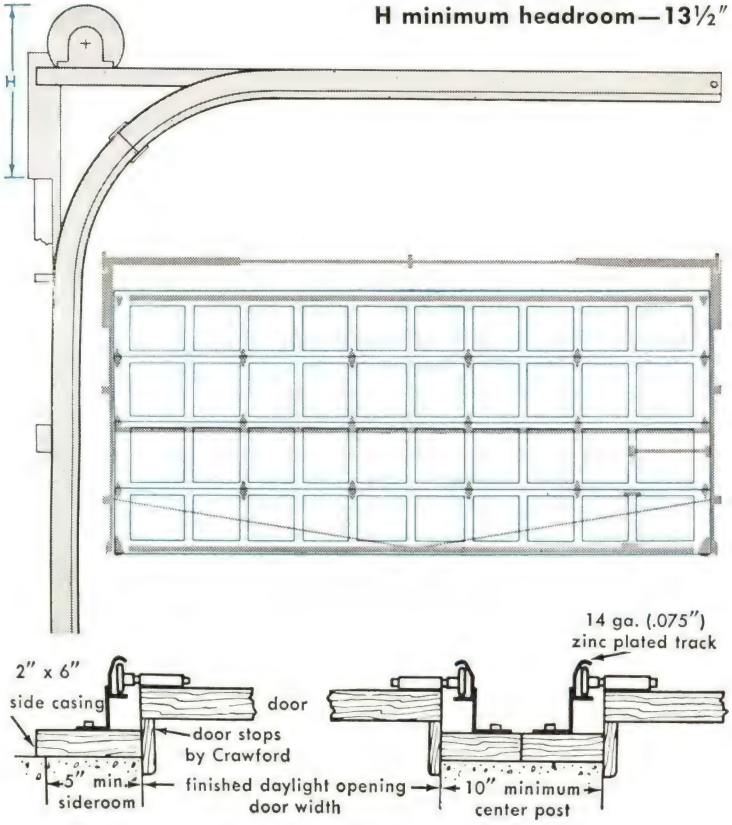


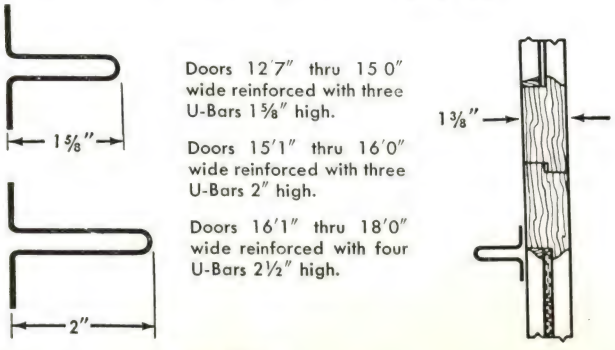
1 car

widths up to 10′0″
heights up to 8′0″

2 car

widths from 14′0″ thru 18′0″
heights from 6′6″ thru 8′0″





section and panel schedule

	models		
	410	S	R
sections high	4	4	5
panels wide	12′7″ thru 14′0″— 8 14′1″ thru 17′0″—10 17′1″ thru 18′0″—12	....	12′7″ thru 13′11″—4 unequal 14′0″ thru 16′11″—5 unequal 17′0″ thru 18′0″ —6 unequal

SPECIFICATIONS

Residential upward acting doors to be Model . . . (for single-car widths) or model . . . (for two-car widths) as manufactured by the Crawford Door Company, 20263 Hoover Rd., Detroit 5, Michigan. (See following pages.) All wood after assembly to be immersed for 3 minutes in toxic, water repellent, wood preservative Magi-Cote.

Wood: Wood sections shall have stiles and rails of Douglas Fir, dowelled and waterproof glued. Rails to extend full width of door. Panels to be of three (3) ply, laminated fir, ¼″ exterior plywood manufactured by the hot plate process with phenolic resin glue.

Hardware: Hardware shall include safety torsion springs on a continuous shaft across full width of door, rustproofed aircraft type cable, rollers having a minimum of ten (10) ball bearings ¼″ diameter with both inner and outer races of hardened steel (use of roller shaft as inner race will not be permitted), bottom corner brackets mortised under bottom of door and of sufficient height to be secured across both rail and stile. Two-car width doors to have suitable steel U-bar reinforcements.

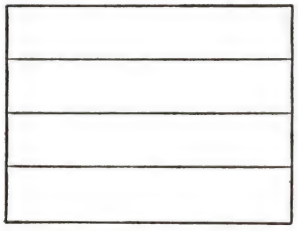
Installation & guarantee: Doors shall be installed by the local distributor of the manufacturer, and shall be guaranteed against faulty or defective material or workmanship under normal operation for a period of one (1) year. Also, twenty-four (24) hour emergency service shall be available from distributor.

for operators see inside back cover

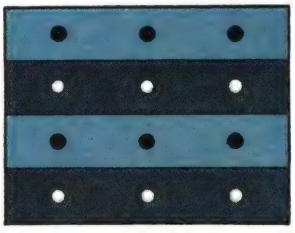
While the largest doors are easily operated, electric operators controlled by a push button on the dash of your car are also available.

Crawford CUSTOMIZED DESIGN

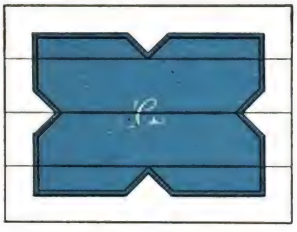
Crawford Customized Design Accessories make it easy to create matching garage doors and front doors or individualized garage doors. These accessories are stamped, anodized aluminum rosettes in the designs and sizes shown at the right, with sleeve and rivet for easy application to the door. These units are an exclusive Crawford development. Other decorative effects are produced by use of various moldings, notably, the special molding used in multiples to create the effect of louvers. Applied to standard Crawford Doors, these Custom Design Accessories provide custom effects at minimum cost and greatly extend the possibilities for rich color styling. Ask your local Crawford Door Sales Company for the Crawford Customized Design folder in full color.



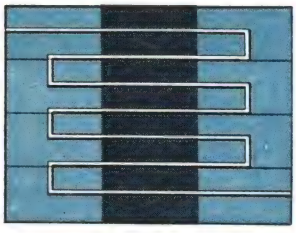
CRAWFORD MODEL S
FLUSH MODERN
Single and Two-Car Sizes



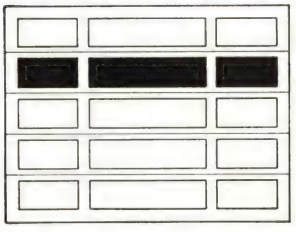
MODEL S with
5″ dia. rosettes



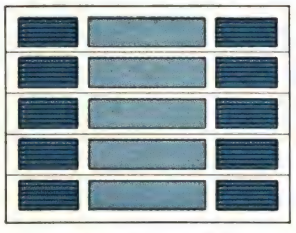
MODEL S panelled in
picture-frame molding



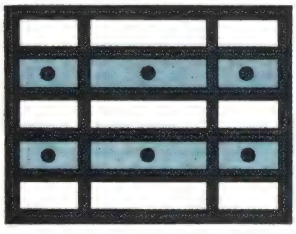
MODEL S with design
in half-round molding



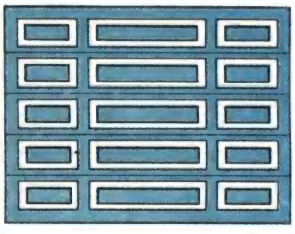
CRAWFORD MODEL R
CONTEMPORARY
Single and Two-Car Sizes



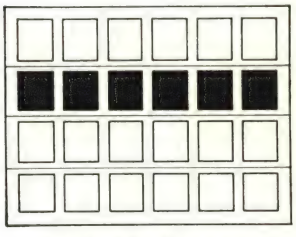
MODEL R with false
louvers in small panels



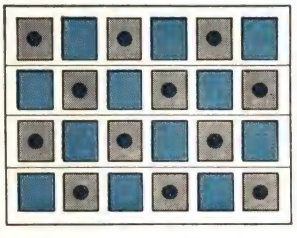
MODEL R with
5″ dia. rosettes



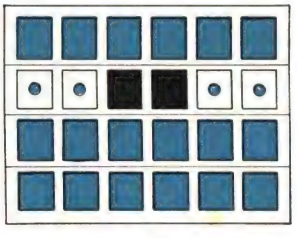
MODEL R with panels
in half-round molding



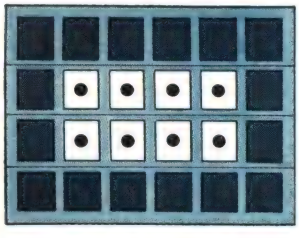
CRAWFORD MODEL 46
CONVENTIONAL
Single and Two-Car Sizes



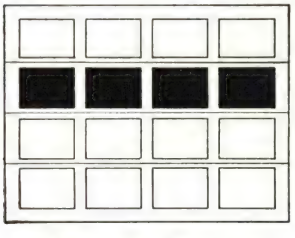
MODEL 46 with
5″ dia. rosettes



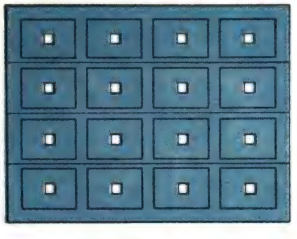
MODEL 46 with
4″ dia. rosettes



MODEL 46 with
5″ dia. rosettes



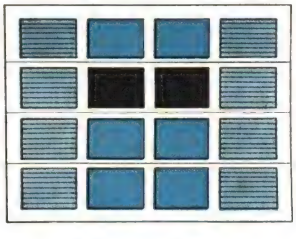
CRAWFORD MODEL 44
PANEL-MODERN
Single and Two-Car Sizes



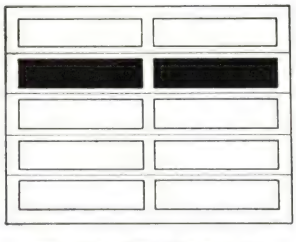
MODEL 44 with
5″ square rosettes



MODEL 44 with 4″ rosettes
and half-round molding



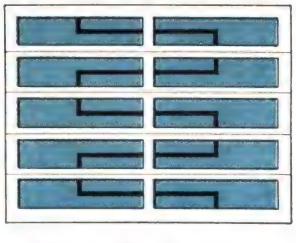
MODEL 44 with
false louvers



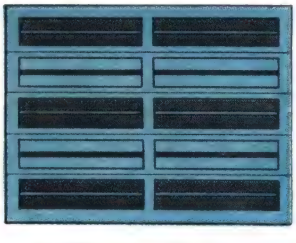
CRAWFORD MODEL 52
RANCH-TYPE
Single-Car Size only



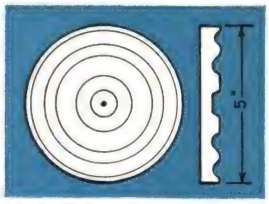
MODEL 52 with
5″ dia. rosettes

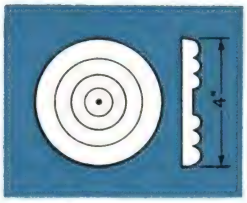


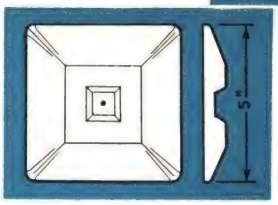
MODEL 52 with design
in half-round molding



MODEL 52 with lateral
accent, square molding







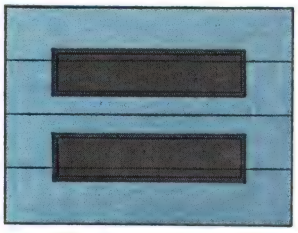


Special louver molding

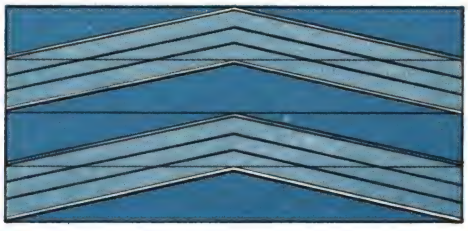
Half-round molding

Square molding

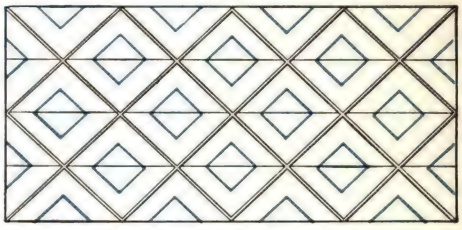




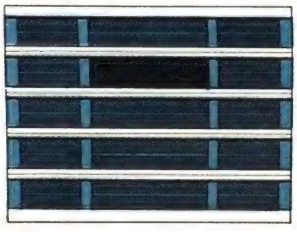
MODEL S panelled in square molding



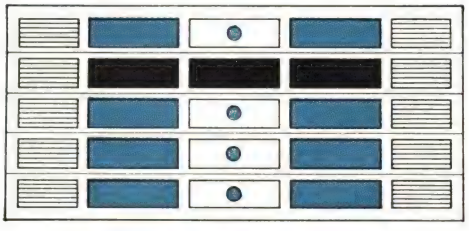
MODEL S with chevron design in half-round molding



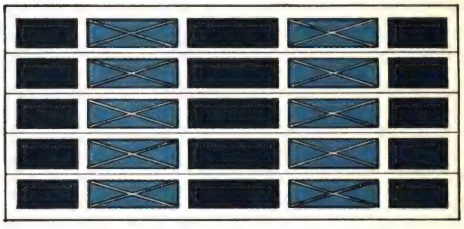
MODEL S panelled in half-round molding



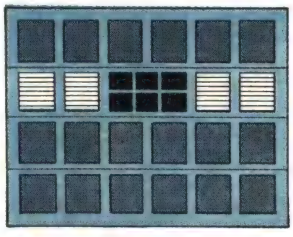
MODEL R with lateral accent, square molding



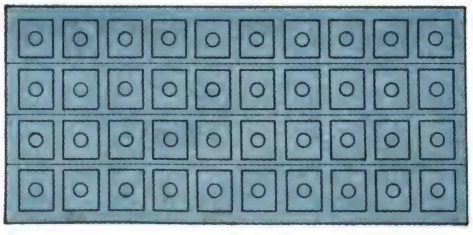
MODEL R with false louvers and 5″ dia. rosettes



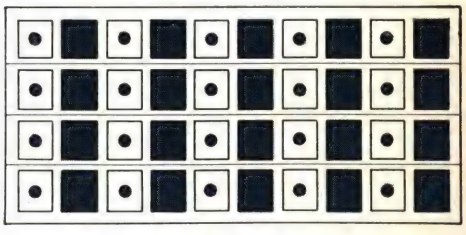
MODEL R with design in half-round molding



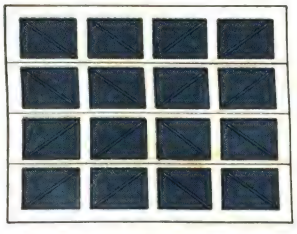
MODEL 46 with Muntin lights and false louvers



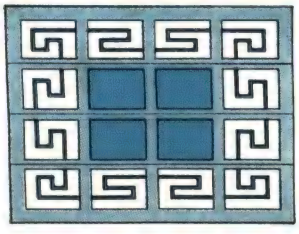
MODEL 46 with 5″ dia. rosettes



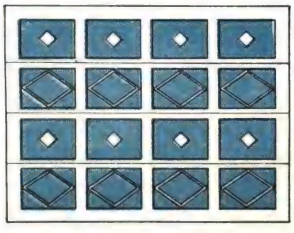
MODEL 46 with 4″ dia. rosettes



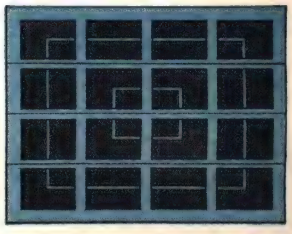
MODEL 44 with design in half-round molding



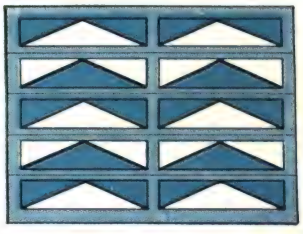
MODEL 44 with design in square molding



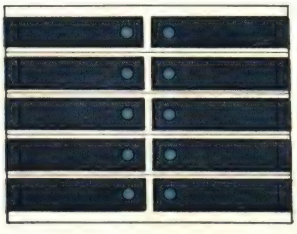
MODEL 44 with 5″ square rosettes and square molding



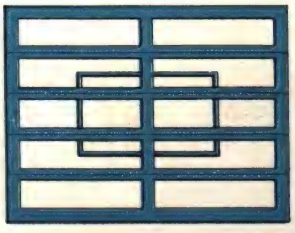
MODEL 44 with design in half-round molding



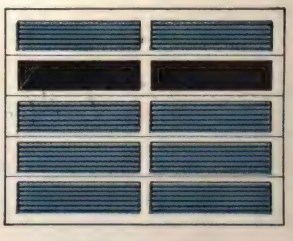
MODEL 52 with design in half-round molding



MODEL 52 with 5″ dia. rosettes and half-round molding



MODEL 52 with design in square molding



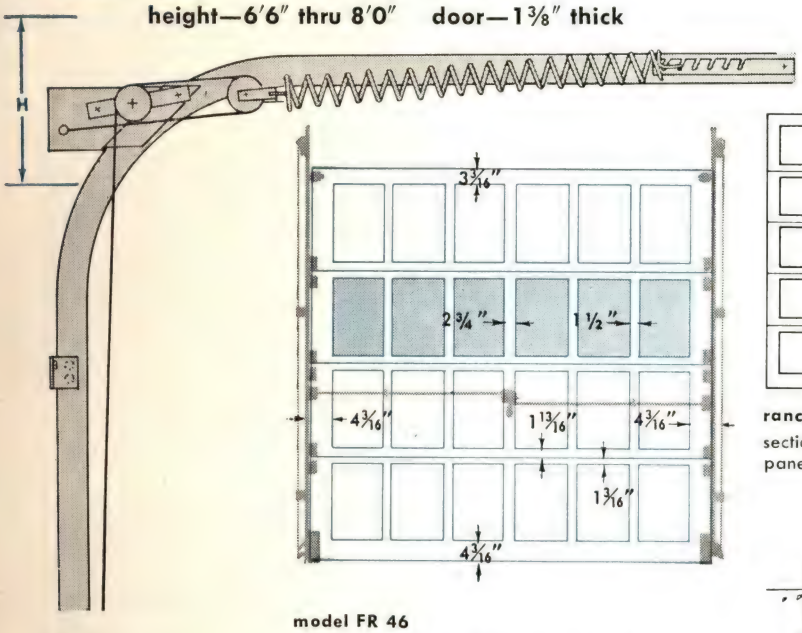
MODEL 52 with false louvers

FLEETWOOD

An extension spring economy door that has the appearance, construction and performance features normally found only in higher priced garage doors.

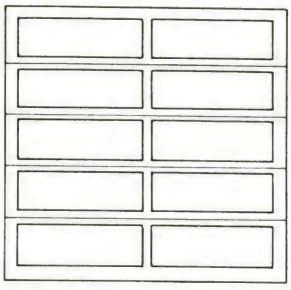
1 car

width—7′6″ thru 10′0″ track—2″
height—6′6″ thru 8′0″ door—1⅜″ thick

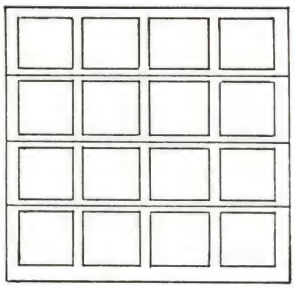


model FR 46

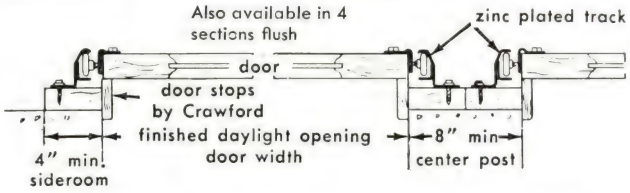
H minimum headroom—11½″



ranch style—model FR52
sections high—5
panels wide—2

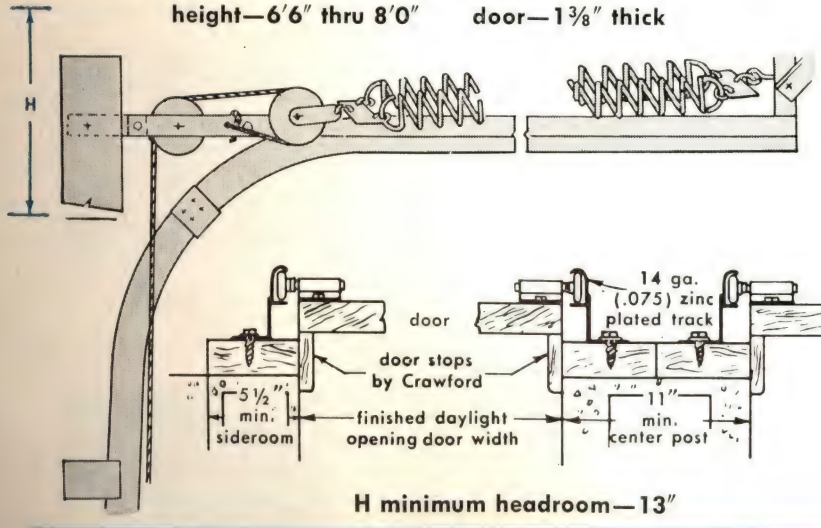


model FR44
sections high—4
panels wide—4

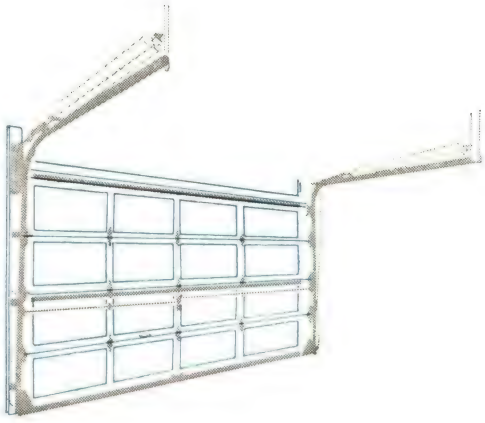


2 car

width—14′0″ thru 16′0″ track—2″
height—6′6″ thru 8′0″ door—1⅜″ thick



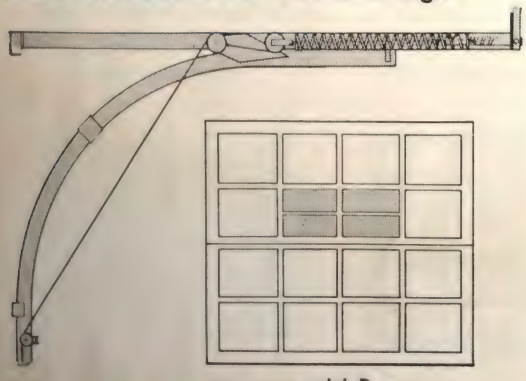
H minimum headroom—13″



model FT44
sections high—4
panels wide—4
Also available in 5 sections, 4 panels and flush

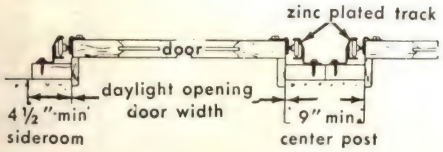
DOORMASTER 2 sections high

width—8′0″ thru 9′0″ track—2″
height—6′6″ thru 7′0″ door—1⅜″ thick



model D

A good looking, well built, budget priced door which offers several important advantages not found in other doors. It requires only ¾″ headroom above the door opening. It is ideal for installation in basement garages and other garages where headroom is very limited. It also permits the builder and owner to save up to 12″ in garage sidewall height on all four walls.





Weatherproof full width interlocking joints

Even when the door is open, the joint is still engaged and forms a continuous hinge all the way across the door. When closed it is absolutely weatherproof, excluding rain, cold and dust.

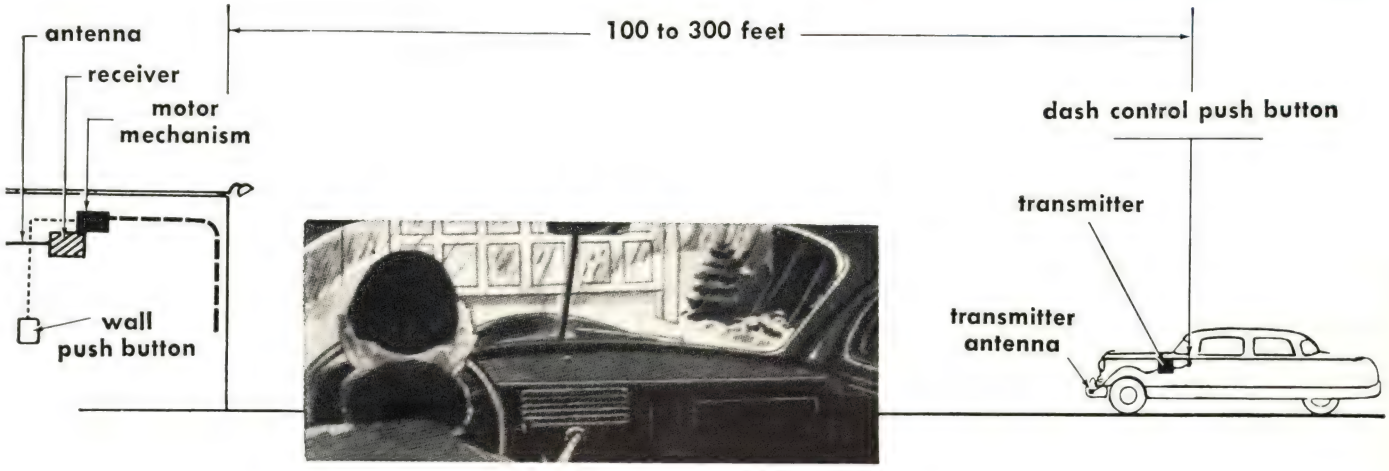
RESIDENTIAL ELECTRIC OPERATORS

model 300-A

for all door sizes up to 18′ x 8′

FLEETWOOD DOORMASTER ELECTRIC OPERATORS





Every modern garage deserves the convenience offered by radio control door operators. Through your Crawford dealers you can obtain the finest equipment available to perform that service.

The door operator proper consists of a 1/3 H.P. motor driving a carriage itself sliding on a T shaped track. To this carriage in turn is affixed a door connecting arm lifting the door as soon as the push button connected in the garage is actuated. The entire power unit is self contained and covered with a streamlined case; it is shipped completely assembled.

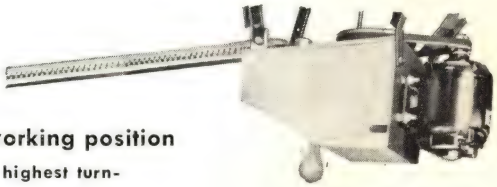
The radio control consists of a small receiver with two 6U8 tubes. The transmitter in the car is a small unit mounted under the hood and connected to a rigid antenna rod easily clamped under the gravel pan of the car. A remarkable feature of this control is that the one tube transmitter is equipped with the same type of tube as the receiver, one 6U8.

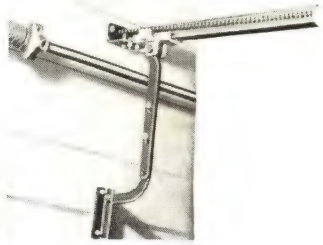
There are ten different frequencies available, permitting close installations without any interference.

The entire system, operator and control, is provided for a power supply of 110-volt single phase. The push button for the operator is under low voltage (24-volt) to permit easy wiring.



Typical installation of 300-A operator. Note the compact and streamlined appearance of the unit.





300-A operator in actual working position

Clearance required 3″ over highest turning point of the door.

Depth required:

for 7′ high doors 10′9½″
for 8′ high doors 11′9½″

Depth can be reduced 13″ if required by mounting power unit at 90° with operator track.

Crawford MARVEL-LIFT Doors

CRAWFORD DOOR SALES COMPANIES

ALABAMA

Birmingham 4
2628-30 North 12th Avenue
Phone: 4-1712 and 4-1713

Mobile 18
211 Maryland Street'
Phone: 2-3073

Montgomery
Southern Sash of Montgomery, Inc.
109-111 N. Lawrence, P.O. Box 446
Phone: 7423 or 4-7391

ARIZONA

Phoenix
E. M. Beach Co.
1040 East Camelback, P.O. Box 2268
Phone: AM 5-2183

ARKANSAS

Fort Smith
1110 North 13th Street
Phone: 3-4751

Little Rock
222 Scott Street
Phone: 5-1108

CALIFORNIA

El Segundo
107 Arena Street
Phone: OR egon 8-2169

San Francisco 5
Walter D. Bates & Associates
693 Mission Street
Phone: GA rfield 1-6971

COLORADO

Denver 4
1001 Bannock Street
Phone: CHerry 4-3114

CONNECTICUT

Bridgeport 5
756-766 Railroad Avenue
Phone: ED ison 4-5191

DELAWARE

Wilmington 5
1022 West Seventh Street
Phone: 4-9282

DISTRICT of COLUMBIA

Washington 3
601 South Capital Street
Phone: Capitol 8-5852

FLORIDA

Hialeah
4930 East 10th Lane
Phone: 88-3193

Jacksonville
101 Copeland Avenue, P.O. Box 2147
Phone: 4-8245

Tampa
1501 Second Avenue, Box 291
Phone: 4-4114

GEORGIA

Atlanta
700 Hemphill Avenue, N. W.
Phone: Elgin 6353

Augusta
Potter Sash & Door Company
P.O. Box 38
Phone: 2-1116

Savannah
3500 Montgomery Street
P.O. Box 3307, Station "A"
Phone: 6-5751

ILLINOIS

Chicago
815 Main Street, P.O. Box 328
Maywood
Phone: CO lumbus 1-5077 or
FI llmore 4-9725

Springfield
447 North Walnut, P.O. Box 987
Phone: 3-9312

INDIANA

Elkhart
1714 S. Seventh Street, P.O. Box 125
Phone: 4-0808

Evansville 10
421 Fulton Avenue
Phone: 3-6417

INDIANA—Cont.

Indianapolis
1059 East 54th Street, P.O. Box 6028
Phone: Broadway 2417

IOWA

Davenport
336 East 2nd Street
Phone: 6-1935

Fort Des Moines
129 Rodgers Road
Phone: 4-3293

KANSAS

Wichita 1
1445 South McLean Boulevard
P.O. Box 1039
Phone: AM herst 2-0455

KENTUCKY

Louisville 6
2425 Lexington Road
Phone: Highland 2552 or 2553

LOUISIANA

New Orleans 13
3838 Airline Highway
Phone: RA 7319

Shreveport
103 East 60th Street
Phone: 7-6776 or 7-7343

MARYLAND

Baltimore 9
6300 Falls Road
Phone: VA lley 5-4460

MASSACHUSETTS

Newton Upper Falls
90 Linden Street, P.O. Box 35
Phone: BI gelow 4-5494 or 4-4344

Worcester 6
73 Summerhill Avenue
Phone: 2-2132

MICHIGAN

Battle Creek
53 North 25th Street
Phone: 2-1130

Cadillac
313 Haynes Street
Phone: PR ospect 5-3451

Detroit 7
4651 Beaufait
Phone: WA lnut 4-9300

MINNESOTA

St. Paul 1
180 East Sixth Street
Phone: Garfield 4807

MISSISSIPPI

Jackson
718 Amite Street,East, P.O. Box 1313
Phone: 5-6478

Meridian
2211 Fourth Street, P.O. Box 407
Phone: 3-3301 or 3-3302

MISSOURI

Kansas City 8
5001 East 59th Street
Phone: BA 3010

St. Louis 4
1617 Lafayette Street
Phone: PR 2-6500

MONTANA

Billings
E. R. Young Company
1311 Fourth Avenue, Box 1648
Phone: 9-2463

NEBRASKA

Omaha 3
4601 Dodge Street
Phone: Regent 1000

NEW JERSEY

Boonton
430 William Street
Phone: BO onton 8-3018

Newark 4
38 Broadway
Phone: HU mboldt 2-7500

NEW MEXICO

Albuquerque
1320 San Andres Avenue, N.W.
Phone: 4-3371

NEW YORK

Buffalo 11
587 Winslow Avenue
Phone: FI llmore 3800

Long Island City 1
32-16 37th Avenue
Phone: ST illwell 6-5540

Rensselaer
Sherwood Park
Phone: Albany 77-3374

Rochester 5
270 West Main Street
Phone: HA 5864 or 4865

Utica
1155 Mohawk Street
Phone: 4-6444

NORTH CAROLINA

Charlotte
618 Atando Avenue, P.O. Box 812
Phone: 3-0722 or 3-0723

OHIO

Cincinnati 7
1701 Dana Avenue
Phone: Jefferson 8343

Cleveland 3
2066 East 70th Street
Phone: EX press 1-7000

Columbus 23
1371 Sullivant Avenue
Phone: JO 5944

Dayton
1936 North Main Street
Box No. 5, Riverdale Station
Phone: Taylor 1145

Portsmouth
930 Tenth Street, P.O. Box 177
Phone: 2-7081

Springfield
33 North Lowry Avenue
Phone: 2-3431 or 2-2621

Toledo 13
2117 Sylvania Avenue
Phone: KL ondike 3454

OKLAHOMA

Lawton
18 C Avenue
Phone: 1792

Oklahoma City
3841 N.W., 10th Avenue
Phone: Windsor 3-4768

Tulsa 4
1215 South Evanston
Phone: 9-7424

OREGON

Portland 14
4728 S.W. Macadam Avenue
P.O. Box 2093
Phone: BR 2658

PENNSYLVANIA

New Cumberland
16th and Elm Streets
Phone: 4-5075 or 4-5076

Philadelphia 11
840 Cottman Street
Phone: FI delity 2-7000

Pittsburgh 36
Curry Hollow at B & O R. R.
Phone: PL antation 1-6788

Scranton
313 Mulberry Street
Phone: DI amond 2-9240 or 2-9231

RHODE ISLAND

Lonsdale
530 High Street, Valley Falls
Phone: Pawtucket 5-3347 or 3-9385
or Woonsocket 6060

SOUTH CAROLINA

Charleston
316 East Bay Street
Phone: 3-6479

Columbia
1231 Pine Belt Road
Phone: 2-3441

TENNESSEE

Chattanooga 7
2704 East 28th Street, P.O. Box 226
Phone: 2-9964

Knoxville 16
1915 West Cumberland Avenue
Phone 2-6037

Memphis 3
556 Cumberland
Phone: 5-8242

Nashville 2
915 Church Street
Phone: 6-2621

TEXAS

Abilene
1357 Butternut Street
Phone: 2-3641 or 4-8441

Amarillo
710 Pittsburgh Street, P.O. Box 2203
Phone: 2-8702 or 6-8095

Austin
301 West Second Street
P. O. Box 996
Phone: 6-8351

Corpus Christi
3237 Lexington Boulevard
Phone: 52-9243 or 52-1264

Dallas 6
5646 Dyer Street
Phone: Emerson 6377

El Paso
2910 Durazno Street, P.O. Box 145
Phone: 3-1631

Fort Worth
4039 West Vickery Boulevard
Phone: EDison 5257 or 9793

Houston 21
5229 Griggs Road
Phone: Olive 4326

Lubbock
2517 42nd Street, Box 3023
Ellwood Station
Phone: 4-2636

Odessa
West First and Belmont, P.O. Box 71
Phone: 6-3122

San Antonio
427 Westwood Drive
Phone: SHadyside 4-3177

UTAH

Salt Lake City 1
155 West Second Street
Phone: 4-6531

VERMONT

Rutland
61 South Main Street
Phone: 3-3077

VIRGINIA

Lynnhaven
Virginia Beach Boulevard
Route No. 1, Box 113
Phone: 2-4918

Richmond
6009 West Broad Street
Phone: 5-2432

Roanoke
615 Salem Avenue, S.W.
Phone: 3-8812 or 2-6536

WASHINGTON

Tacoma
1319½ Center Street, P.O. Box 1614
Phone: Fulton 2151

WEST VIRGINIA

Huntington
1205 Sixteenth Street
Phone: 2-8753 or 3-6111

WISCONSIN

Milwaukee 4
1940 West Forest Home Avenue
Phone: Evergreen 3-5200

CANADA

Ottawa, Ontario
335 Roosevelt Avenue
Phone: Parkway 2-6581



STEEL

KINNEAR
RŌL-TOP
DOOR



WOOD

The
DOOR WITH
KEYSTONE
SEALING

KINNEAR
RŌL-TOP

THE KINNEAR MFG. CO.
Columbus, Ohio

KINNEAR STEEL RōL-TOP DOOR

STEEL SECTIONS *with pure zinc coating* — *plus* KINNEAR PAINT BOND



The attractive, straight-line outward appearance of the Steel RoL-TOP Door makes it ideally suited for buildings of modern design, as well as harmonizing with older styles of architecture. From the utility standpoint, it provides the building designer a door combining all the time-proved advantages of the durability and space economy of the Kinnear Steel Rolling Door, plus fast operation and the provision for glass. Likewise, its all-steel construction makes it a strong, more impenetrable barricade for all openings subject to vandalism, marauding, etc. It is this design combination and top quality construction that has made the RoL-TOP sectional type door so popular.

dual-protected steel sections

Kinnear has gone "all the way" in not only providing a basically durable steel door section, but also, toward giving it a truly superior surface coating.

The steel door section is formed of 16 gauge steel, given a coating of pure zinc by the hot galvanizing process. This adds 1.75 oz. of pure zinc for every sq. ft. of flat metal in accordance with standards of American Society of Test Materials. This has been recognized in the past as a highly effective way to preserve the base metal, but the shiny zinc surface was not readily paintable. To correct this condition, all steel used in the sections of the RoL-TOP Door, after galvanizing, is given the Kinnear Paint Bond treatment. This process gives the galvanized metal a finely crystalline phosphate coating that will immediately accept paint and insure its adhesion without any loss to the proved protective value of the galvanizing. This added quality is chemically accomplished by immersing the steel in a solution containing free phosphoric acid, and oxidizing agent (nitrate), iron and zinc phosphate and then thoroughly rinsing in clear water. **An extra Kinnear value at no extra cost!**

Kinnear single shaft torsion spring counterbalance

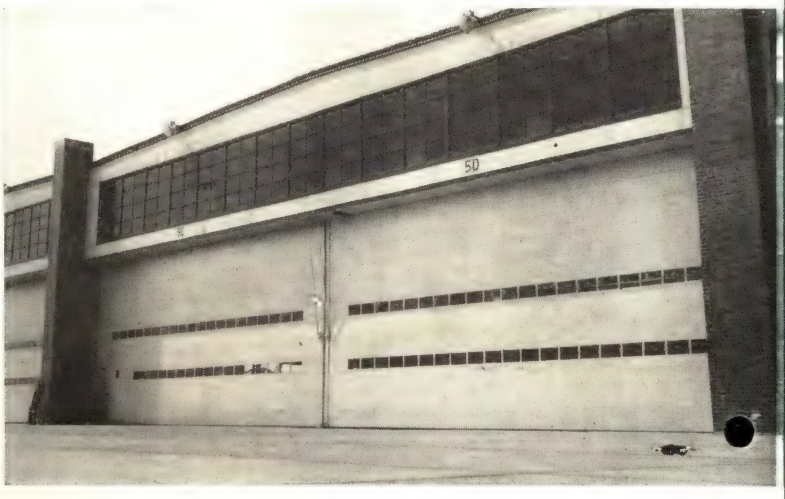
Kinnear recommends torsional spring operating mechanism on all doors. Lifting cables at each side of the doors operate over drums which are fastened to the same shaft, assuring a uniform operation, whether door is operated from side or center. Torsional springs have a longer life as there is a minimum of strain; thus the possibility of spring failure is reduced. Should the spring fail there is little hazard, because of its being confined about a steel shaft.

Note: Fatigue in a spring results from the number of times the spring is used. To determine the correct spring to be furnished, purchaser should supply some information on the number of times the door is to be operated in a specified period of time.

built to meet any size needed

The Steel RoL-TOP Door is built to various sizes, and provided with desired number of sash sections (without glass) to suit the individual requirements in old or new buildings. If any opening is to be fitted with a door, Kinnear has the special qualifications to do the job.

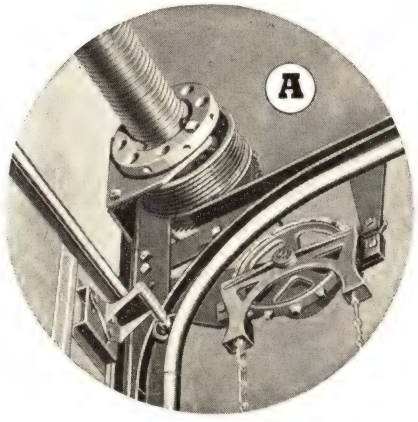
As noted in the following pages, the Steel RoL-TOP can be arranged for either manual or electric motor operation. Also, modifications of the same design are available for specialized uses or building conditions.



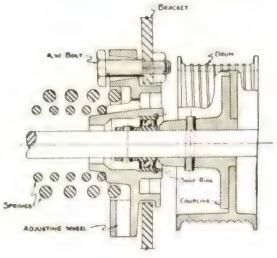
steel RōL-TOP door

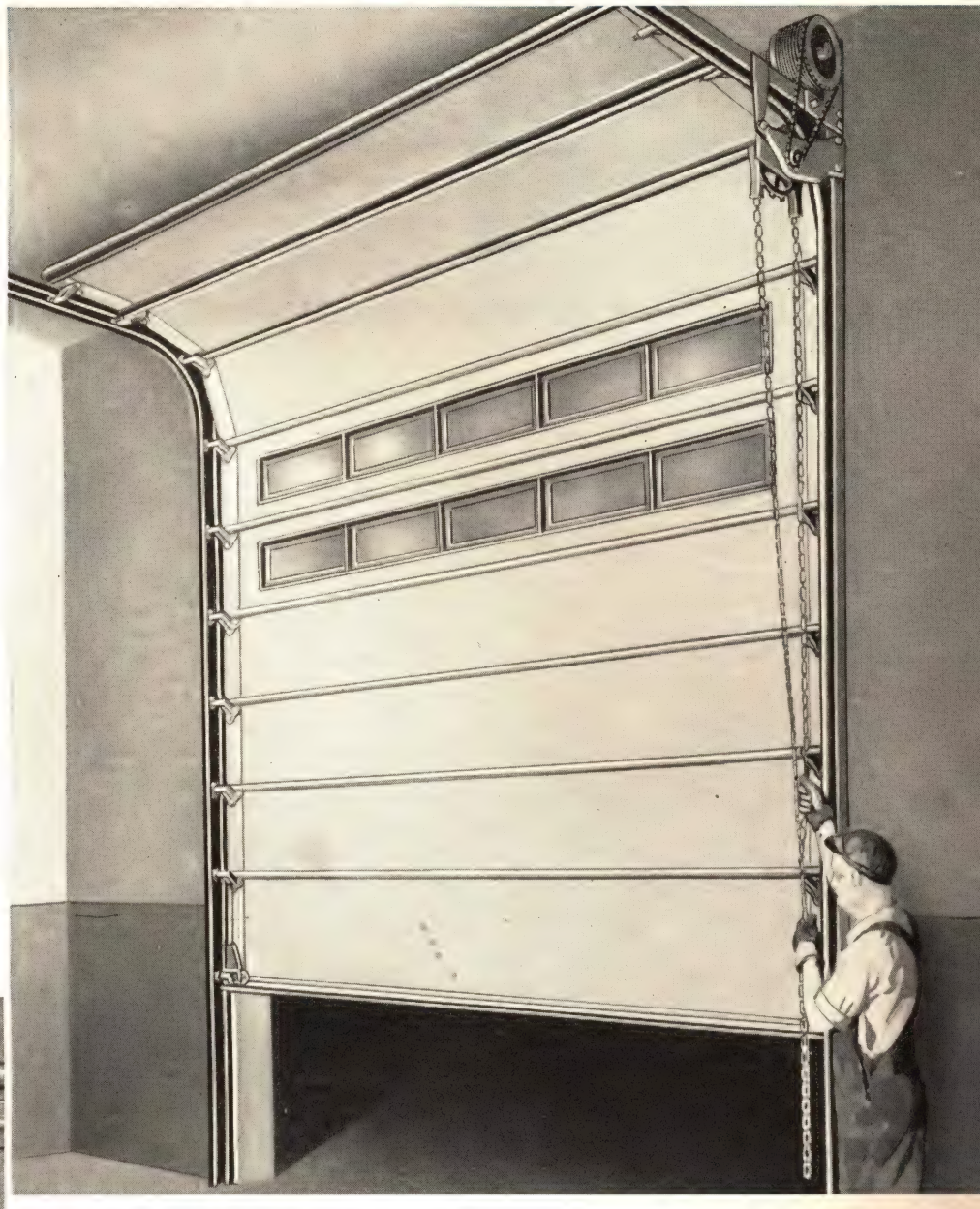
construction features

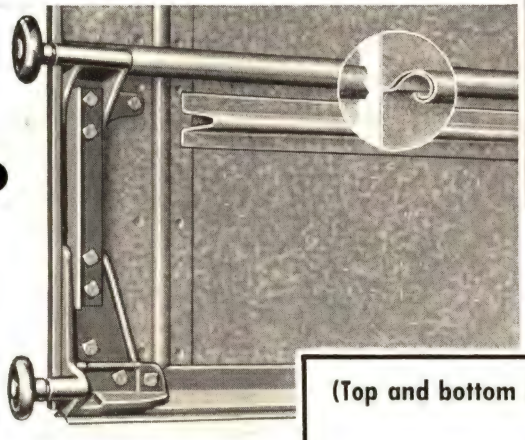
The enlarged illustration (below) of the supporting bracket top closing roller and reduction gearing—for large chain hoist operated doors—shows what Kinnear experience has found *most satisfactory . . . simple*, durable construction that insures easy operation and trouble-free service. Recommended on all doors over 10 ft. high or 100 sq. ft. in area.



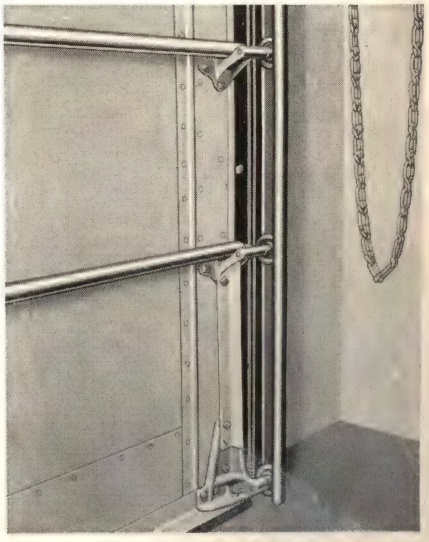
Ball type shaft bearing at right has been incorporated to reduce friction and wear to a minimum.







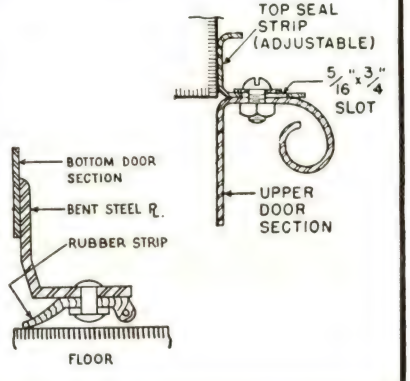
To prevent intrusions of wind, weather and water, the jambs and head of door have an adjustable seal-strip; the bottom has a rubber astragal.



Rugged malleable hardware is bolted securely for long trouble-free life. Larger doors are provided with even larger, stronger parts and (illustrated at above left) with special applied reinforcing truss members.

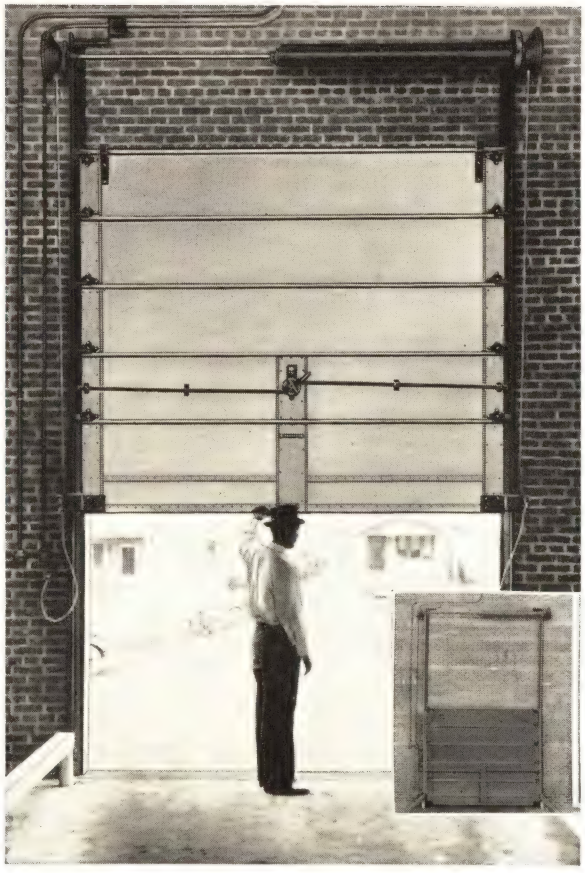
Sections, above, are approximately 18" wide, rolled from 16 gauge galvanized steel, with rolled, reinforcing edges that form a continuous interlocking hinge.

(Top and bottom sealing methods)



special types
KINNEAR STEEL RōL-TOP DOOR

Vertical Lift Construction



As its name implies, the Vertical Lift RoL-TOP rises vertically in vertical tracks only. Providing all the advantages of upward action with heavy, durable construction, facilities for light sections or windows, and compactness at an economical price, it is a door that is preferred for many industrial applications. Another unusually practical variation of the Steel RoL-TOP Door, where sufficient headroom is available to permit its use!

With the one exception, that it travels upward in vertical tracks secured to the wall instead of overhead or horizontal tracks, it is identical in operation, method of counterbalance and rugged heavy-duty construction, to the RoL-TOP described on page 3.

Since the torsion spring counterbalance mechanism can be placed on the wall anywhere above the lintel, the Vertical Lift RoL-TOP requires a headroom of door height, plus 3 inches. For other specifications see page 3 and 9.

This is an ideal door in buildings where merchandise is to be piled high and close to the door or where overhead equipment makes it necessary to have all equipment close to the wall.

Air Filter RoL-TOP DOOR — *for spray or paint booths*

The steel sections have panels fitted with replaceable, spun glass filters to provide a continual circulation of fresh air. It is an ideal door for paint booths, paint tunnels or other locations where excessive fumes are involved or where a clean, dust-free atmosphere is desirable.

When installed on an auto paint booth, the RoL-TOP Filter Door insures a better finished paint job. In the typical set-up, shown, an exhaust fan pulls a continuous supply of clean, filtered air through the door and keeps the room constantly cleared of fumes, dust, and other air-borne particles. Existing dust-laden air is quickly withdrawn, and spraying can be started almost immediately.

Where glass is desired, any number of the panels can be fitted with glass. In other details this filter door is similar in design to the standard Steel RoL-TOP Doors. Like other model RoL-TOP Doors, the filter door is available in any size and is designed for easy, low-cost installation.



Even when door is closed air is admitted through the filters



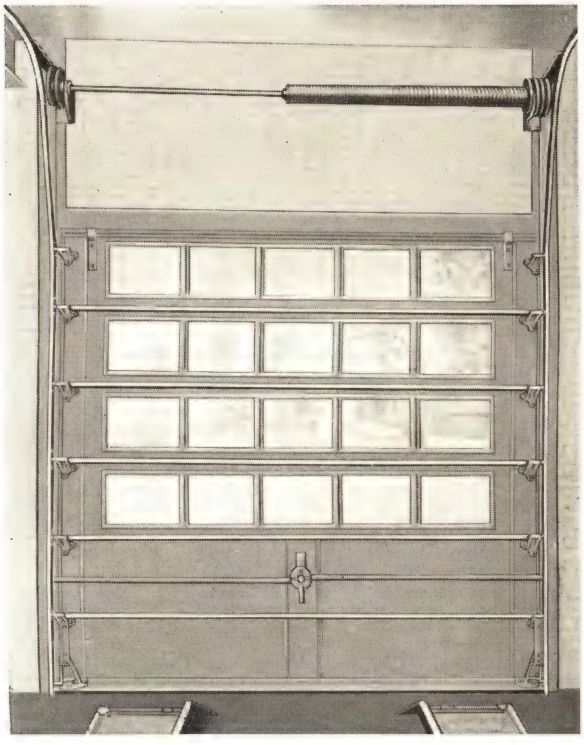
KINNEAR WOOD RōL-TOP DOOR

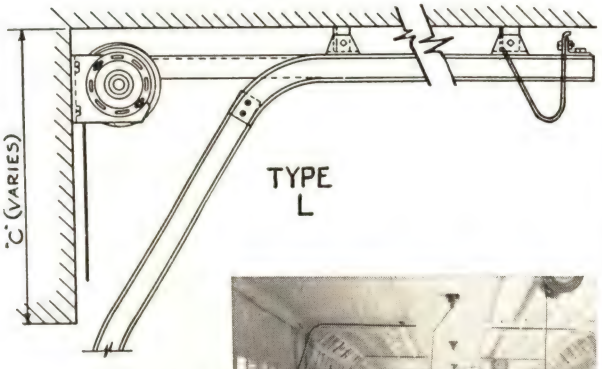
built to any size — with any number of sections arranged for glass

Hi-Lift Construction

(wood or steel sections)

for lubritoriums







The maximum the door can clear above the height of the opening is 6 ft.

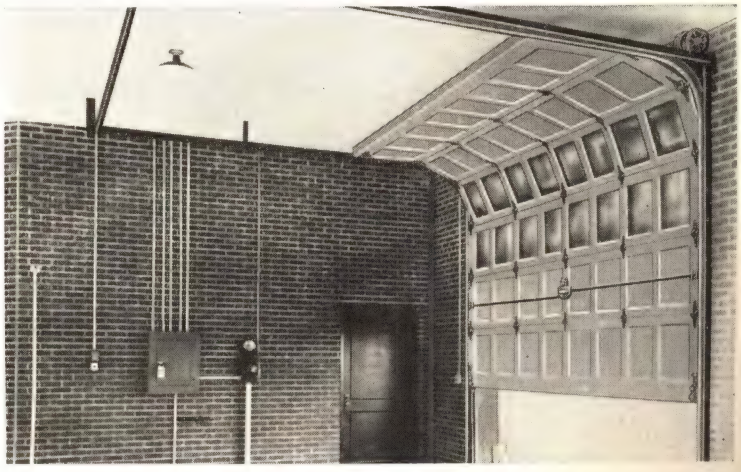
No door previously has proved so practical for the modern service station or lubritorium as the RoL-TOP Door. It provides all the features of operating efficiency required for this type of use.

The illustration shows the Hi-Lift Type RoL-TOP to be used in front of hydraulic lifts in service stations, where clearance from the floor to the bottom of horizontal tracks must be considerably greater than the door height. The torsion spring counterbalance is placed above the lintel (the distance depending upon clearance required) and the curved track is given approximately a 30° bend.

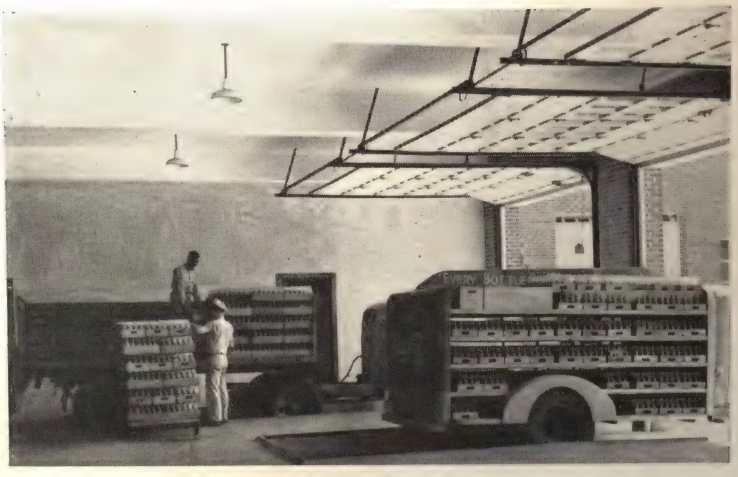
Because of its practical principle of construction and overhead operation, coupled with Kinnear's custom of building doors to meet the individual need, the Wood RoL-TOP has long been a very widely used, economical door. It can be adapted to advantage to various opening conditions in new or old industrial and commercial buildings.

Although offered in a number of popular stock sizes for both commercial and residential garage use (see pages 6 and 11) it can be built in any practical size and arranged for manual, mechanical or motor operation.

Any number of sections can be provided with sash areas (without glass). Various styles of paneling can be supplied. By means of available accessories and other modifications RoL-TOP Doors can usually be adapted to individual special requirements, so tell Kinnear of your door need. It is very likely that through our years of door specialization we will be able to supply the right door.



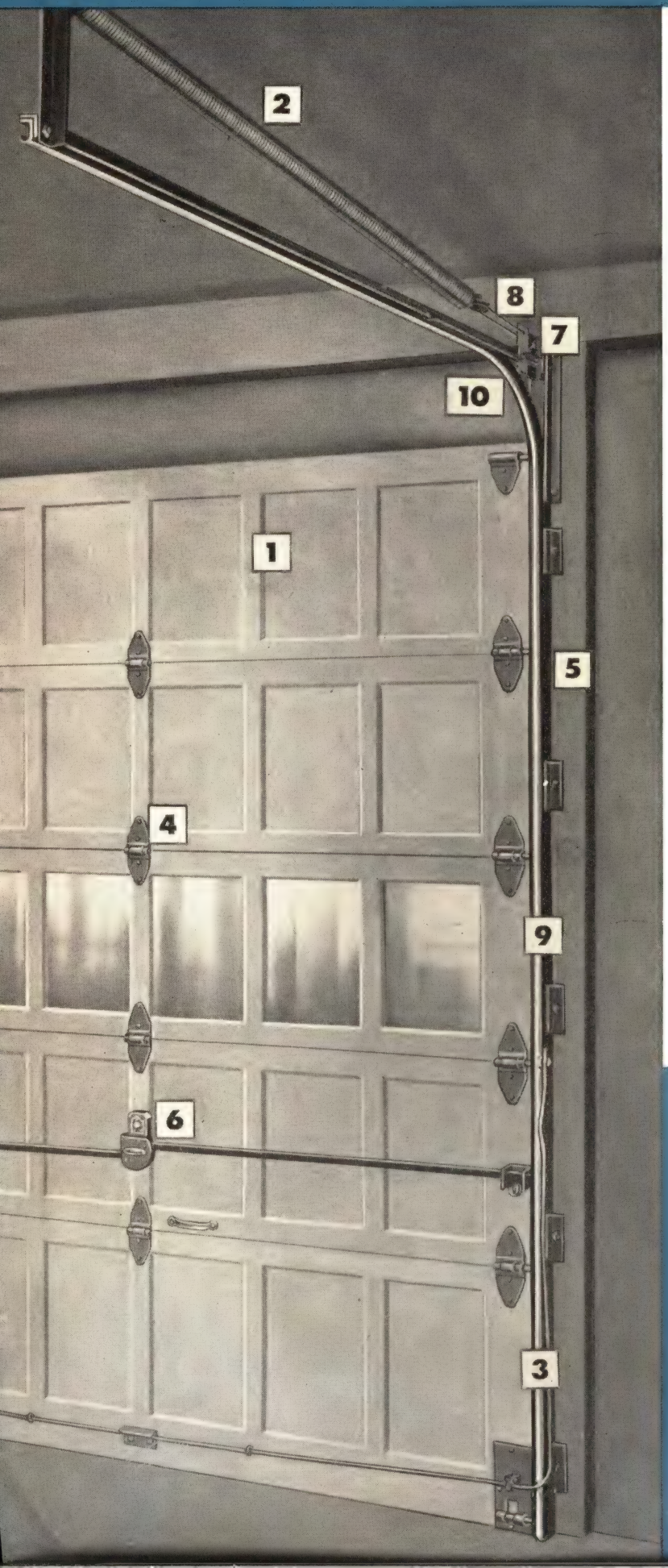
Truck or merchandise placed close to either side of the doorway does not hamper operation of Rol-Top Doors.



Illustrating how Rol-Top Doors are completely clear of the opening — stored safely overhead.

Standard Model – *Stretch Spring (S) Type*

The DOOR WITH KEYSTONE SEALING



1 Door sections approximately 2' high of best quality kiln-dried lumber with three-ply, waterproof glued paneling and graduated end rabbet to fit Kinnear's exclusive "Keystone" sealing arrangement.

2 One of two matched stretch springs of pre-tested strength and size placed parallel to overhead tracks and connected to the door by flexible plow-steel preformed cables running over ball-bearing sheaves. Adjusted to even tension they provide a synchronized, uniform pull on both sides of the door.

3 "Keystone" weather-protecting seal. An exclusive RoL-TOP feature. Ends of door sections have a downward tapering or graduated rabbet. Galvanized metal seal strips are mounted to the jamb in a sloped position to correspond to the tapered rabbet on the door. As the door closes it seals and wedges itself tightly between the seal strips in exactly the same manner that a keystone seats in an arch. Thus a triple-contact seal is achieved without hampering free and smooth operation of the door.

4 Rugged hardware of galvanized steel applied with through carriage bolts.

5 Kinnear specially designed ball-bearing rollers. Free acting and secure door in track.

6 Cylinder type, center-located lock. Securely locks both sides of door.

7 Rugged steel corner bracket carries cable sheave in perfect alignment and provides secure cable.

8 Lifting cable of preformed type, with breaking strength 10 times lifted load of each cable.

9 Heavy-duty, solidly mounted tracks.

10 Track curve integral with horizontal member and of proper radius to insure smooth door operation.

sizes maintained in stock for quick delivery

8'-0" wide by 8'-0" high	12'-0" wide by 10'-0" high
8'-0" wide by 10'-0" high	12'-0" wide by 12'-0" high
8'-0" wide by 12'-0" high	14'-0" wide by 8'-0" high
10'-0" wide by 8'-0" high	14'-0" wide by 10'-0" high
10'-0" wide by 10'-0" high	14'-0" wide by 12'-0" high
10'-0" wide by 12'-0" high	16'-0" wide by 8'-0" high
12'-0" wide by 8'-0" high	16'-0" wide by 10'-0" high

Deluxe Model — *Torsion Spring (TF) Type*

The DOOR WITH KEYSTONE SEALING



1 Kinnear single-shaft torsion spring counterbalance. Matched to the door. Assures synchronized, uniform lifting action.

2 Rugged malleable hardware for 3" track, and malleable or galvanized steel for 2" tracks, applied with through carriage bolts.

3 "Keystone" weather-protecting seal. An exclusive RoL-TOP feature. Ends of door sections have a downward tapering or graduated rabbet. Galvanized metal seal strips are mounted to the jamb in a sloped position to correspond to the tapered rabbet on the door. As the door closes it seals and wedges itself tightly between the seal strips in exactly the same manner that a keystone seats in an arch. Thus a triple-contact seal is achieved without hampering free and smooth operation of the door.

4 Kinnear specially designed ball-bearing rollers. Free acting and secure door in track.

5 Cylinder type, center-located lock (not illustrated). Securely locks both sides of door. Supplied only on doors of manual push-up operation unless otherwise specified as an extra.

6 Ball type shaft bearing for reducing friction and wear to a minimum.

7 Lifting cable (not illustrated) of preformed type, with breaking strength to be 10 times lifted load of each cable.

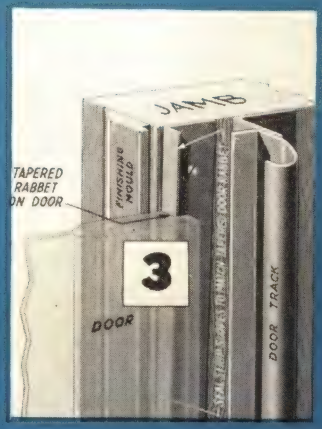
8 Heavy-duty, solidly mounted tracks.

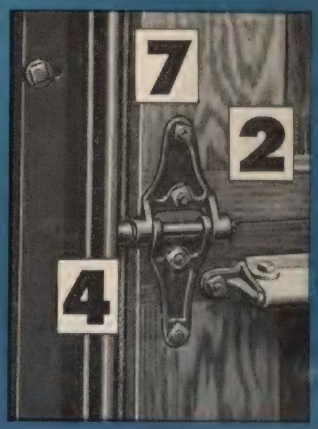
9 Track curve integral with horizontal member and of proper radius to insure smooth door operation.

10 Sprocket and reduction gearing for raising or lowering door easily and at convenient height by means of hand chains. See cut "A" page 3 for inside view.

11 Special reinforcing U-shaped galvanized steel truss member that spans each section on all RoL-TOP Doors exceeding 12′ 2″ in width.

12 Special designed truss used on all doors for openings over 20′ 2″ in width, to prevent deflection otherwise encountered in such a span.





recommended types and clearances • RoL-TOP doors

WOOD RŌL-TOP

WIDTHS \ HEIGHTS	UP TO 8'-0"	8'-1" TO 10'-0	10'-1" TO 11'-0"	11'-1" TO 12'-0"	12'-1" TO 13'-0"	13'-1" TO 14'-0"	14'-1" & OVER
UP TO 12'-0" WIDE	A — 2" TRACK PUSH UP					B — 2" TRK. CHAIN HOIST	E — 3" TRACK CHAIN HOIST
12'-1" TO 14'-0"	C						
14'-1" TO 16'-0"	2" TRACK PUSH UP 2½" REINFORCING					F	
16'-1" TO 20'-2"	D — 3" TRK. PUSH-UP 4" REINF.	3" TRACK CHAIN HOIST 4" REINFORCING					
20-3" TO 23'-11"	F	3" TRACK CHAIN HOIST 4" BUILT-UP REINFORCING					

NOTE - DOORS FROM 24'-0" TO 30'-0" 3" TRACK CHAIN HOIST 5½" REINFORCING

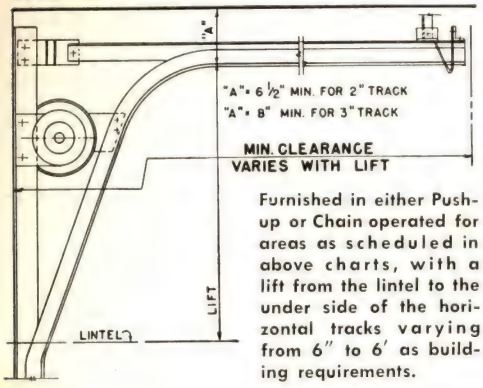
STEEL RŌL-TOP

WIDTHS \ HEIGHTS	UP TO 7'-6"	7'-7" TO 9'-0"	9'-1" TO 10'-6"	10'-7" TO 12'-0"	12'-1" & OVER
UP TO 10'-8"	A — 2" TRACK PUSH UP		B — 2" TRACK CHAIN HOIST	C — 3" TRACK CHAIN HOIST	
10'-9" TO 11'-2"					
11'-3" TO 11'-8"					
11'-9" TO 12'-8"					
12'-9" TO 13'-8"					
13'-9" TO 14'-8"					
14'-9" TO 15'-8"					
15'-9" TO 18'-8"	D — 3" TRACK CHAIN HOIST 2½" REINFORCING				
18'-9" TO 22'-8"	D — 3" TRACK CHAIN HOIST 4" REINFORCING				

NOTE - DOORS FROM 22'-9" TO 31'-0" 3" TRACK CHAIN HOIST 5½" REINFORCING
DOORS FROM 31'-1" TO 35'-0" 3" TRACK CHAIN HOIST 7" REINFORCING

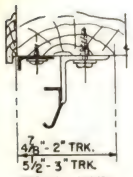
TYPE "L" • HIGH LIFT CONSTRUCTION. Torsional spring operation.

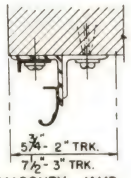
TYPE "L"



Furnished in either Push-up or Chain operated for areas as scheduled in above charts, with a lift from the lintel to the under side of the horizontal tracks varying from 6" to 6' as building requirements.

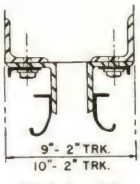
TYPICAL JAMB SECTIONS





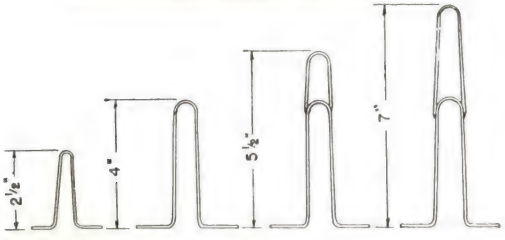




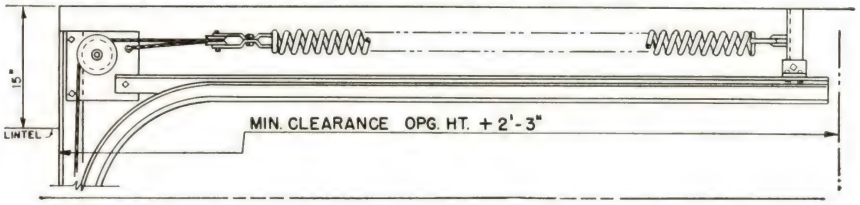


NOTE:
ON HOIST OPERATED DOORS, ALLOW 2" MORE SIDE ROOM FOR HOIST THAN THE CLEARANCES SHOWN ON TYPICAL JAMB SECTIONS.

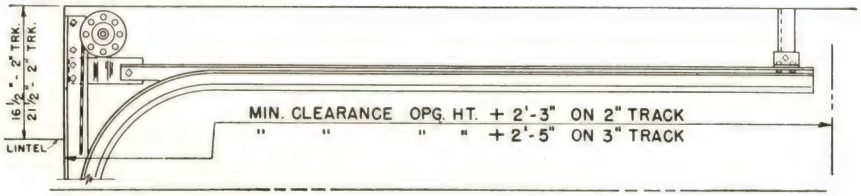
16 GA. STIFFENERS ON STEEL RŌL-TOP
18 GA. STIFFENERS ON WOOD RŌL-TOP



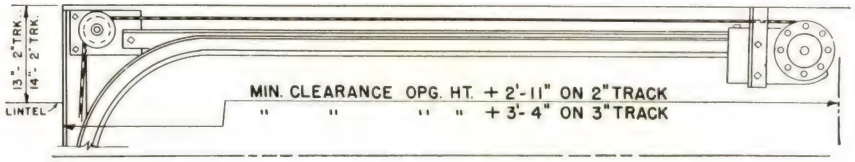
TYPE "S" • Stretch spring recommended in Area A wood and/or steel.



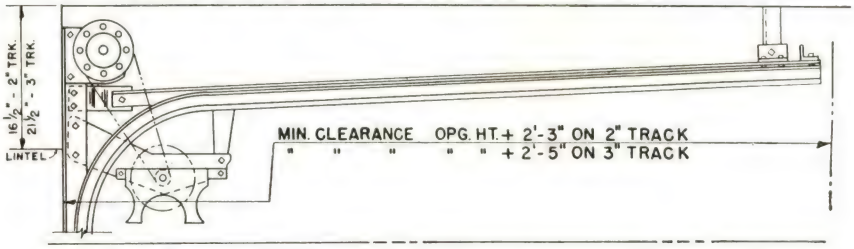
TYPE "TF" • Torsional spring counterbalance; Shaft mounted over the head of the opening; Push-up construction. Recommended Area A, C and D for the wood doors; Area A for the steel doors.



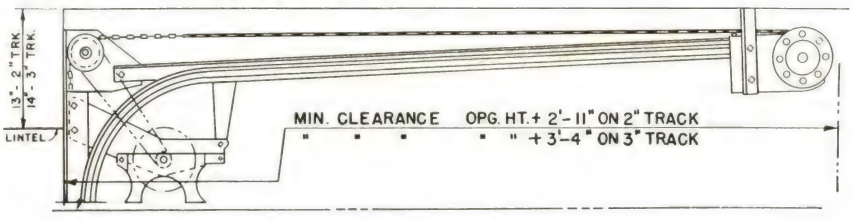
TYPE "T" • Torsional spring counterbalance; Shaft mounted at the rear of the tracks for limited head room. Recommended Areas A, C and D wood doors; Area A for the steel doors.



TYPE "TF" • (Chain Hoist) — Torsional spring counterbalance; Shaft mounted over the head of the opening, Chain Hoist Operated. Recommended in Areas B, E and F on wood doors; B, C and D on steel doors.



TYPE "T" • (Chain Hoist) — Torsional spring counterbalance; Shaft mounted at the rear of the tracks, Chain Hoist drives pocket sheave. Recommended in Areas B, E and F on wood doors; B, C and D on steel doors.



Kinnear RoL-TOP door specifications

steel RōL-TOP door

SCOPE: All steel overhead type doors shown on plans shall be Kinnear RoL-TOP or equal.

DOORS: The overhead type steel doors shall be a standard product of a manufacturer regularly engaged in the production of steel overhead type doors.

SECTIONS

Sections shall be approximately 18" wide, rolled from 16 gauge galvanized and bonderized steel, the edges of the steel sections to be rolled to form a continuous interlocking hinge. Galvanized coating shall be 1.75 oz. per square foot of flat metal. Glazed sections to be provided as indicated on plans, type of glass as required.

Doors shall be designed to withstand a wind pressure of 20 pounds per square foot of door area.

TRACKS: All tracks to be formed of galvanized steel and mounted on continuous angles designed for bolting to building jambs. Doors of 110 square feet or under may use 2" track; doors over 110 square feet shall use 3" track.

COUNTERBALANCE: All doors shall be counterbalanced by means of oil tempered torsional springs mounted on a continuous steel shaft. Springs to be adjustable for proper operation.

HARDWARE: Ball bearing rollers to be carried on heavy duty malleable iron supports.

Push-up doors to have cremone type cylinder lock.

Bottom of door to be provided with rubber weather seal, top of door to be provided with adjustable metal weather seal.

OPERATION: Doors to be push-up, chain hoist or motor operated as the size and/or type of operator requires. (See Chart, Page 8.)

WORK WILL NOT INCLUDE:
(a) Electrical wiring, conduit or fuses
(b) Structural steel sills and jambs
(c) Glass and glazing
(d) Painting

wood RōL-TOP door

SCOPE: All wood overhead type doors shown on plans shall be Kinnear Wood RoL-TOP or equal.

DOORS: The wood overhead type doors shall be a standard product of a manufacturer regularly engaged in the production of wood overhead type doors.

DOOR SECTIONS: Doors to be constructed of hinged sections with the stiles and rails full 1¾" thick, made from Fir or Spruce, using three ply Fir plywood of exterior grade. Stiles and rails to be connected by blind mortise and tenon glued and steel doweled joints.

HARDWARE: Hinges and roller supports to be malleable iron or galvanized steel. Rollers to be ball bearing.

Push-up doors to have cremone type cylinder lock.

TRACK: All tracks to be formed of galvanized steel and mounted on continuous angles designed to attach to building jambs. Doors of 150 square feet or under may be 2" track; doors over 150 square feet shall be 3" track.

COUNTERBALANCE: Doors shall be counterbalanced by means of oil tempered torsion springs mounted on a continuous steel shaft. Springs to be adjustable for proper balance.

OPERATION: Doors to be push-up, chain hoist or motor operated as the size and/or type of operation requires. (See Chart, Page 8.)

WORK NOT INCLUDED:
(a) Electrical wiring, conduits and fuses
(b) Structural steel or wood jambs and sills
(c) Glass and glazing
(d) Paint

motor operator RōL-TOP door

DRAW-BAR TYPE OPERATOR: The electrical power unit shall consist of electrically reversible motor of sufficient power to operate door at an approximate speed of one foot per second, magnetic brake, suitable speed reducer, roller chain and drawbar. Power unit shall be provided with easily adjustable friction clutch and, with exception of motor shall have oilless bushings, or equal throughout in order to provide minimum maintenance. The power unit shall be controlled by momentary contact of an "OPEN", "CLOSE" and "STOP" push-button switch located in the pilot circuit of a magnetic reversing starter.

The magnetic reversing starter shall be push-button operated full voltage type of standard design and size for motors required. An adjustable screw type traveling block limit switch shall stop door automatically at both limits of travel.

The owner's electrician or electrical contractor shall provide wire, conduit and fuses, install control switches and make all connections in accordance with wiring diagram furnished by door contractor.

WALL MOUNTED TYPE OPERATOR (Includes emergency chain hoist control): The electrical power unit shall consist of a heavy duty high starting torque hoist type motor with ball bearings and reduction unit, which will operate the door at a speed of approximately three-fourths of a foot per second. The reduction unit shall be worm gears with cut teeth, completely housed to operate in an oil bath. Suitable precision ball bearings shall be provided to carry both lateral and thrust loads. The reduction gear case shall be provided with suitable oil seals and gaskets where required.

The power unit shall also be provided with a spring set, solenoid actuated brake of proper size to prevent undue coasting of the door, enclosed magnetic control panel with thermal overload relay, interlock switches and traveling nut screw type limit switch having means of accurate adjustment and enclosed three-button control station with momentary contact buttons labeled "OPEN", "CLOSE", and "STOP".

Emergency operating equipment, assembled integral with power unit, to consist of a control for automatically engaging a sprocket and hand chain and for releasing motor brake. Control to operate from the floor level and shall automatically prevent electric motor operation until emergency operating device is disengaged. Use of emergency manual operating device shall in no way affect the adjustment or timing of limit switches.

for maximum operating efficiency

RoL-TOP Electric Motor Operator

drawbar type • model MS

Where doors are to be operated numerous times daily or where convenience of motor operation is desired the Kinnear MS draw-bar type Electric Operator with push-button control is recommended.

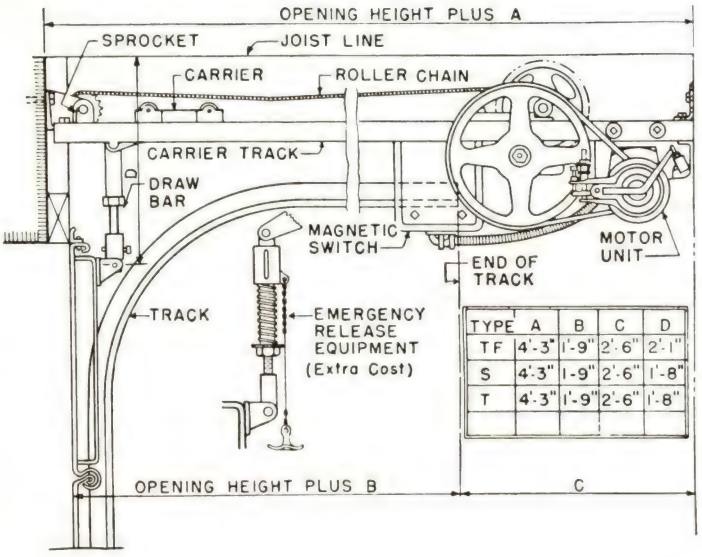
The drawbar of the operator is at all times connected directly to the door sections, thus giving the electric operator direct control of raising or lowering the door.

The operator is fully automatic and will stop the door in any position by the pushing of a "stop" button. Also the direction of the door can be continued or reversed by pushing the "down" or "up" button.

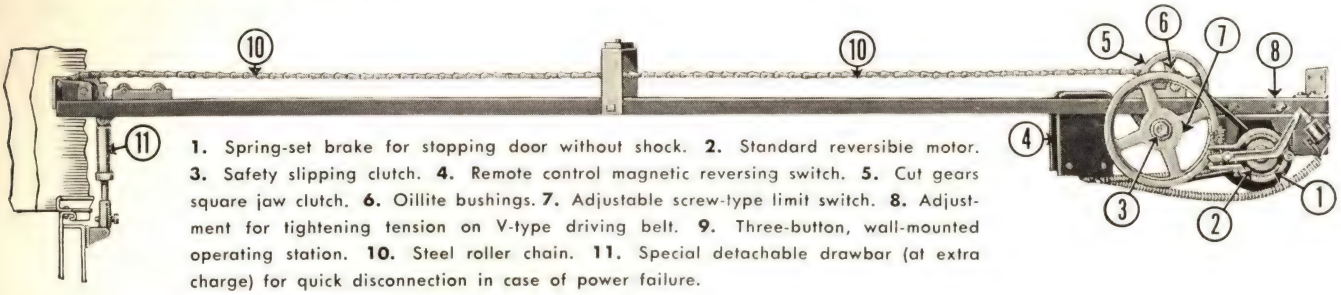
To prevent injury to the door or overloading of the operator, it is equipped with a safety friction clutch.

This type of operator is recommended in all cases where head room is available.

SAFETY FACTOR: Under normal operation the door automatically stops at both limits of travel. But for extra safety the Electric Operator can be wired so that the person operating the door must maintain his finger on the close button during the entire movement of the door. The removal of the finger from this button automatically stops and rverses the action of the door. This can be accomplished at no extra cost when so specified and provides one of the most positive safety arrangements available.



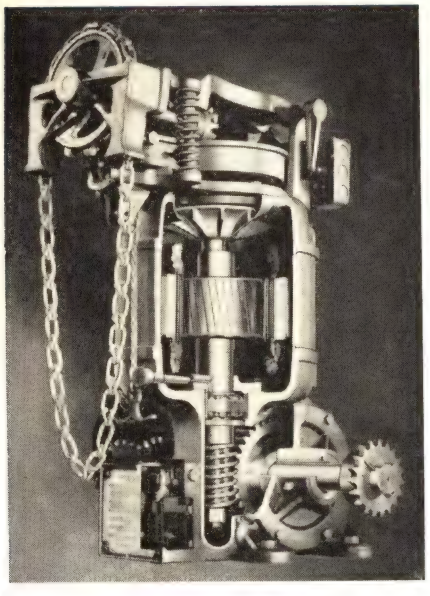
TYPE	A	B	C	D
TF	4'-3"	1'-9"	2'-6"	2'-1"
S	4'-3"	1-9"	2'-6"	1'-8"
T	4'-3"	1'-9"	2'-6"	1'-8"



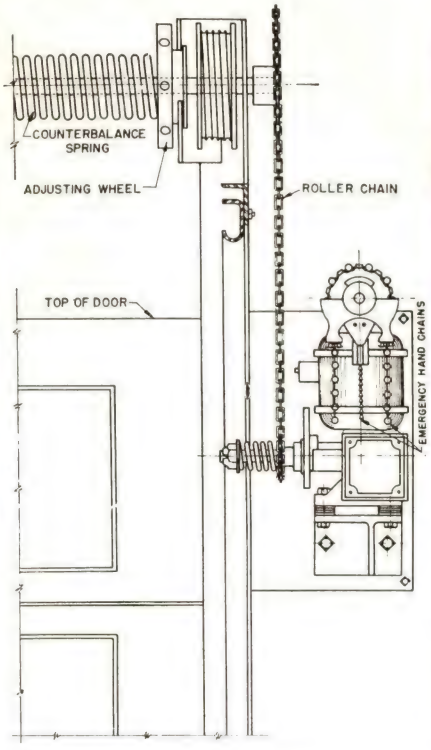
1. Spring-set brake for stopping door without shock. **2.** Standard reversible motor. **3.** Safety slipping clutch. **4.** Remote control magnetic reversing switch. **5.** Cut gears square jaw clutch. **6.** Oillite bushings. **7.** Adjustable screw-type limit switch. **8.** Adjustment for tightening tension on V-type driving belt. **9.** Three-button, wall-mounted operating station. **10.** Steel roller chain. **11.** Special detachable drawbar (at extra charge) for quick disconnection in case of power failure.

wall mounted type

Emergency Chain Hoist



The Kinnear RoL-TOP Wall Mounted Motor Operator is a remarkably flexible, compact, heavy duty power unit that can be furnished in various current characteristics. It can be adapted to large or small doors where head room is not available to use the MS drawbar type.



UNIT LOCATED BELOW TOP OF DOOR



It is offered for flexibility of mounting and contains all the refinements of the MS drawbar type. Since this type of operator is geared directly to the door shaft and revolves the shaft only the closing of the door depends on gravity and the weight of the door sections. Therefore when it is used, a slope should be incorporated in the horizontal tracks and the door should be provided with auxiliary push-down springs.

residential

RōL-TOP

garage doors

in stock sizes

Stock size RoL-TOP Doors built to Kinnear's recognized quality standards and especially for residence garage use. Hardware and tracks are of heavily galvanized steel. Sections are of best grade kiln-dried lumber and in modern panel designs. Metal trim is galvanized and Bonderized. Sections are 1⅜" thick. Counterbalance is available in either of two types:

Model "J" (illustrated below) — Stretch Spring Type

Model "JT" (illustrated below) — Torsion Spring Type

Where headroom is limited a low-headroom model Model "JU" (illustrated below) — available in all sizes and panel styles shown can be furnished.



◀ Model J44

4 sections 4 panels wide. 3rd section from bottom open for glass.

Sizes: 8'-0" x 7'-0"
9'-0" x 7'-0"
8'-0" x 8'-0"

Other sizes will be made on request.

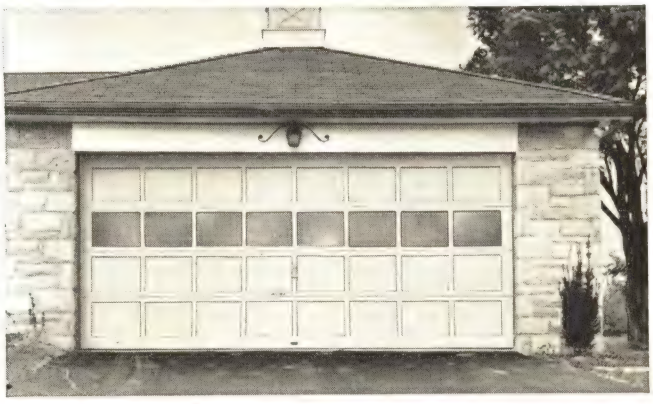
Built To Kinnear Quality Standards

Model J46 ▶

4 sections 6 panels wide. 3rd section from bottom open for glass in all sizes except 6'-6", in which 4th section is open.

Sizes: 8'-0" x 6'-6"
8'-0" x 7'-0"
8'-0" x 8'-0"
9'-0" x 6'-6"
9'-0" x 7'-0"
10'-0" x 7'-0"







Model J48R ▲

8-panel RoL-TOP Door for double garage openings, in the standard 4-section construction. The 3rd section from the bottom is left open for glass.

Sizes: 14'-0" x 7'-0"
15'-0" x 7'-0"
16'-0" x 6'-6"
16'-0" x 7'-0"

HEADROOM REQUIREMENTS

models	type spring	car width	headroom required
J	Stretch	1-car	10¾"
JR	Stretch	2-car	13"
JT	Torsion	1 or 2-car	10¾"
JU	Stretch	1 or 2-car	6"

Model J54R ▲

Five-section door for double garage openings. 4 long narrow panels. Available in the standard 16-foot width, for 7-foot opening heights. 4th section from bottom is open for glass.

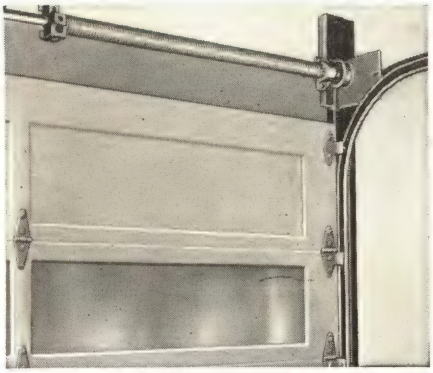
Model J52 ▲

Five-section, two-panel garage door for single openings. The section next to the top is left open for glass.

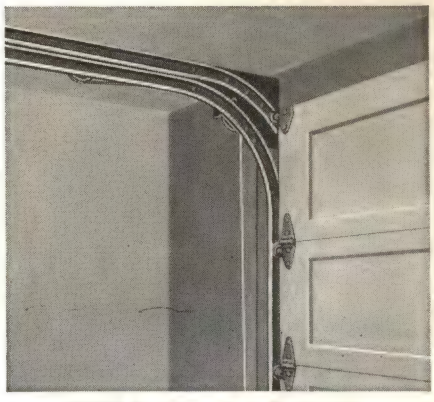
Sizes: 8'-0" x 7'-0"
9'-0" x 7'-0"



"J" Models — Stretch Spring



"JT" Models — Torsion Spring



"JU" Models — Low Headroom

other types of
KINNEAR DOORS



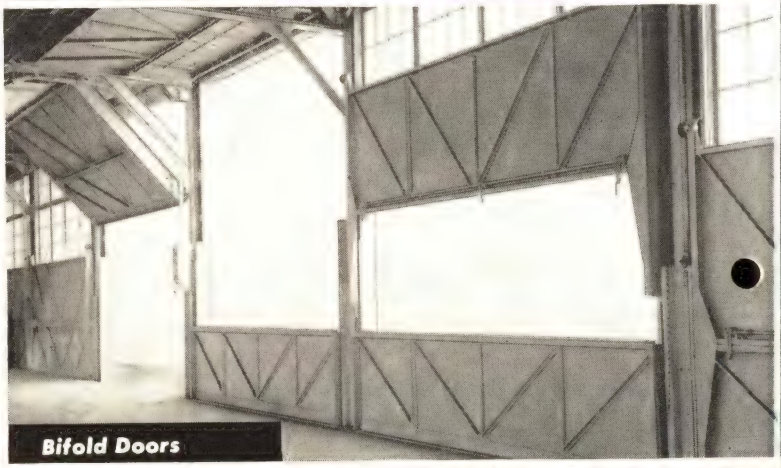
Rolling Counter Shutters



Steel Rolling Doors



Metal Rolling Grilles



Bifold Doors



Aerial View of Columbus Plant

THE INTERNATIONAL COMPANY BACK OF RoL-TOP

Doors bearing the Kinnear label are to be found in daily operation in every corner of the world. This is easily explained by the fact that The Kinnear Manufacturing Company not only pioneered the practicability of the upward opening type of door but also originated the interlocking steel slat type of rolling door. And since its founding in 1896 it has devoted its entire efforts to the manufacture of doors, several types of which are illustrated above and in the preceding pages. During this time they have built up the country's best equipped door plant and service organization, as well as gaining an international reputation for supplying the best in door design, workmanship and materials. The economies of Kinnear Doors have proved so important that the word "Kinnear" has become almost synonymous with "Door". When specifying Kinnear Doors you are assured of a product built by a well-founded and financially responsible concern that is now, and will be for years to come, a leader in the door industry.

BRANCH OFFICES AND AGENTS IN ALL PRINCIPAL CITIES

The KINNEAR MANUFACTURING Co., Columbus 16, Ohio

Factories: COLUMBUS 16, OHIO, 5100-5200 Fields Ave. • SAN FRANCISCO 24, CALIF., 1742 Yosemite Ave.

America's Great Name in
QUALITY DOORS...

RESIDENTIAL DOORS · PAGES 2 & 3
COMMERCIAL AND INDUSTRIAL DOORS · PAGE 4
SERVICE STATION DOORS · PAGE 6
METAL DOORS · PAGE 7
TRACK CLASSIFICATIONS · PAGE 8
JAMB CONSTRUCTION · PAGE 9
TYPES OF COUNTERBALANCE · PAGE 9
ELECTRIC OPERATORS AND CONTROLS · PAGE 10
DISTRIBUTOR LIST · PAGE 11
MANUFACTURING DIVISIONS · 4th COVER

THE "OVERHEAD DOOR"

TRADE MARK

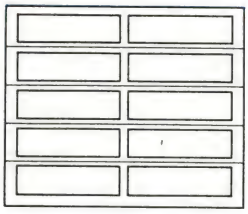
RESIDENTIAL — COMMERCIAL — INDUSTRIAL



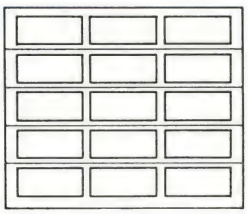
OVERHEAD DOOR CORPORATION

Hartford City, Indiana, U.S.A.

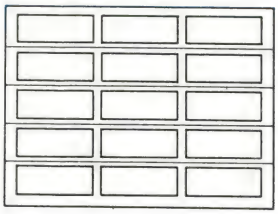
RESIDENTIAL — STOCK DOORS



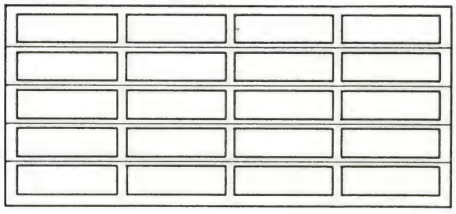
Door No. 401
2 panels wide
8′0″ x 6′6″
8′0″ x 6′8″
8′0″ x 7′0″



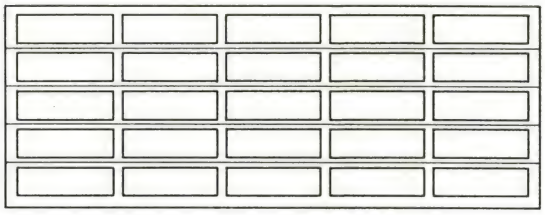
Door No. 401-2
3 panels wide
8′0″ x 6′6″
8′0″ x 6′8″
8′0″ x 7′0″



Door No. 401
3 panels wide
9′0″ x 6′6″
9′0″ x 6′8″
9′0″ x 7′0″



Door No. 402
4 panels wide
15′0″ x 6′6″ 16′0″ x 6′6″
15′0″ x 6′8″ 16′0″ x 6′8″
15′0″ x 7′0″ 16′0″ x 7′0″



Door No. 402
5 panels wide
18′0″ x 6′6″
18′0″ x 6′8″
18′0″ x 7′0″

SPECIAL SIZES: Residential doors 1⅜″ thick can be built in any size not to exceed 18′0″ wide or 8′0″ high.

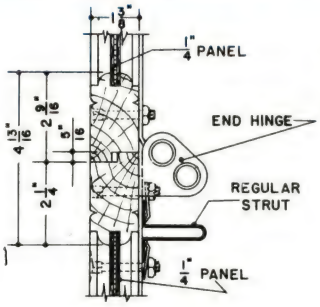
OVERHEAD DOOR CORPORATION
Hartford City, Indiana

THE "OVERHEAD DOOR" TRADE MARK

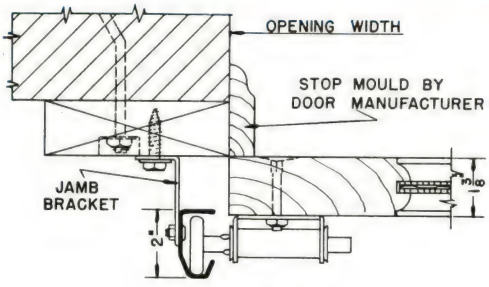
General Specifications —Doors are five sections high. Stiles and rails of Sitka Spruce or Douglas Fir 1⅜″ thick, mortised and tenoned, glued, steel doweled. Panels of ¼″ exterior plywood. Sections sanded, ready for paint. Fourth section left open for glass, with glazing mould cut to fit and set in loose with corner clips. 3½″ wide center stiles, 5½″ end stiles, 4$^{13}/_{16}$″ (overall) center rails, 5½″ top and bottom rails. Minimum width center post 7″. Sideroom, 3¼″ each side at front wall, 2″ each side to end of horizontal tracks. Headroom, with cable drums installed inside tracks (preferable), 13½″ with 15″ radius track, 11½″ with 10″ radius track. Doors may be installed in 10″ headroom if drums are placed outside tracks. If specified headroom is not available, see Low Headroom Track, page 8. With electric operator, see page 10.

Doors No. 401 and 401-2 — 2″ track, bracket-mounted. Counterbalanced by single torsion spring on crossheader shaft.

Door No. 402 —2″ track, verticals bracket-mounted, horizontals reinforced with steel angles. Counterbalanced by double torsion springs on crossheader shaft. Reinforced with steel struts.

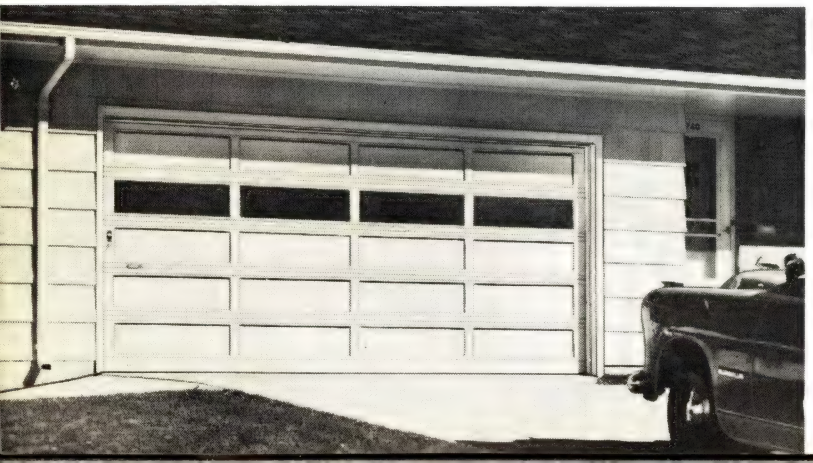


Cross-section at center rail.



2″ Track for Wood Casings

2″ Track for Wood Casings—Curved on 15″ or 10″ radius. Verticals equipped with two adjustable intermediate jamb brackets and one joint bracket 2½″ wide x ⅛″ thick. Head bracket angle 1″ x 1″ x ⅛″. Doors wider than 9′0″ have extra steel reinforcing on horizontals.





OVERHEAD DOOR CORPORATION
Hartford City, Indiana

THE "OVERHEAD DOOR" TRADE MARK

RESIDENTIAL — SPECIAL DOORS

3

Raised Panel Doors —Doors are five sections high. Stiles and rails of Sitka Spruce or Douglas Fir 1⅜" thick, mortised and tenoned, glued, steel doweled. Raised panels are ¾" thick, the surface plain or with routed design. Sections are sanded, ready for paint. Doors are on 2" track and counterbalanced by torsion springs on crossheader shaft. Headroom, sideroom, width of center post same as stock doors.

SIZES

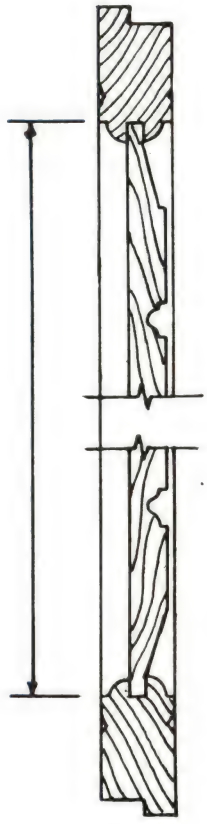
8'0" x 6'8"—2 panels wide
8'0" x 6'8"—3 panels wide
8'0" x 7'0"—2 panels wide
8'0" x 7'0"—3 panels wide
9'0" x 6'8"—3 panels wide
9'0" x 7'0"—3 panels wide
15'0" x 6'8"—4 panels wide
15'0" x 7'0"—4 panels wide
16'0" x 6'8"—4 panels wide
16'0" x 7'0"—4 panels wide

Flush Wood Doors —Stiles and rails 1⅜" thick may be covered with wood battens of any specified thickness in any specified pattern, using any special wood available. Stock or special sizes, four or five sections high.

Flush Plywood Doors —Four sections high. Stock or special sizes. Sections may be plain or with moulding applied in any special design.

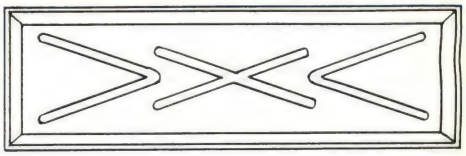


Doors are available four sections high with three or more center stiles, counterbalanced by extension springs.

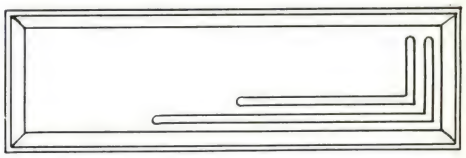


CROSS-SECTION OF RAISED PANEL

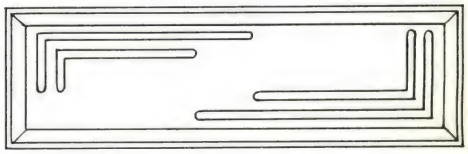
DESIGN 1M



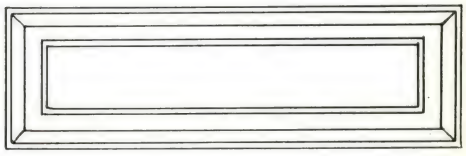
DESIGN 2M



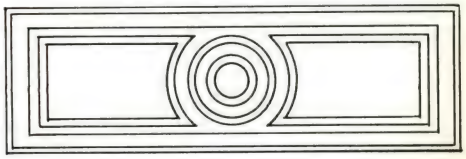
DESIGN 3M



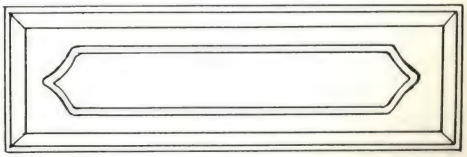
DESIGN 5M



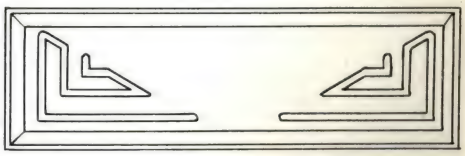
DESIGN 7M



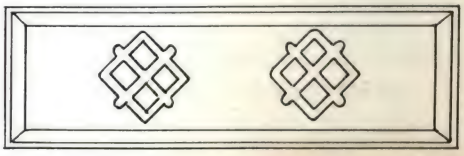
DESIGN 9M



DESIGN 10M



DESIGN 11M







DOORS FOR WOOD CASINGS

Door No. 403 (2″ Track No. 1) —For openings up to 196 sq. ft., not to exceed 16′2″ wide or 14′1″ high. Minimum headroom, 16″ for 15″ radius track. Sideroom, 3¾″ each side at front wall, 2½″ each side to end of horizontal tracks. Minimum width center post, 7″. Door is made the exact opening width, with ¾″ lap provided by stop mould.

Door No. 405 (2″ Track No. 1-A) —For openings up to 240 sq. ft., not to exceed 20′2″ wide or 14′1″ high. Can be furnished wider with girder and auxiliary track. Headroom, minimum 16″ for small doors on 15″ radius track; up to 28″ for larger doors. Sideroom, 4½″ each side to end of horizontal tracks. Minimum width center post, 9″. Door is made the exact opening width, with ¾″ lap provided by stop mould.

Door No. 411 (2″ Track No. 7) —For openings up to 240 sq. ft., not to exceed 20′2″ wide or 16′1″ high. Continuous angle reinforcing on vertical tracks, the angle reversed for fastening with lag screws. Can be used with steel jambs if inside face is not less than 4″. Headroom, minimum 16″ for small doors on 15″ radius track; up to 28″ for larger doors. Sideroom, 4½″ each side to end of horizontal tracks. Minimum width center post, 9″. Door is made the exact opening width, with ¾″ lap provided by stop mould.

Door No. 413 (3″ Track No. 5) —For openings 240 to 500 sq. ft., not to exceed 33′2″ wide or 16′1″ high. Headroom, minimum 18″; up to 30″ for large doors. Sideroom, 5½″ each side to end of horizontal tracks. Minimum width center post, 11″. Door is made the exact opening width, with ¾″ lap provided by stop mould.

DOORS FOR STEEL JAMBS

Door No. 407 (2″ Track No. 1-B) —For openings up to 196 sq. ft., not to exceed 16′2″ wide or 14′1″ high. Minimum headroom, 16″ for 15″ radius track. Sideroom, 4½″ each side at front wall, 3½″ each side to end of horizontal tracks. Minimum width center post, 9″. Door overlaps opening 1″ at each side and top.

Door No. 409 (2″ Track No. 2) —For openings up to 240 sq. ft., not to exceed 20′2″ wide or 16′1″ high. Can be furnished wider with girder and auxiliary track. Headroom, minimum 16″ for small doors on 15″ radius track; up to 28″ for larger doors. Sideroom, 5¾″ each side to end of horizontal tracks. Minimum width center post, 11″. Door overlaps opening 1″ at each side and top.

Door No. 417 (3″ Track No. 6) —For openings 240 to 500 sq. ft., not to exceed 33′2″ wide or 25′1″ high. Headroom, minimum 18″; up to 30″ for large doors. Sideroom, 6½″ each side to end of horizontal tracks. Minimum width center post, 13″. Door overlaps opening 1″ at each side and top.

IMPORTANT: The use of chain hoist or electric operator may change headroom and sideroom requirements. See page 8 or page 10. If specified headroom is not available, see Low Headroom Track, page 8.

OVERHEAD DOOR CORPORATION
Hartford City, Indiana

THE "OVERHEAD DOOR" TRADE MARK

General Specifications —Stiles and rails of Sitka Spruce or Douglas Fir 1¾″ thick, mortised and tenoned, glued, steel doweled. Panels of ⅜″ exterior plywood. In general, center stiles are 3½″ wide, end stiles 5½″ wide, center rails 4 13/16″ (over-all) wide, top and bottom rails 5½″ wide. Top and bottom rails and end stiles may be extra wide if the size of the door requires it.

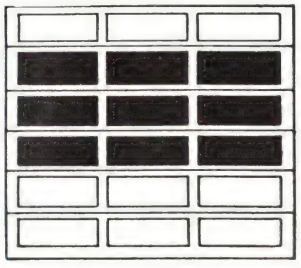
Door Height	Sections
Up to 8′6″	5
8′7″ to 10′6″	6
10′7″ to 12′6″	7
12′7″ to 14′6″	8
14′7″ to 16′6″	9
16′7″ to 18′6″	10
18′7″ to 20′6″	11

Door Width	Panels
Up to 8′11″	2
9′0″ to 11′11″	3
12′0″ to 14′11″	4
15′0″ to 17′11″	5
18′0″ to 20′11″	6
21′0″ to 24′0″	8

Counterbalance —Strong torsion springs on crossheader shafts, the arrangement depending upon the size and weight of the door. See page 9 for typical arrangements.

Glass Pattern —Bottom section is No. 1. First numeral given indicates how many door sections are to have glass panels; second numeral indicates total number of sections in door; following numerals indicate location of glass sections.

KEY: 36345









VERTICAL DOOR

Vertical and Semi-Vertical Doors—Doors with full vertical travel or semi-vertical travel can be furnished in any size, counterbalanced by weights or torsion springs. Headroom, sideroom and type of track and counterbalance depend upon size, weight and construction of door and type of building. Consult our engineering department.

Ventilating Doors—A combination of two doors, one of regular construction, one screened, installed on one set of tracks. Automatic switch in vertical track permits either door to be lowered.

Pass (Pedestrian) Doors—Must be at least one section less than door height. No greater width than 2′8″ recommended. Made to swing out on regular doors, to swing in on vertical and semi-vertical doors. Doors 12′3″ wide or wider containing a pass door are equipped with girder and auxiliary track. Doors 15′ wide or wider also have auxiliary center lift.

Movable Center Posts—Rolling, swing-up or carry-away posts installed between a series of small doors provide an unobstructed opening. Four rolling posts (5 doors) may be used, two moving right, two left, to position behind jambs. No limit to number of swing-up or carry-away posts. Rolling and swing-up posts are steel; carry-away posts are aluminum. Cannot be used with Low Headroom Track.

STRUT SCHEDULE	
DOORS FROM 12′-0″ to 12′-6″ WIDE	
4 Sections high	2 Struts
5 Sections high	3 Struts
6 Sections high	3 Struts
7 Sections high	4 Struts
DOORS 12′-7″ WIDE AND OVER	
4 Sections high	5 Struts
5 Sections high	6 Struts
6 Sections high	7 Struts
7 Sections high	8 Struts
8 Sections high	9 Struts
9 Sections high	10 Struts
10 Sections high	11 Struts
11 Sections high	12 Struts



ROLLING CENTER POST

Fire Station Door (Automatic Opening Device)—Door No. 467 (2″ Track No. 1-A or 2, 3″ Track No. 5 or 6)—For openings up to 144 sq. ft., not to exceed 16′2″ wide or 14′1″ high. Trip trigger on header locks door in closed position; pull station above driver's seat releases it instantly. No extra headroom or sideroom required. Cannot be used with Low Headroom Track.

Any commercial door may be used in fire stations, electrically operated, with or without timing device.

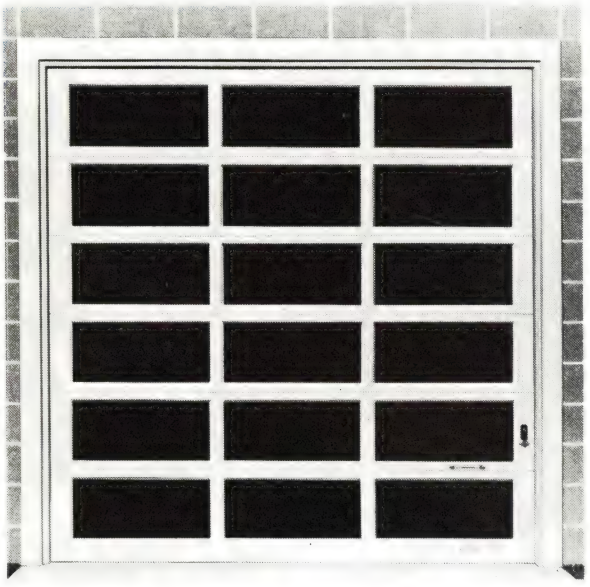


SERVICE STATION DOORS

SPECIAL SERVICE STATION DOORS

Door No. 426 (Lift Clearance)—9′0″ x 9′0″ only.
Door No. 428 (Lift Clearance)—9′0″ x 10′0″, 10′0″ x 9′0″, 10′0″ x 10′0″.
Door No. 429—The same as No. 428 except without Lift Clearance Tracks.

General Specifications—Doors are three panels wide, six sections high, all sections left open for glass, with glazing mould cut to fit and set in loose with corner clips. (Plywood panels available as specified.) Stiles and rails of Sitka Spruce or Douglas Fir 1¾″ thick, mortised and tenoned, glued, steel doweled. Sections sanded, ready for paint. 3½″ wide center stiles, 5½″ end stiles, 4 13/16″ (over-all) center rails, 5½″ top and bottom rails. Counterbalanced by torsion springs on crossheader shaft. Minimum width center post, 7″. Sideroom, 3¾″ each side at front wall, 2½″ each side to end of horizontal tracks. Doors No. 426 and 428 may rise a maximum of 4′1″ from lintel to top of horizontal tracks, which must be 7″ from ceiling. Headroom for Door No. 429, 16″. Doors are on 2″ Track No. 1 curved on 15″ radius, with extra vertical rise for No. 426 and 428.



THIN-LINE SERVICE STATION DOOR

With or Without Lift Clearance

Door No. 424—Up to 110 sq. ft., not to exceed 10′0″ wide.

Five sections high, top four left open for glass, with glazing mould cut to fit and set in loose with corner clips. Aluminum muntins ⅝″ wide. Bottom section solid slab 1¾″ thick, steel reinforced at ends. 3½″ wide (over-all) center rails, 5½″ top rail, 5½″ end stiles. Continuous offset hinges. Counterbalanced by torsion springs on crossheader shaft. Spring bumper at rear of horizontal tracks. Inside lock only, attached to right or left end stile of Section 2. Headroom, without lift clearance, 16″; with lift clearance, door may rise a maximum of 4′1″ from lintel to top of horizontal tracks, which must be 7″ from ceiling. Sideroom, 3¾″ each side at front wall, 2½″ each side to end of horizontal tracks. Minimum width center post, 7″.

DOORS OF SPECIAL DESIGN

With or Without Lift Clearance

Doors four or five sections high are furnished in any typical service station door design or any special design to blend with structural lines of the building. Bottom sections may be extra wide or extra narrow, of paneled or flush construction, or partial glass with extra wide bottom rails. Any or all sections may be left open for glass, with glazing mould cut to fit and set in loose with corner clips. Stiles and rails Sitka Spruce or Douglas Fir 1¾″ thick, mortised and tenoned, glued, steel doweled, with rebated weatherjoint throughout. Doors up to 10′0″ x 10′0″ can be furnished with continuous glass panels (no center stiles) with 3⅛″ wide (over-all) center rails reinforced with 1¼″ x 3/16″ flat steel bars and continuous offset hinge at each section joint. For headroom, sideroom and width of center post, see type of track.





THE "OVERHEAD DOOR" TRADE MARK

7

GALVANIZED STEEL

Door No. 475—On 2″ Track No. 2, any size up to and including 130 sq. ft.

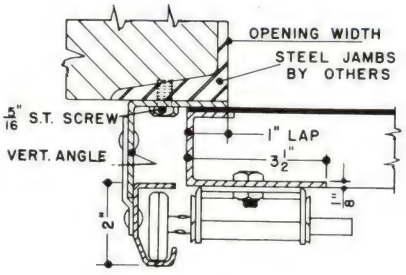
On 3″ Track No. 6 or 8, any size greater than 130 sq. ft.

Sections are cold rolled of 16-gauge galvanized sheets, with ½″ rebated weatherjoint. Interior stiles are formed channels 2″ deep, made of ⅛″ galvanized steel, welded securely in place. Tracks and hardware are of SALT SPRAY STEEL.* Door sections are galvanized with 1.75 oz. zinc per sq. ft. and Bonderized, ready for paint. Standard glass size, 32″ wide x 10″ high, lights being placed between stiles. Adjustable metal sealing strip furnished for top of door, rubber astragal for bottom. Hand-operated doors 131 sq. ft. or more are equipped with No. 3 chain hoist; doors less than 131 sq. ft. but more than 12′0″ high should be equipped with chain hoist. Electrically-operated doors less than 196 sq. ft. use standard operator; doors 196 sq. ft. or more require ¾ h.p. or larger motor. Full vertical weight counterbalanced doors more than 144 sq. ft. require ¾ h.p. motor. Weight, without struts or paint, 4.6 pounds per sq. ft. Headroom, minimum 16″ for small doors; up to 30″ for large doors. Sideroom depends upon type of track.

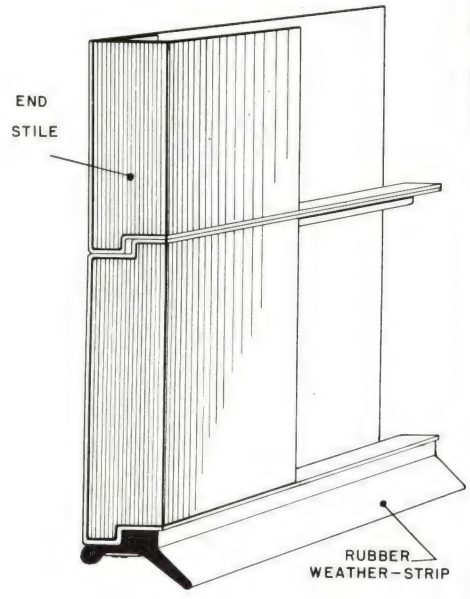
Door No. 565 (Hangar Door)—Any size up to 600 sq. ft., not to exceed 50′0″ wide or 21′0″ high. Sections cold rolled of 16-gauge galvanized sheets with holes drilled for self-tapping screws. Shipped knocked down to installation site and assembled into a single rigid unit. Tracks and hardware of SALT SPRAY STEEL.* Door sections galvanized with 1.75 oz. zinc per sq. ft. and Bonderized, ready for paint. Standard glass size, 32″ wide x 10″ high. Counterbalanced in all positions by cast iron weights, drums, cables and crossheader shaft. *Operation:* Door is lifted by multiple steel cables passing over cast iron drums. It rises and turns on a horizontal axis to position beneath lintel, bottom half extended for shelter. Weathertight closure. Chain hoist reduction gear provides easy one-man operation. Door may be electrically operated with ¾ h.p. Model "R" or "M," Type "C," operator equipped with extra reduction gears. Sideroom, if hoist-operated, 19″ on hoist side, 18″ on opposite side; if electrically-operated, 41″ on operator side, 18″ on opposite side. Headroom, 20″.

*Trade Mark

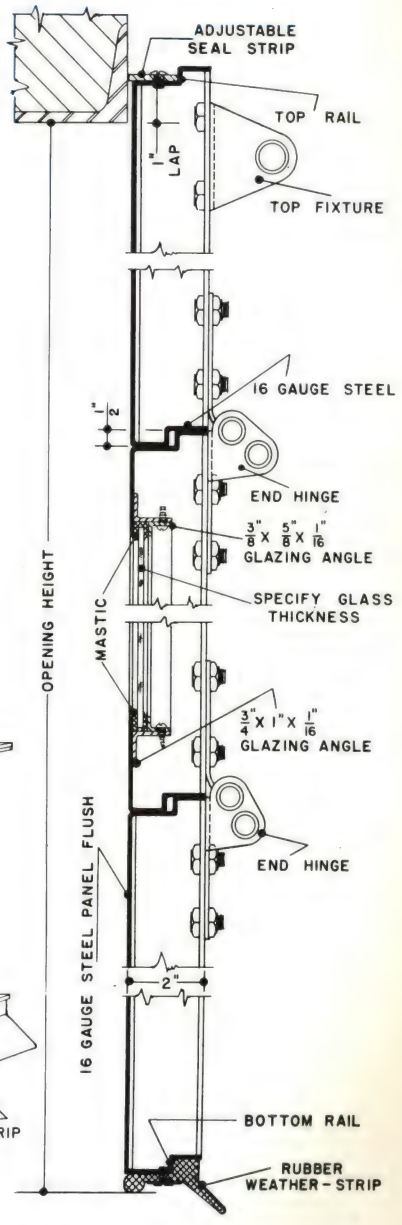
Aluminum doors are also available. Consult our engineering department.



JAMB DETAIL



HINGE & BOTTOM FIXTURE NOT SHOWN



TYPICAL DOOR SECTION

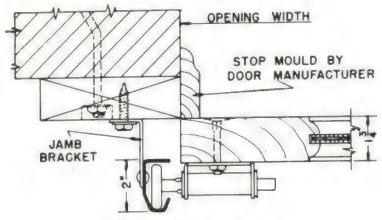
STILE SCHEDULE		SECTION SCHEDULE	
Door Width	*No. Center Stiles*	*Door Height*	*No. Sections*
Up to 9′11″	1	7′1″ to 9′0″	5
10′0″ to 12′11″	2	9′1″ to 10′0″	6
13′0″ to 16′1″	3	10′1″ to 11′0″	7
16′2″ to 19′2″	4	11′1″ to 13′0″	8
19′3″ to 22′4″	5	13′1″ to 15′0″	9
22′5″ to 25′7″	6	15′1″ to 16′0″	10
25′8″ to 28′0″	7	16′1″ to 18′0″	11
		18′1″ to 19′0″	12
		19′1″ to 20′0″	13
		20′1″ to 21′1″	14

GALVANIZED STEEL DOORS



TRACK CLASSIFICATIONS

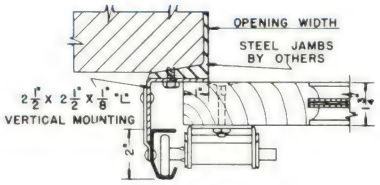
2″ Track No. 1—Curved on 15″ or 10″ radius. Verticals equipped with 2½″ x ⅛″ adjustable jamb brackets at each section joint. 2½″ x ⅛″ joint brackets unite vertical and horizontal tracks. Horizontals reinforced full length with 1¼″ x 1¼″ x ⅛″ steel angles. Used on doors up to 196 sq. ft., wood jambs. Minimum headroom, 16″ for 15″ radius track. Sideroom, 3¾″ each side at front wall, 2½″ each side to end of horizontal tracks.



TRACK NO. 1 and 1A

2″ Track No. 1-A—Curved on 15″ or 10″ radius. Verticals equipped with 2½″ x ⅛″ adjustable jamb brackets at each section joint. 2½″ x ½″ joint brackets unite vertical and horizontal tracks. Horizontals reinforced full length with 2½″ x 2½″ x ⅛″ steel angles. Used on doors up to 240 sq. ft., wood jambs. Headroom, minimum 16″ for small doors on 15″ radius track; up to 28″ for larger doors. Sideroom, 4½″ each side to end of horizontal tracks.

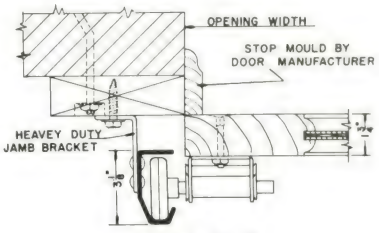
2″ Track No. 1-B—Curved on 15″ or 10″ radius. Verticals mounted full length on 2½″ x 2½″ x ⅛″ steel angles. Horizontals may or may not be reinforced with steel angles, depending upon size or weight of door. Used on doors up to 196 sq. ft., steel (or wood) jambs. Headroom, minimum 16″ for 15″ radius track. Sideroom, 4½″ each side at front wall, 3½″ each side to end of horizontal tracks.



TRACK NO. 1B and 2

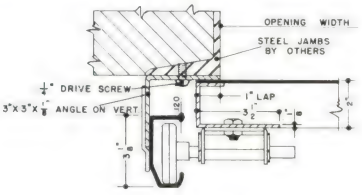
2″ Track No. 2—Curved on 15″ or 10″ radius. Verticals mounted full length on 2½″ x 2½″ x ⅛″ steel angles. Horizontals reinforced full length with 2½″ x 2½″ x ⅛″ steel angles. Used on doors up to 240 sq. ft., steel (or wood) jambs. Headroom, minimum 16″ for small doors on 15″ radius track; up to 28″ for larger doors. Sideroom, 5¾″ each side to end of horizontal tracks.

3″ Track No. 5—Curved on 15″ radius. Verticals equipped with heavy jamb brackets. Horizontals reinforced full length with 2½″ x 2½″ x ⅛″ steel angles. Used on doors 240 to 500 sq. ft., not to exceed 16′1″ high, wood jambs. Minimum headroom, 18″; up to 30″ for large doors. Sideroom, 5½″ each side to end of horizontal tracks.



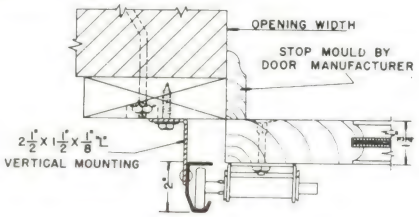
TRACK NO. 5

3″ Track No. 6—Curved on 15″ radius. Verticals mounted full length with 3″ x 3″ x ⅛″ steel angles. Horizontals reinforced full length with 2½″ x 2½″ x ⅛″ steel angles. Used on doors 240 to 500 sq. ft., not to exceed 25′1″ high, steel (or wood) jambs. Minimum headroom, 18″; up to 30″ for large doors. Sideroom, 6½″ each side to end of horizontal tracks.



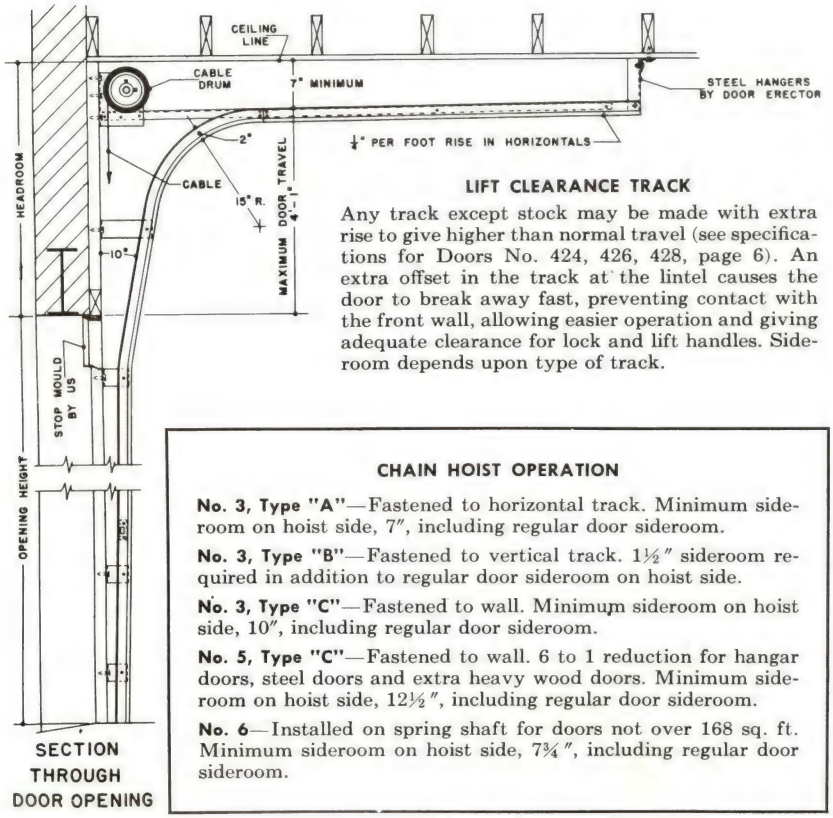
TRACK NO. 6

2″ Track No. 7—Curved on 15″ or 10″ radius. Verticals mounted full length on 2½″ x 1½″ x ⅛″ steel angles, the angles inverted for easy fastening with lag screws. Horizontals may or may not be reinforced full length with steel angles, depending upon size or weight of door. Used on doors up to 240 sq. ft., steel (or wood) jambs. Headroom, minimum 16″ for small doors on 15″ radius track; up to 28″ for larger doors. Sideroom, 4½″ each side to end of horizontal tracks.



TRACK NO. 7 and 7B

2″ Track No. 7-B—Same as No. 7 except that the horizontals are reinforced with 1¼″ x 1¼″ x ⅛″ steel angles. Used on doors up to 196 sq. ft.



LIFT CLEARANCE TRACK

Any track except stock may be made with extra rise to give higher than normal travel (see specifications for Doors No. 424, 426, 428, page 6). An extra offset in the track at the lintel causes the door to break away fast, preventing contact with the front wall, allowing easier operation and giving adequate clearance for lock and lift handles. Sideroom depends upon type of track.

CHAIN HOIST OPERATION

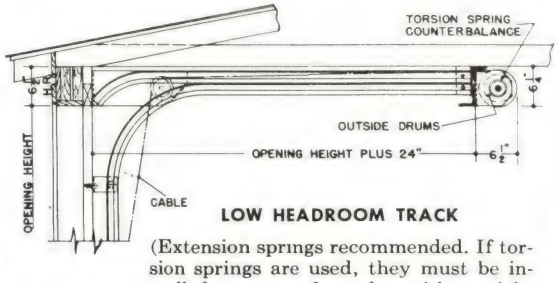
No. 3, Type "A"—Fastened to horizontal track. Minimum sideroom on hoist side, 7″, including regular door sideroom.

No. 3, Type "B"—Fastened to vertical track. 1½″ sideroom required in addition to regular door sideroom on hoist side.

No. 3, Type "C"—Fastened to wall. Minimum sideroom on hoist side, 10″, including regular door sideroom.

No. 5, Type "C"—Fastened to wall. 6 to 1 reduction for hangar doors, steel doors and extra heavy wood doors. Minimum sideroom on hoist side, 12½″, including regular door sideroom.

No. 6—Installed on spring shaft for doors not over 168 sq. ft. Minimum sideroom on hoist side, 7¾″, including regular door sideroom.



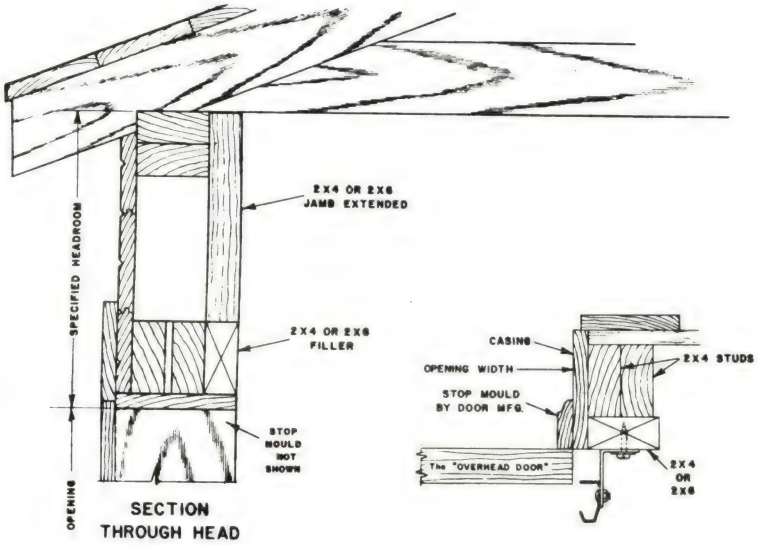
LOW HEADROOM TRACK

(Extension springs recommended. If torsion springs are used, they must be installed at rear of tracks, with straight drums placed outside tracks.)

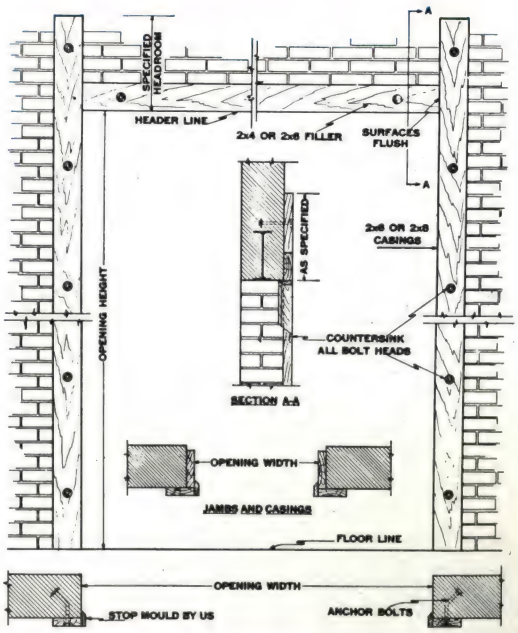
Door No. 421 (Low Headroom, 2″ Track)—For openings up to 160 sq. ft., not to exceed 18′0″ wide or 12′0″ high. Any 2″ track, including stock, arranged with double horizontals cut two feet longer than door height. Minimum headroom, 6½″. Side-room with stock door track, 4½″ each side to end of horizontal tracks; any other bracket-mounted vertical track, 5½″ each side; any angle-mounted vertical track, 6½″ each side. With 1″ door lap, add 1″.

Door No. 423 (Low Headroom, 3″ Track)—For openings up to 240 sq. ft., not to exceed 20′0″ wide or 14′0″ high. Any 3″ track, arranged with double horizontals cut two feet longer than door height. Minimum headroom, 12″. Sideroom with bracket-mounted vertical track, 6″ each side to end of horizontals; with angle-mounted vertical tracks, 7″ each side. With 1″ door lap, add 1″.

JAMB CONSTRUCTION

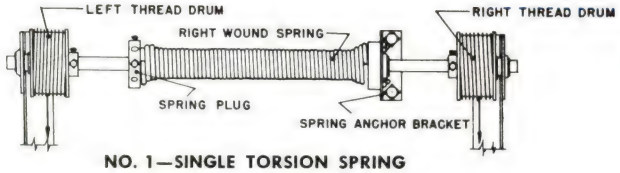


SECTION THROUGH HEAD

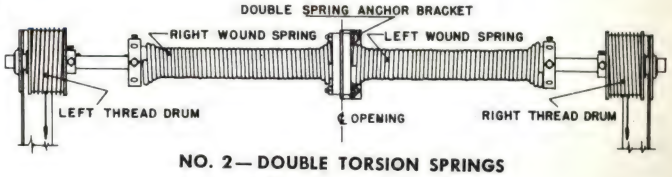


TYPES OF COUNTERBALANCE

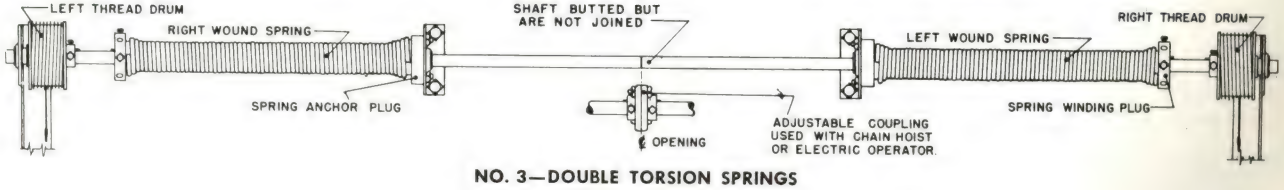
Extension or Torsion Springs (Torsion spring types shown)



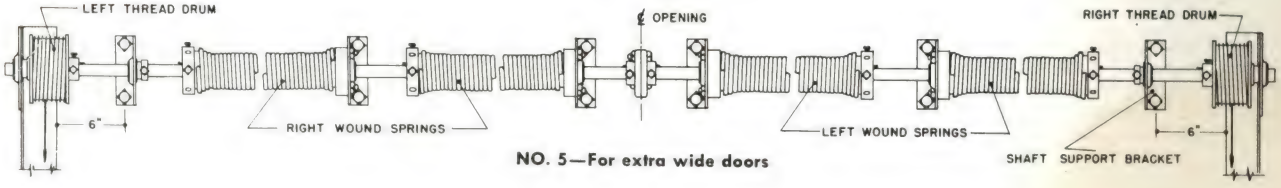
NO. 1—SINGLE TORSION SPRING
For doors up to 81 square feet



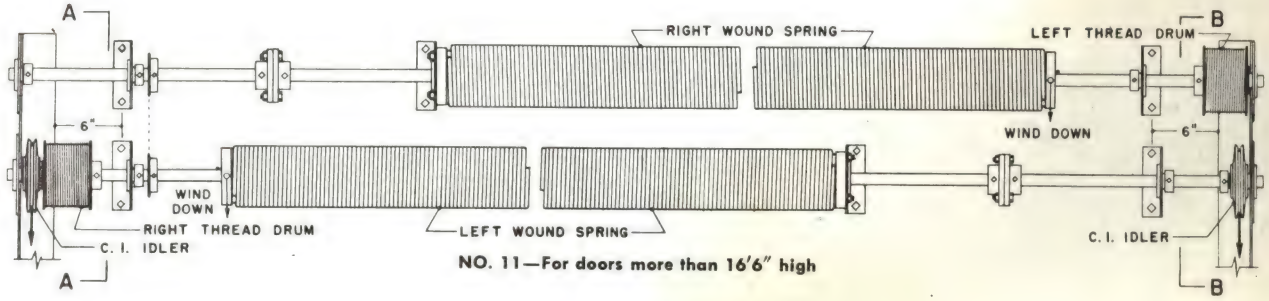
NO. 2—DOUBLE TORSION SPRINGS
For doors 81 to 100 sq. ft. (10′ x 10′)



NO. 3—DOUBLE TORSION SPRINGS
For doors more than 100 sq. ft.



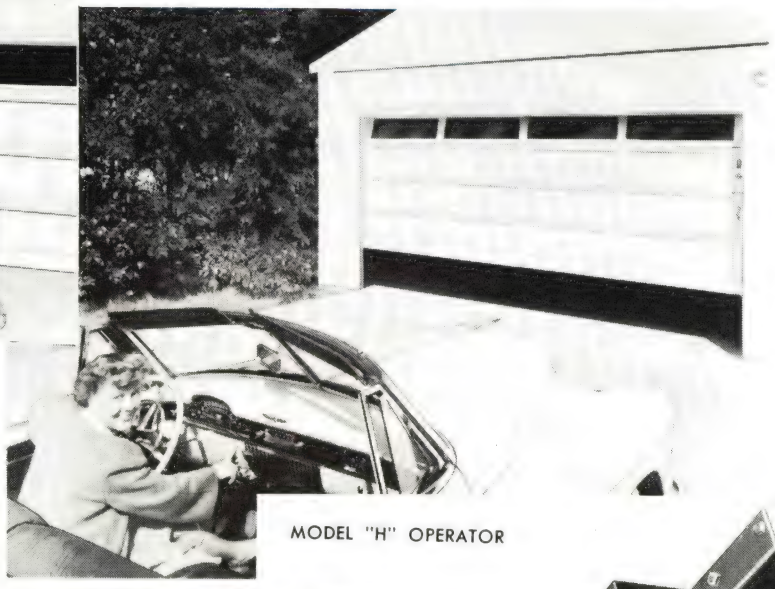
NO. 5—For extra wide doors



NO. 11—For doors more than 16′6″ high

ELECTRIC OPERATION





Key Switch. As many as three doors may be operated from one key switch installation. One, two or three unit housings are available for installation in wall or post. Duplicate or individual keys.

Miracle Control. Radio receiver beside electric operator in garage is tuned to frequency of transmitter under dash of car. Control button on dash and in garage, kitchen or breezeway.

MODEL "H" OPERATOR



RESIDENTIAL AND LIGHT COMMERCIAL

Model "A". For stock doors, two-car doors and commercial doors not more than 10′ x 10′. Draw bar type, ⅓ h.p. capacitor motor with built-in thermal cutout, V-belt drive, friction safety clutch, magnetic reversing switch, low voltage control circuit, driven limit switch. Momentary contact control station, three-button.

Model "B". For large two-car doors and commercial doors not more than 12′ x 12′. Draw bar type, ⅓ h.p. capacitor motor, twin V-belt drive, 4″ friction safety clutch, magnetic reversing switch, low voltage control circuit, driven limit switch. Heavy duty momentary contact control station, three-button.

Residential Model "H" Operator. May be used with driveway key switch or Miracle Control (radio). Automatic floodlighting. Draw bar type, ¼ h.p. capacitor motor, V-belt drive, friction safety clutch, magnetic switch, driven limit switch. *Instantly reversible.* Momentary contact, single-button control station unlocks door and opens it, turns on lights, closes door—or instantly reverses its downward movement—locks door, turns off lights.

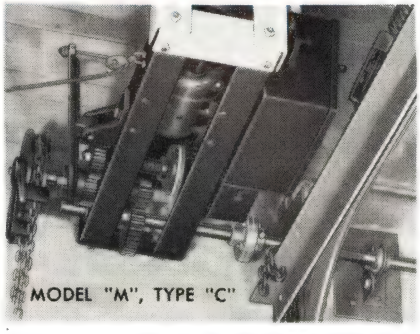
HEAVY DUTY GEAR-HEAD OPERATORS

Oil-Sealed · Silent · Compact · No External Couplings

Model "R". Constant contact type for commercial and industrial doors. Draw bar type, chain-driven, with heavy carriage tracks and safety friction clutch. ⅓ h.p. or larger repulsion-induction, gear-head, ball-bearing motor. Two-button control station. With addition of magnetic contactor, Model "R" may be equipped with three-phase motor.

Model "M". Momentary contact type for commercial and industrial doors. Draw bar type, chain-driven, with heavy carriage tracks and safety friction clutch. ⅓ h.p. or larger gear-head, ball-bearing motor, single or three-phase current. Magnetic multiple disc brake, heavy duty magnetic reversing switch and driven limit switch. Heavy duty three-button control station.

Model "R" or "M", Type "C" and "D". Designed for large, heavy doors with crossheader shaft and load sheaves or drums. Type "C" directly coupled to either end of crossheader shaft; equipped with reduction gears, dentil clutch throwout and chain hoist for emergency operation. Type "D" coupled in center of crossheader shaft; regular equipment has reduction gears and disconnecting lever. Extension shaft and chain hoist can be furnished with Type "D"



MODEL "M", TYPE "C"

HEADROOM REQUIREMENTS

Models "A", "B", "H", with 15″ radius track, 18¾″ to 20¾″; with 10″ radius track, 15¾″ to 16¾″; with low headroom track, 12½″. Subtract 2½″ if clutch shaft pulley can be recessed. Models "R", "M", with 15″ radius track, 17″; with low headroom track, 10″. Type "D" without girder, 25½″; with girder, 28½″. Type "C", consult general catalog, Section 5.

PULL SWITCH

Heavy cast iron, weatherproof, inside or outside use. Adjustable pull chains and easy-grip handles.



PULL SWITCH CONTROL

PUSH BUTTONS

Square D. Class 9001, Type B-36 for constant contact operators. Class 9001, Type RK-2B for momentary contact.



PUSH BUTTON CONTROL

SAFETY SWITCH

Attached to bottom rail, wired to stop movement if door comes in contact with stationary object.

OVERHEAD DOOR CORPORATION

Hartford City, Indiana

THE "OVERHEAD DOOR" TRADE MARK

11

ALABAMA
Overhead Door Co. of Birmingham
210 Columbiana Rd.
Spann Stowers Milling Co.
P.O. Box 581, Dothan

ARIZONA
Overhead Door Co. of Ariz
1745 E. Lester St., Tucson

ARKANSAS
Overhead Door Co. Sales & Service
300 N. 12th St., Ft. Smith
Overhead Door Co. of Ark.
3019 Asher St., Little Rock

CALIFORNIA
Overhead Door Co. of Calif., Inc.
216-222 N. Howard St.,
Glendale 6, Calif.
Overhead Door Co.
600 University, Berkeley

CANADA
Overhead Door Co. of Alberta
10046 101st St., Edmonton

CAROLINAS
Overhead Door Co. of the Carolinas
3420 Park Rd., Charlotte 1, N. C.
Dewey Bros., Inc.
Builders Specialties, Goldsboro, N. C.
Hickory Steel & Iron Co.
Hickory, N C.
N. Wilkesboro Hardware Co.
N. Wilkesboro, N C.
Overhead Door Sales Co.
123 E. Lenoir St., Raleigh, N. C.
Salem Steel Co.
Box 2091, Winston-Salem, N. C.
Van Smith Building Material Co.
276 E. Bay St., Charleston, S. C.
Florence Builders Supply
Florence, S. C.
Edward McCrady
Allen Bldg., Greenville, S. C.
Russel S. Wolfe
Orangeburg, S. C.
E. H. Everett Builders Specialties
221 E. Main St., Spartanburg, S. C.

COLORADO
Overhead Door Co. of Colo.
1430 Blake St., Denver

CONNECTICUT
Overhead Door Co., Inc.
Boston Post Rd., Orange
Overhead Door Sales Co.
Oak Ridge Terrace, Danbury
Overhead Door Sales Co.
880 West Blvd., Hartford
Overhead Door Sales Co.
69 Meadowside Rd., Milford
Overhead Door Sales Co.
54 Center Ave., Norwalk
Overhead Door Sales Co.
Norwich-New London Rd., Norwich

DAKOTAS
Overhead Door Co. of Fargo
2500 Front St., Fargo, N. D.
Minot Builder Supply Co.
Minot, N. D.
Dakota Steel & Supply Co.
P.O. Box 631, Rapid City, S. D.
Overhead Door Co. of Sioux Falls
3133 S. Grange, Sioux Falls, S. D.
Watertown Sash & Door Co.
Watertown, S. D.

DELAWARE
Overhead Door Co.
Melford
Overhead Door Co. of Pa., Inc.
3001 Todds Lane, Wilmington

DISTRICT OF COLUMBIA
Overhead Door Sales Co., Inc.
727 First St., N. W., Washington 1

FLORIDA
Overhead Door Co. of Miami, Inc.
7111 Biscayne Blvd., Miami 38
Overhead Door Co. of
Ft. Lauderdale, Inc.
1925 S. E. 6th Ave.
Overhead Door Co. of Tampa
4405 Suwannee Ave., Tampa 1
Stanley Scott, Inc.
100 W. Amelia, Orlando
Seavy Lumber Co.
P. O. Box 681, Clearwater
Chet H. Brandt, Inc.
223 N. E. 3rd Ave., Delray Beach
Builders Products Co.
221 E. 8th St., Jacksonville

GEORGIA
Overhead Door Co. of Ga.
P. O. Box 6222, Station H, Atlanta
W. E. Raines Co., Inc.
14 7th St., Augusta

IDAHO
E. W. Little Co.
315 S. 11th St., Boise

ILLINOIS
Overhead Door Co. of Arlington Hts.
131 Williams
Overhead Door Co. of Aurora
433 Fox St.
Overhead Door Co. of Chicago
1430 West 74th St.

ILLINOIS—continued
Overhead Door Co. of Crystal Lake
116 Grant St.
Material & Fuel Co.
701-707 Section St., Danville
Overhead Door Co. of Decatur
236 E. Marietta
Overhead Door Co. of Joliet
1216 Kenmore Ave.
Overhead Door Co. of Peoria
727 Loucks Ave.
Overhead Door Co. of Quincy
1012 Vermont
Overhead Door Co.
(Western Suburbs)
329 E. Burlington St., Riverside
Overhead Door Co. of Rockford
1605-07 Kishwaukee St.
Overhead Door Co. of Springfield
2619 S. 6th St.
McKinney Steel & Sales Co.
8 Madison St., Waukegan

INDIANA
Overhead Door Co.
Rear, 622 Franklin St., Columbus
Overhead Door Co. of Evansville
1209 E. Missouri St., Evansville 11
Overhead Door Co. of Ft. Wayne
3808 S. Calhoun St., Ft. Wayne 6
Overhead Door Co. of Lake-Porter
8708 Oak Ave., Gary
Overhead Door Co.
Hartford City
Overhead Door Sales Co. of
Indianapolis, Inc.
1555 N. Meridian St.
Overhead Door Sales of Lafayette
1100 Canal Rd.
Overhead Door Sales of Richmond
7 N. 10th St.
Overhead Door Co.
332 S. Columbia St., So. Bend
Overhead Door Sales of Elkhart
3104 Roys Ave.
Overhead Door Sales
450 Pine Lake Ave., LaPorte
Overhead Door Co.
P. O. Box 497, Syracuse
Overhead Door Co., Inc.
15th St. & Pa. R. R., Terre Haute

IOWA
Overhead Door Co. of Bettendorf
321 17th St.
Overhead Door Co. of Cedar Rapids
1914 "B" Ave., N. E.
Overhead Door Co. of Ia., Inc.
63rd & Ingersoll Sts., W. Des Moines
Overhead Door Co. of Ft. Dodge
221-11th Ave., S. W.
Overhead Door Co. of Sioux City
213-214 Benson Bldg.
Overhead Door Co. of Waterloo, Inc.
330 Duryea St.

KANSAS
Overhead Door Co.
1411 S. Pine St., Pittsburg
Overhead Door Co. of Hays
208 E. 5th St.
Overhead Door Co. of Topeka
P. O. Box 53
Overhead Door Co. of Wichita, Inc.
700 S. Emporia, Wichita 2

KENTUCKY
Overhead Door Co. of Bowling Green
Morgantown Rd.
Overhead Door Co. of Campbellsville
Jackson & First North St.
Overhead Door Co. of Lexington
233 N. Limestone St.
Overhead Door Co. of Ky., Inc.
930 Baxter Ave., Louisville 4
Overhead Door Co. of Owensboro
1500 E. 12th St.
Overhead Door Co. of Somerset
P. O. Box 674

LOUISIANA
Overhead Door Co. of New Orleans
1401 S. Broad St., New Orleans 15
Overhead Door Co. of Shreveport
P. O. Box 6011
F. A. Flynn
P. O. Box 372, Alexandria
J. Paul Smith
1604 N. 21st St., Baton Rouge
Robert T. Mutersbaugh Engineering Co.
P. O. Box 136, Lake Charles

MAINE
Overhead Door Co. of Maine
26 N. Main St., Auburn

MARYLAND
Overhead Door Co. of Baltimore
2440 Greenmount Ave., Baltimore 18
Frederick J. Flood
Box 424, Annapolis
Cumberland Cement & Supply Co.
419 N. Centre St., Cumberland
Edward J. Benson
R. R. 1, Derwood
Frederick Brick Works, Frederick
Johnson Lumber Co.
Glen Burnis
Hagerstown Lumber Co.
700 Frederick Rd., Hagerstown

MARYLAND—continued
Reistertown Lumber Co.
Reistertown
Schaeffer Lumber Co.
Westminster

MASSACHUSETTS
Overhead Door Sales Co., Inc.
55 Needham St., Newton Highlands
Charles J. Klitsch, Jr.
Pittsfield & Lenox Rd., Pittsfield
W. C. Fraser
57 Vernon St., Springfield

MICHIGAN
Overhead Door Co.
6511 Strong Ave., Detroit 11
Overhead Door Co. of Flint
3518 Trumbull Ave., Flint 5
Overhead Door Co. of Grand Rapids
200 Ionia Ave., N. W.
Overhead Door Co. of Kalamazoo
1428 Vassar Drive
Overhead Door Co. of Mich.
108 S. Howard Ave., Lansing
C. T. DeHaas Co.
P. O. Box 89, Kaufman Bldg.
Marquette
Overhead Door Co. of Port Huron
3904 Pine Grove Rd.
Overhead Door Co. of Saginaw
1105 S. Water St.
Harold W. Reed
R. R. 2, Adrian
Waldvogel Sales & Service
2070 S. Custer Rd., Monroe
Overhead Door Sales & Service
809 Canal St., Three Rivers

MINNESOTA
Overhead Door Co. of Minn., Inc.
1935 University Ave., St. Paul 4
Overhead Door Sales Co.
509 Beltrami Ave., Bemidji

MISSISSIPPI
Overhead Door Co. of Jackson
734 Verdemont

MISSOURI
Overhead Door Co. of Kansas City
4500 Belleview, Kansas City 2
Overhead Door Co. of Moberly
541 W. Reed St.
Hayden Concrete Products Co.
900 N. Centennial, Kirksville
Overhead Door Co.
109 W. 7th St., Sedalia
Overhead Door Co.
1112 E. Central St., Springfield
Overhead Door Co. of St. Joseph
2324 Locust
Overhead Door Co. of Mo., Inc.
8416 Manchester, St. Louis 17

MONTANA
Overhead Door Co. of Billings
513 N. 31st Ave.
Overhead Door Co. of Glasgow
Glasgow
Overhead Door Co. of Missoula
800 Bickford St.

NEBRASKA
Overhead Door Co. of Lincoln
2128 Lake Street
Overhead Door Co. of Neb., Inc.
1209 Nicholas St., Omaha
Overhead Door Co. of Hastings
1813 W. 9th St.
Overhead Door Co. of Scottsbluff
617 W. 19th St.

NEVADA
Overhead Door Co. of Nev.
428 Washington St., Reno

NEW HAMPSHIRE
Overhead Door Co., Inc.
Foot of Fox St., Nashua
Overhead Door Sales Co. of N. H.
Milford

NEW JERSEY
Overhead Door Co., Inc.
630 Ramsey Ave., Hillside
Overhead Door Co.
435 Mercer St., Jersey City
Overhead Door Sales Co., Inc.
1677 Springfield Ave., Maplewood
Overhead Door Co.
7519 Maple Ave., Merchantville
Overhead Door Sales & Service Co.
129 W. Broad St., Millville
Overhead Door Sales Co.
Ridgedale Ave., Morristown
Marshall Brothers
765 E. 27th St., Paterson
Overhead Door Products Corp.
465 Shrewsbury Ave., Red Bank

NEW MEXICO
Overhead Door Co. of Albuquerque
211 Hermosa, S. E.

NEW YORK
Overhead Door Co. of New York, Inc.
Cortland
Overhead Door Sales Co.
87 Osborne, St., Albany
Overhead Door Sales Co.
189 Brookside Ave., Amsterdam
Overhead Door Sales Co.
407 Metcalf Bldg., Auburn
Overhead Door Sales Co.
135 Pearl St., Batavia
Overhead Door Sales Co.
118 Eldredge St., Binghamton
Overhead Door Sales Co.
1935 Genesee St. at Forman, Buffalo
Overhead Door Sales Co.
Pearl & W. Main, Canandaigua
Overhead Door Sales Co.
36 W. Main St., Canisteo

NEW YORK—continued
Overhead Door Sales Co.
82 Cortland St., Homer
Overhead Door Sales Co.
1251 College Ave., Elmira
Overhead Door Sales Co.
113 E. Broadway, Fulton
Overhead Door Sales Co.
52 Baldwin Ave., Glens Falls
Overhead Door Sales Co.
121 E. Seneca St., Ithaca
Overhead Door Sales Co.
632 Winsor St., Jamestown
Overhead Door Sales Co.
212 Albany Ave. Ext., Kingston
Overhead Door Sales Co.
Andrews St. Rd., Massena
M. S. Forgatch
Pilgrim Corners, Middletown
Overhead Door Sales Co.
331 5th St., Niagara Falls
John Eylers, Inc.
89 Corlies Ave., Poughkeepsie
Overhead Door Sales Co.
899 Atlantic Ave., Rochester
Overhead Door Sales Co.
157 Barrett St., Schenectady
Overhead Door Sales Co.
317 State Tower Bldg., Syracuse
Overhead Door Sales Co.
Martin Brook St., Unadilla
Overhead Door Sales Co.
Black River Rd., Watertown
Overhead Door Co.
Oriskany Blvd., Whitesboro

NEW YORK CITY AREA
Metropolitan Overhead Door Co., Inc.
439 Madison Ave., New York City 22
Overhead Door Co. of Suffolk
Middle Country Rd., P. O. Box 425
Ridge, L. I.
Overhead Door Sales Co.
166 Clove Rd., Staten Island
Overhead Products Corp.
440 Hempstead Turnpike
W. Hempstead, L. I.

OHIO
Overhead Door Sales Co. of Ashtabula
423 W. 48th St.
Overhead Door Co. of Canton
112 W. Park Ave.
Meyers Lake, Canton 8
Celina Lumber & Supply Co.
508 W. Logan St., Celina
Overhead Coor Co. of Cincinnati, Inc.
637 E. McMillan St., Cincinnati 6
Overhead Door Co. of Cleveland, Inc.
2028 E. 71st St., Cleveland 3
Overhead Door Sales of Defiance
622 N. Clinton St.
Dennis Nofziger
R. F. D. 3, Archbold
Overhead Door Co. of Lorain County
529½ W. River St., Elyria
Overhead Door Co. of
Lake & Geauga Counties
47 E. Orange St., Chagrin Falls
Overhead Door Co. of Columbus
1145 W. Goodale Blvd., Columbus 8
Overhead Door Co., Inc.
1900 Water St., Cuyahoga Falls
Overhead Door Sales of Dayton
2800 Salem Ave., Dayton 6
Overhead Door Co. of Findlay
210 E. Crawford St.
Overhead Door Co.
R. R. 4, Fremont
Overhead Door Sales Co. of Glouster
63 Madison St.
Overhead Door Sales of Hamilton
6 Arbor Court
Overhead Door Sales of Lima
132 E. High St.
Overhead Door Co.
4 E. Marshall Ave., Mansfield
John W. Reed
216 N. Marion St., Cardington
C. V. Banbury & Son
Danville
Carl F. Krag & Son
R. F. D. 2, Upper Sandusky
Overhead Door Co. of Pemberville, R.R. 2
Overhead Door Co.
1144 Eighth St., Portsmouth
Overhead Door Co. of Springfield
1677 Brentwood Dr.
Overhead Door Co.
P. O. Box 262, Steubenville
Overhead Door Co. of Toledo
1940 W. Central Ave.
Overhead Door Sales & Service
1437 Grove St., N. W., Warren
Overhead Door Co. of Youngstown
4400 Market St., Youngstown 12
Salem Builders Supply Co.
775 S. Ellsworth St., Salem
Overhead Door Co. of Zanesville
P. O. Box 307

OKLAHOMA
Overhead Door Co. of Okla., Inc.
1819-1830 N. W. 5th St., Okla. City
Overhead Door Co.
209 Euclid St., Lawton
Overhead Door Co. of Okla.
403 S. Rockford St., Tulsa

OREGON
Overhead Door Co. of Ore., Inc.
3508 S. W. Moody Ave., Portland 1
Overhead Door Co. of Bend
947 Newport Ave.
Overhead Door Co. of Eugene
95 E. 29th St.
Overhead Door Co. of Grants Pass
1901 Portola St.
Overhead Door Co. of Salem
2055 Oxford St.

PENNSYLVANIA
Overhead Door Co. of Pa., Inc.
Lewistown
Overhead Door Co. of Pa., Inc.
217 W. Pine St., Clearfield
Overhead Door Co. of Pa., Inc.
146-148 Wells St., Forty Fort
Overhead Door Co. of Pa., Inc.
650 Division St., Harrisburg
Overhead Door Co. of Pa., Inc.
S. Juniata St., Lewistown
Overhead Door Co. of Pa., Inc.
163 Center St., Meadville
Overhead Door Co. of Pa., Inc.
50th St. & Fairmount Ave.,
Philadelphia
Overhead Door Co. of Pa., Inc.
2812 W. Liberty Ave., Pittsburgh 16
Overhead Door Co. of Pa., Inc.
12th & Spring Sts., Reading

RHODE ISLAND
Overhead Door Sales Co.
Wyatt Rd., Middletown
Overhead Door Sales Co.
618 Cranston St., Providence

TENNESSEE
Nixon Machinery & Supply Co.
1300 Carter St., Chattanooga
Hommer Supply Co.
118 W. Madison Ave., Athens
Overhead Door Co. of Bristol
Central Bldg.
Cleveland Builders Supply Co.
3016 Edwards St., Cleveland
William S. Trimble Co.
622 Atchley St., Knoxville
Overhead Door Co. Memphis, Inc.
3644 Summer Ave., Memphis 12
Nashville Sash & Door Co.
152 Second Ave., N. Nashville 3

TEXAS
The Overhead Door Co. of Texas
2821 Ft. Worth Ave., Dallas 11
Overhead Door Sales Co. of W. Texas
S. 2nd at Treadaway, Abilene
Overhead Door Co. of Okla. & Tex.
Panhandle
2826 N. E. 8th St., Amarillo
Overhead Door Co. of Austin
1011 S. Congress, Austin 4
John Dollinger, Jr., Inc.
7th & Live Oak Sts., Beaumont
Overhead Door Co. of Bryan
401 E. 26th St.
Overhead Door Co. of Corpus Christi
629 Everhart Rd.
Overhead Door Sales Co.
1403 Dragon, Dallas
Overhead Door Co. of El Paso
P. O. Box 1175
Overhead Door Sales Co.
5424 E. Lancaster, Ft. Worth
Overhead Door Co. of the Valley
1202 Harrison, Harlingen
Overhead Door Co. of Houston, Ltd.
6611 S. Main, Houston 25
Overhead Door Sales Co. of W. Texas
1005 29th St., Lubbock
Overhead Door Co. of San Angelo
3205 N. Chadbourne
Overhead Door Co. of San Antonio
416 Austin Hwy., San Antonio 2
Overhead Door Co. of Victoria
P. O. Box 635
Overhead Door Co. of Wichita Falls
1501 Hayes

UTAH
Overhead Door Co.
210 S. W. Temple, Salt Lake City

VERMONT
Overhead Door Sales Co.
745 North Ave., Burlington
Overhead Door Sales Co.
13 Pine St., Rutland

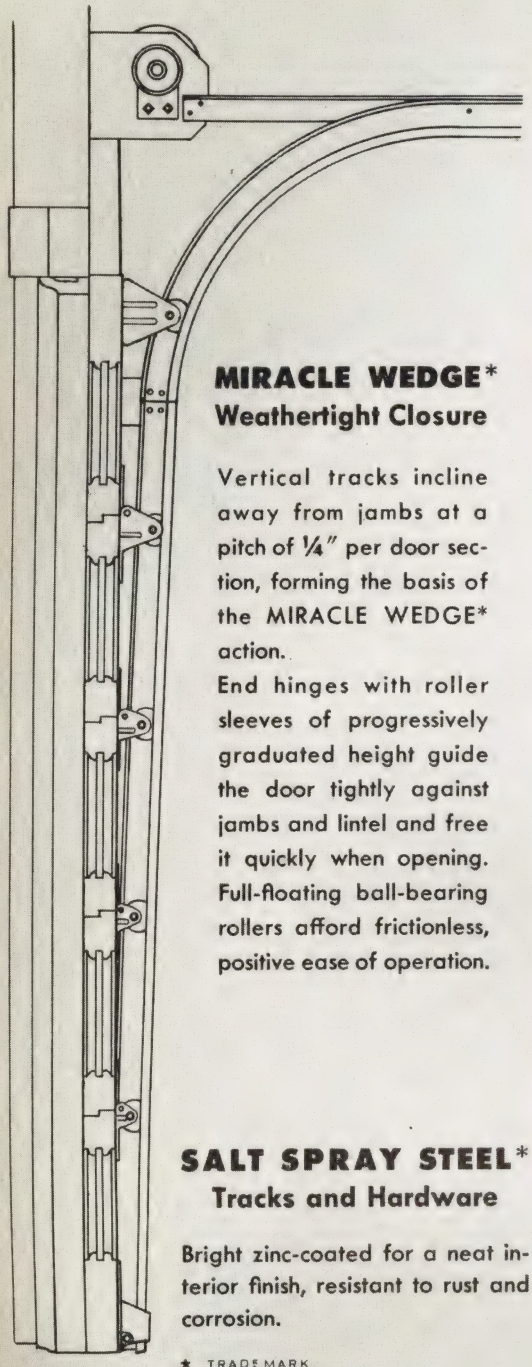
VIRGINIA
Overhead Door Co.
638 Spring St., Danville
J. T. Hirst & Co., Inc., Leesburg
Overhead Door Co., Luray
Overhead Door Co. of Norfolk
1042 Campostella Rd., Norfolk 6
Myers Lumber Co., Purcellville
Overhead Door Co.
4400 Williamsburg Ave., Richmond 23
Overhead Door Co. of Roanoke
2201 Franklin Rd.

WASHINGTON
Overhead Door Co. of Longview
2519 36th Ave.
Overhead Door Co. of Seattle
3409 Stone Way
Overhead Door Co. of Spokane
W. 1722 Broadway
Overhead Door Co. of Tacoma
27 Crescent Circle S. W.
Overhead Door Co. of Walla Walla
1108 W. Birch
Fosseens, Inc.
101 Yakima St., Yakima

WEST VIRGINIA
Overhead Door Co.
502 Chapline St., Wheeling
Bailey Lumber Co.
P. O. Box 847, Bluefield
The McKnight Co.
314 26th St., S. E., Charleston 4

WISCONSIN
Overhead Door Co. of Green Bay
P. O. Box 32
Overhead Door Co. of Milwaukee
3012 W. Capitol Dr., Milwaukee 10

WYOMING
Fremont Lumber Co.
P. O. Box 607, Lander



MIRACLE WEDGE*
Weathertight Closure

Vertical tracks incline away from jambs at a pitch of ¼" per door section, forming the basis of the MIRACLE WEDGE* action.

End hinges with roller sleeves of progressively graduated height guide the door tightly against jambs and lintel and free it quickly when opening. Full-floating ball-bearing rollers afford frictionless, positive ease of operation.

SALT SPRAY STEEL*
Tracks and Hardware

Bright zinc-coated for a neat interior finish, resistant to rust and corrosion.

★ TRADEMARK

3 Essentials for Easy Operation

- **QUALITY CONSTRUCTION**
- **PERFECT COUNTERBALANCE**
- **EXPERT INSTALLATION**

THE "OVERHEAD DOOR" TRADE MARK

OVERHEAD DOOR CORPORATION
Hartford City, Indiana

MANUFACTURING DIVISIONS

Hillside, New Jersey
Nashua, N. Hampshire
Cortland, New York
Lewistown, Pennsylvania
Oklahoma City, Oklahoma
Dallas, Texas
Glendale, California
Portland, Oregon

NATION-WIDE

Sales • Installation • Service

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FOLDER NO. S-54

Main Office and Factory OVERHEAD DOOR CORPORATION Hartford City, Indiana, U.S.A.



A.I.A. File Number 16-D

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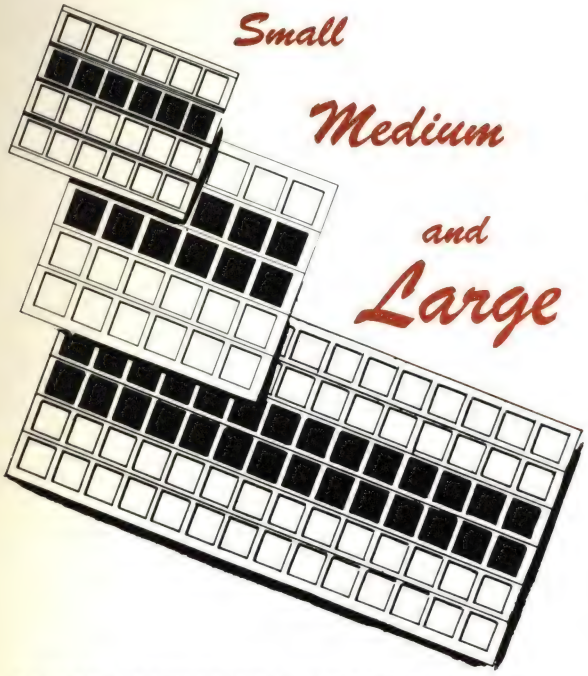
RAYNOR

WOOD SECTIONAL OVERHEAD DOORS

RAYNOR MANUFACTURING COMPANY • DIXON, ILLINOIS • HAMMONTON, NEW JERSEY



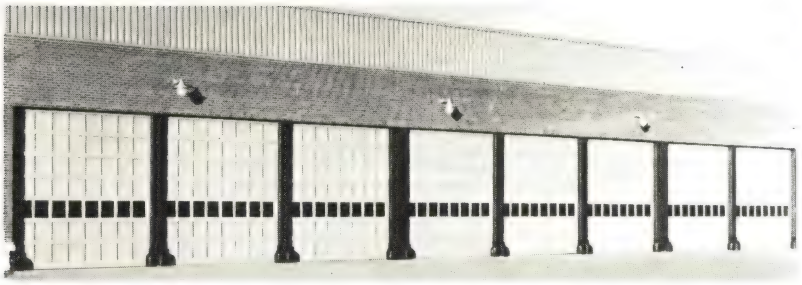
Raynor Features	PAGES 2-3
Single Car Residential Doors	PAGES 4-5
Two Car Residential Doors	PAGES 6-7
Commercial & Industrial Doors	PAGES 8-11
Framing & Jamb Details	PAGE 12



RAYNOR COMMERCIAL AND INDUSTRIAL DOORS ARE ENGINEERED AND BUILT TO FIT THE OPENING

The precision construction of Raynor Doors has been developed through years of experience in the building of Wood Sectional Overhead Door Equipment. All sections and hardware are fabricated complete in Raynor Manufacturing Company's own plants . . . . . *thus perfectly coordinated construction is assured at all times.*

Such customized construction guarantees the continued operating satisfaction and permanent beauty every Wood Sectional Overhead Door installation deserves.

















RAYNOR ASSURES THE PERFECT DOOR FOR EVERY RESIDENTIAL INSTALLATION BY OFFERING A COMPLETE LINE OF STANDARD PLAIN PANEL, CARVED PANEL AND FLUSH SECTION DOORS.

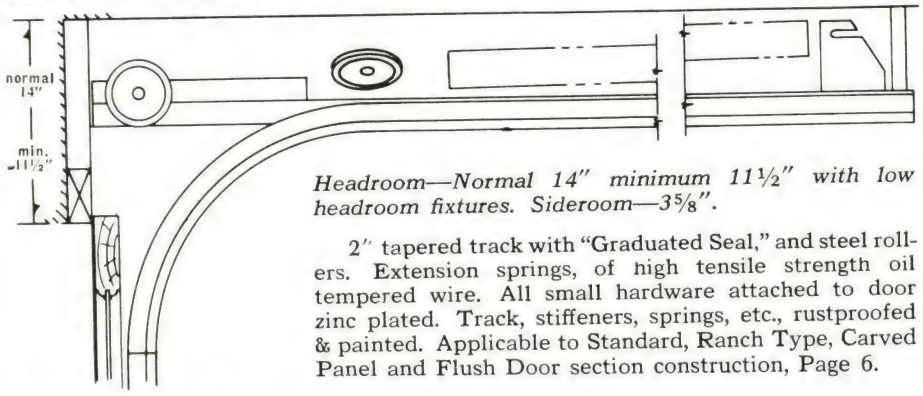
An outstanding example of Raynor Manufacturing Company's aggressiveness in the designing and building of Wood Sectional Overhead Door Equipment is the Raynor Carved Panel Door.

In originating this beauty of all doors, Raynor established a trend for the entire Wood Sectional Overhead Door Industry.

Advanced thinking and leadership, as displayed by the builders of Raynor Wood Sectional Overhead Doors, is further assurance you are installing the finest when it is a Raynor Standard Plain Panel, Carved Panel or Flush Section Door.

Two Car Residential • Hardware

MODEL R-120 Extension Spring

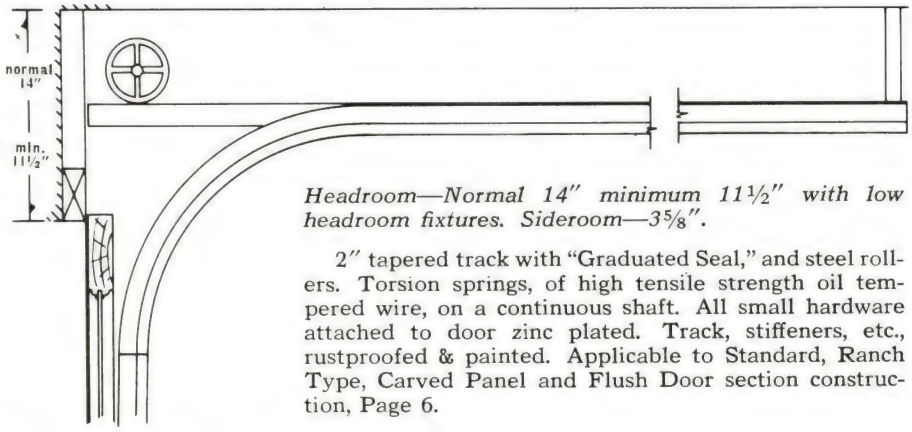


Headroom—Normal 14" minimum 11½" with low headroom fixtures. Sideroom—3⅝".

2" tapered track with "Graduated Seal," and steel rollers. Extension springs, of high tensile strength oil tempered wire. All small hardware attached to door zinc plated. Track, stiffeners, springs, etc., rustproofed & painted. Applicable to Standard, Ranch Type, Carved Panel and Flush Door section construction, Page 6.



MODEL T-12 Torsion Spring

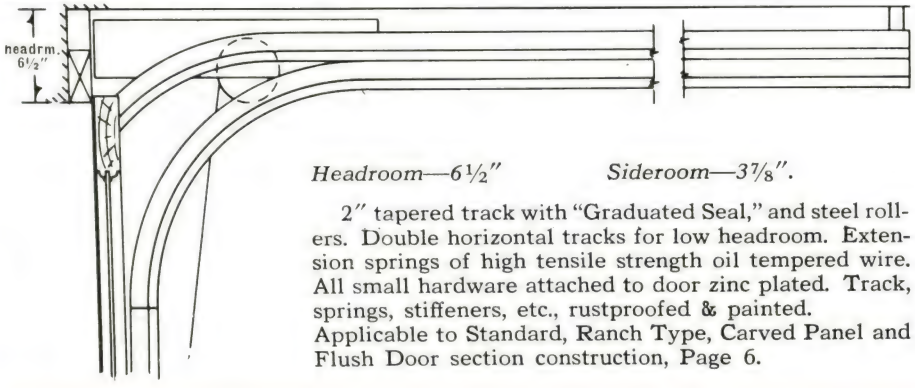


Headroom—Normal 14" minimum 11½" with low headroom fixtures. Sideroom—3⅝".

2" tapered track with "Graduated Seal," and steel rollers. Torsion springs, of high tensile strength oil tempered wire, on a continuous shaft. All small hardware attached to door zinc plated. Track, stiffeners, etc., rustproofed & painted. Applicable to Standard, Ranch Type, Carved Panel and Flush Door section construction, Page 6.



MODEL RL-65 Low Headroom



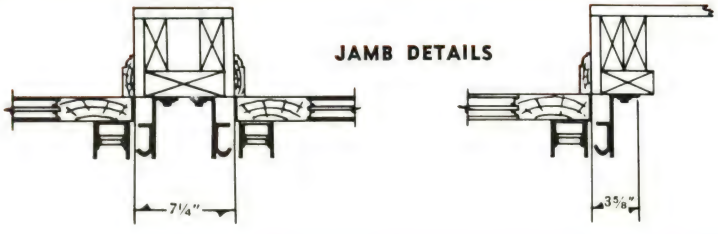
Headroom—6½" *Sideroom—3⅞".*

2" tapered track with "Graduated Seal," and steel rollers. Double horizontal tracks for low headroom. Extension springs of high tensile strength oil tempered wire. All small hardware attached to door zinc plated. Track, springs, stiffeners, etc., rustproofed & painted. Applicable to Standard, Ranch Type, Carved Panel and Flush Door section construction, Page 6.



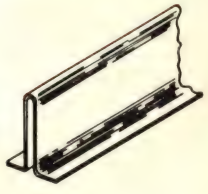


JAMB DETAILS

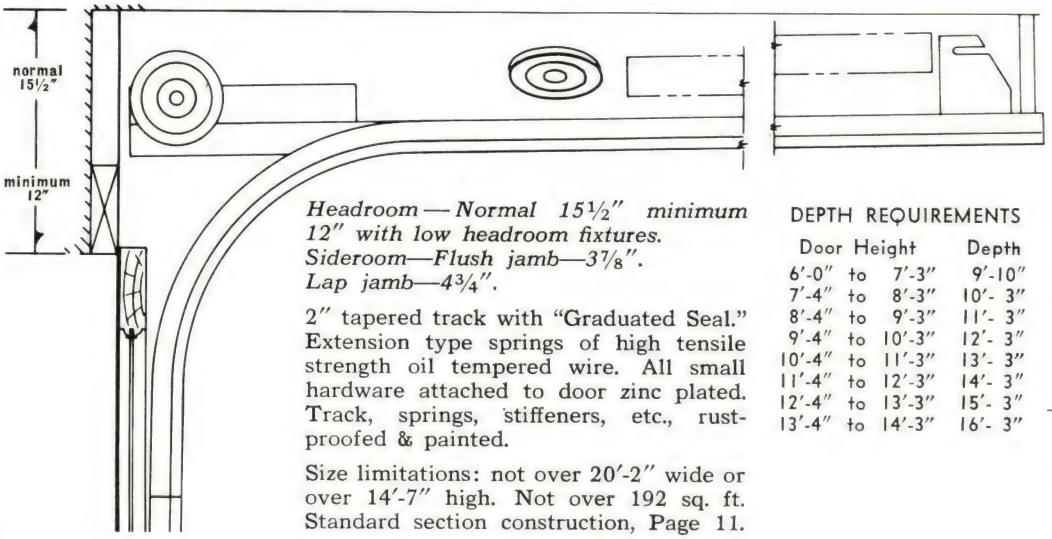


U-BAR STIFFENER

All two car doors are reinforced with 2⅝" deep U-bar. Doors over 16'-0" wide are equipped with special truss to prevent vertical sag.



MODEL 120 — Extension Spring



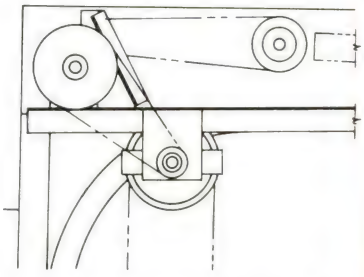
Headroom — Normal 15½" minimum 12" with low headroom fixtures.
Sideroom—Flush jamb—3⅞".
Lap jamb—4¾".

2" tapered track with "Graduated Seal." Extension type springs of high tensile strength oil tempered wire. All small hardware attached to door zinc plated. Track, springs, stiffeners, etc., rustproofed & painted.

Size limitations: not over 20'-2" wide or over 14'-7" high. Not over 192 sq. ft. Standard section construction, Page 11.

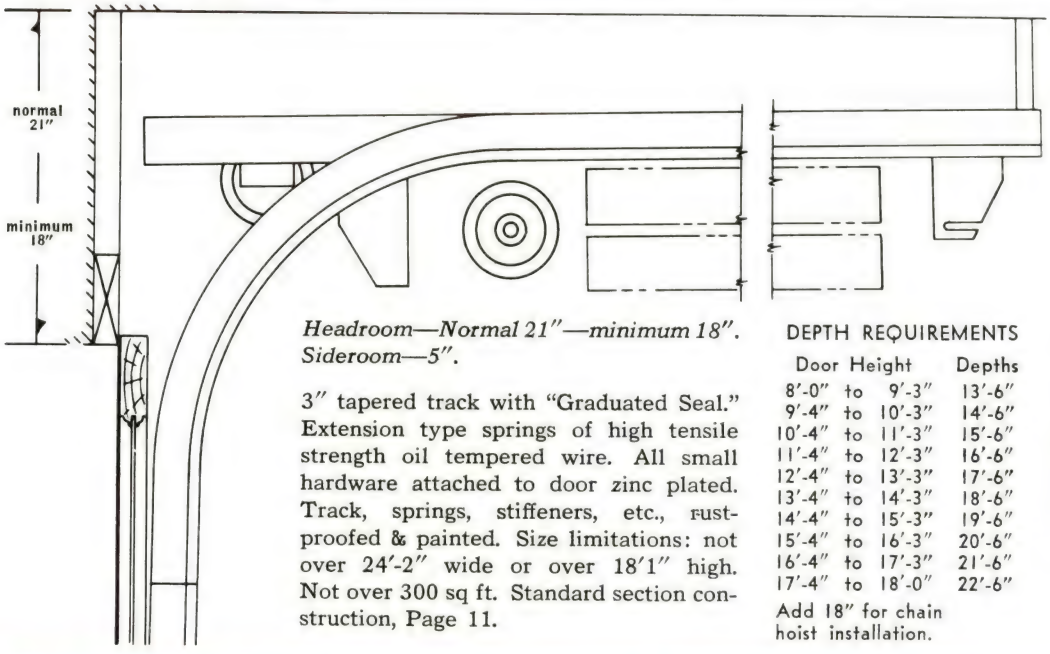
DEPTH REQUIREMENTS

Door Height			Depth
6'-0"	to	7'-3"	9'-10"
7'-4"	to	8'-3"	10'- 3"
8'-4"	to	9'-3"	11'- 3"
9'-4"	to	10'-3"	12'- 3"
10'-4"	to	11'-3"	13'- 3"
11'-4"	to	12'-3"	14'- 3"
12'-4"	to	13'-3"	15'- 3"
13'-4"	to	14'-3"	16'- 3"



CHAIN HOIST TYPE "A"
Reduction Ratio, 3:1

MODEL 210 — 3" Track Extension Spring



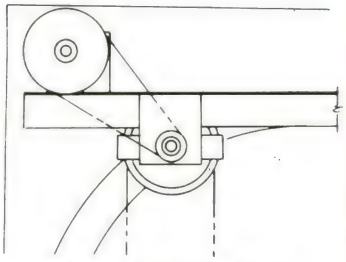
Headroom—Normal 21"—minimum 18".
Sideroom—5".

3" tapered track with "Graduated Seal." Extension type springs of high tensile strength oil tempered wire. All small hardware attached to door zinc plated. Track, springs, stiffeners, etc., rustproofed & painted. Size limitations: not over 24'-2" wide or over 18'1" high. Not over 300 sq ft. Standard section construction, Page 11.

DEPTH REQUIREMENTS

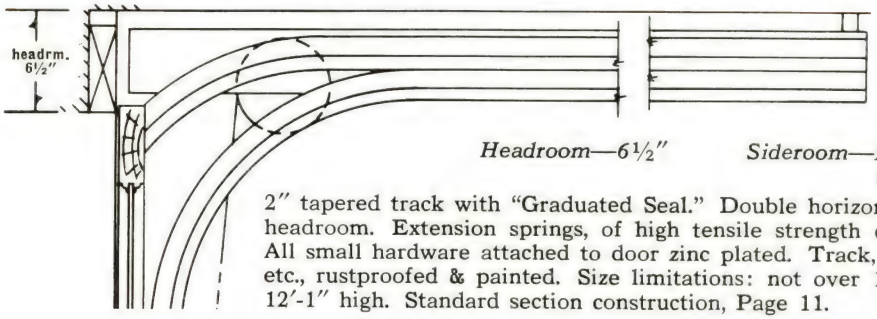
Door Height			Depths
8'-0"	to	9'-3"	13'-6"
9'-4"	to	10'-3"	14'-6"
10'-4"	to	11'-3"	15'-6"
11'-4"	to	12'-3"	16'-6"
12'-4"	to	13'-3"	17'-6"
13'-4"	to	14'-3"	18'-6"
14'-4"	to	15'-3"	19'-6"
15'-4"	to	16'-3"	20'-6"
16'-4"	to	17'-3"	21'-6"
17'-4"	to	18'-0"	22'-6"

Add 18" for chain hoist installation.



CHAIN HOIST TYPE "B"
Reduction Ratio, 3:1

MODEL L-65 — Low Headroom



Headroom—6½" *Sideroom—Flush jamb—3⅞".*
Lap jamb 4¾".

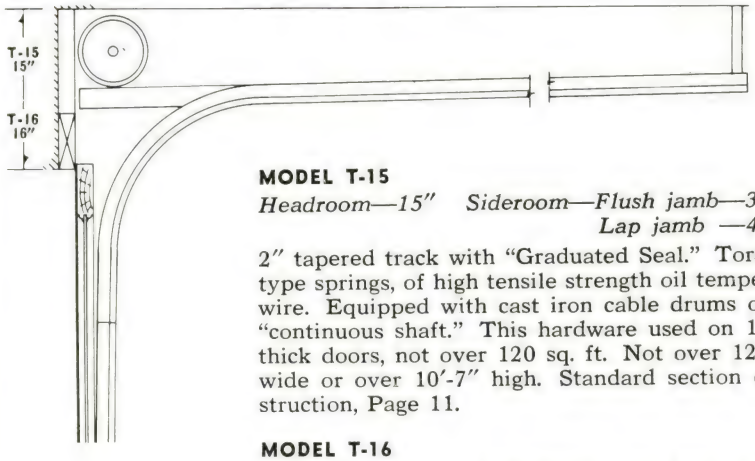
2" tapered track with "Graduated Seal." Double horizontal tracks for low headroom. Extension springs, of high tensile strength oil tempered wire. All small hardware attached to door zinc plated. Track, springs, stiffeners, etc., rustproofed & painted. Size limitations: not over 144 sq. ft. or over 12'-1" high. Standard section construction, Page 11.

DEPTH REQUIREMENTS

Door Height			Depths
6'- 0"	to	7'-9"	10'-3"
7'-10"	to	9'-3"	11'-3"
9'- 4"	to	10'-3"	12'-3"
10'- 4"	to	11'-3"	13'-3"
11'- 4"	to	12'-0"	14'-3"

Commercial & Industrial • Hardware

MODEL T-15 & T-16 — Torsion Spring—Regular Lift



MODEL T-15

Headroom—15" *Sideroom—Flush jamb—3⅝"*
Lap jamb —4½"

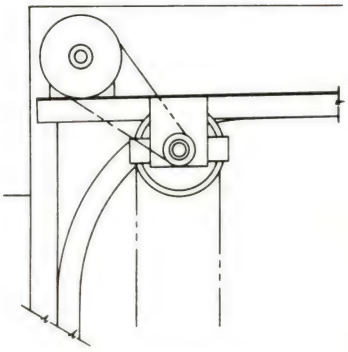
2" tapered track with "Graduated Seal." Torsion type springs, of high tensile strength oil tempered wire. Equipped with cast iron cable drums on a "continuous shaft." This hardware used on 1¾" thick doors, not over 120 sq. ft. Not over 12'-2" wide or over 10'-7" high. Standard section construction, Page 11.

MODEL T-16

Headroom—16" *Sideroom—Flush jamb—3⅝"*
Lap jamb —4½"

2" tapered track with "Graduated Seal." Torsion type springs, of high tensile strength oil tempered wire. Equipped with cast iron cable drums on a "continuous shaft." This hardware used on doors not over 240 sq. ft. not over 20'-2" wide or over 16'-1" high. Standard section construction, Page 11.

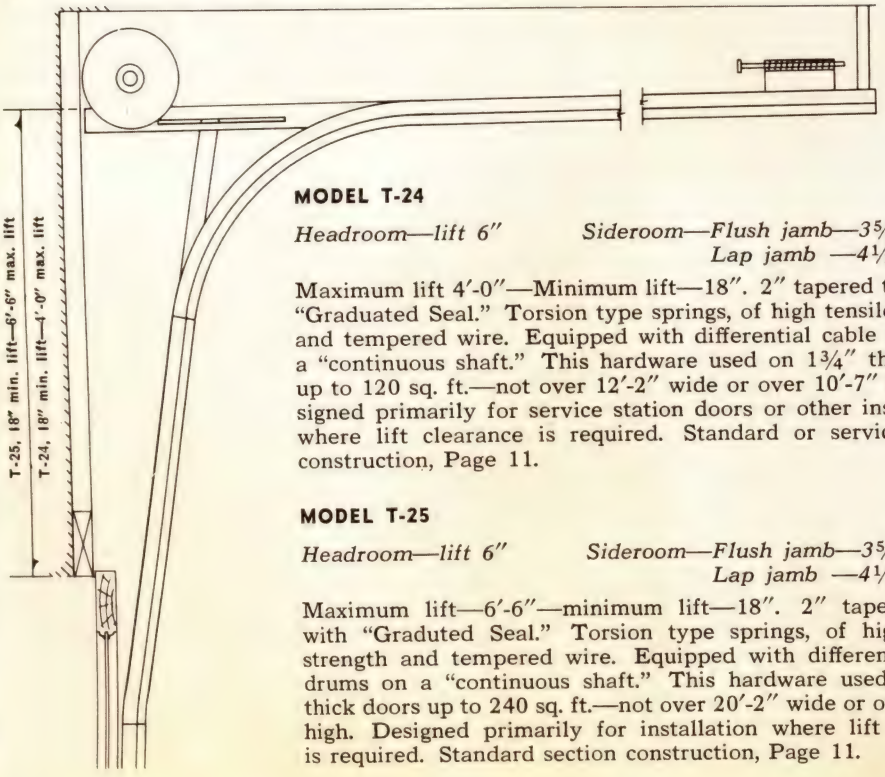
CHAIN HOIST TYPE "C"
Reduction Ratio, 3:1



DEPTH REQUIREMENTS

Door Height			Depth
6'-0"	to	7'-3"	9'-10"
7'-4"	to	8'-3"	10'- 3"
8'-4"	to	9'-3"	11'- 3"
9'-4"	to	10'-3"	12'- 3"
10'-4"	to	11'-3"	13'- 3"
11'-4"	to	12'-3"	14'- 3"
12'-4"	to	13'-3"	15'- 3"
13'4"	to	14'-3"	16'- 3"
14'-4"	to	15'-3"	17'- 3"
15'-4"	to	16'-0"	18'- 3"

MODEL T-24 & T-25 — Torsion Spring—Hy-Lift



MODEL T-24

Headroom—lift 6" *Sideroom—Flush jamb—3⅝"*
Lap jamb —4½"

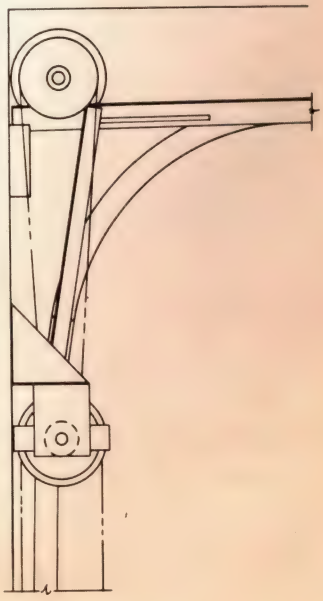
Maximum lift 4'-0"—Minimum lift—18". 2" tapered track with "Graduated Seal." Torsion type springs, of high tensile strength and tempered wire. Equipped with differential cable drums on a "continuous shaft." This hardware used on 1¾" thick doors up to 120 sq. ft.—not over 12'-2" wide or over 10'-7" high. Designed primarily for service station doors or other installations where lift clearance is required. Standard or service station construction, Page 11.

MODEL T-25

Headroom—lift 6" *Sideroom—Flush jamb—3⅝"*
Lap jamb —4½"

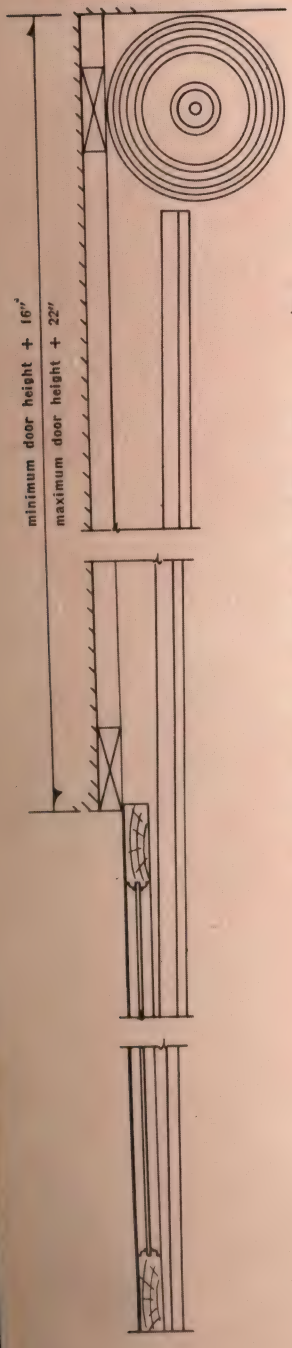
Maximum lift—6'-6"—minimum lift—18". 2" tapered track with "Graduted Seal." Torsion type springs, of high tensile strength and tempered wire. Equipped with differential cable drums on a "continuous shaft." This hardware used on 1¾" thick doors up to 240 sq. ft.—not over 20'-2" wide or over 16'-1" high. Designed primarily for installation where lift clearance is required. Standard section construction, Page 11.

CHAIN HOIST TYPE "D"
Reduction Ratio, 3:1



FOR FRAMING & JAMB DETAILS SEE PAGE 12

MODEL VL-22 Vertical Lift



Headroom—
Normal—Door Height 22″
Minimum—
Door Height 16″
Sideroom—4½″

2″ tapered track with "Graduated Seal." Torsion springs of high tensile strength oil tempered wire. All small hardware attached to door zinc plated. Track, stiffeners, etc., rustproofed & painted.

Designed for installation where the door is required to be raised in a vertical position. Size limitations: not over 150 sq. ft. or over 12′-1″ high. Standard section construction, Page 11.

For Framing & Jamb Details See Page 12

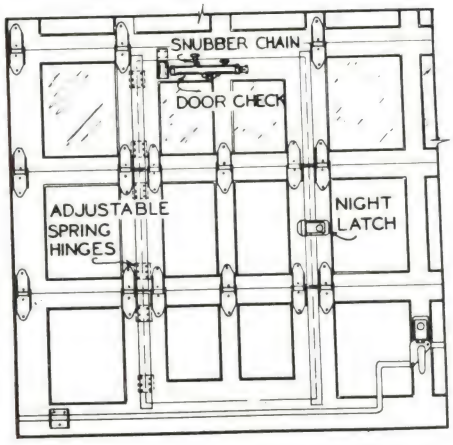
QUICK RELEASE CLUTCH

(for chain hoist—electric operator combination)

Applicable to all types of chain hoists when used in conjunction with electric operators. The mechanism engages the hand chain wheel to the Jackshaft, allowing manual operation in the event of power or operator failure.

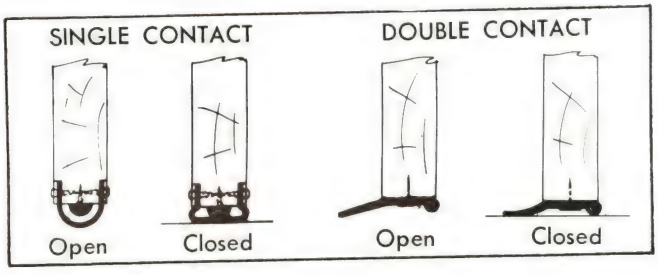
RAYNOR ACCESSORIES

PASS DOORS



Pass doors can be furnished in doors up to 18′ wide with wood bottom rails. Doors 14′ to 18′ wide are equipped with center support track. Pass doors can be furnished in doors up to 16′ wide with steel bottom rail. Doors 12′ to 16′ wide are equipped with center support track.

ASTRAGAL



Rubber astragal is available to seal the bottom of the door against rain and snow. Astragal cushions the closing of the door and forms itself to fit any unevenness in the floor. Astragal is necessary on all flush doors. Two types are available as illustrated.

CENTER SUPPORT TRACK (FOR MODELS 210, 120, T-16)

Headroom—None additional
Sideroom—8″

The center Support Track is designed to eliminate horizontal sag in the door while in an open position. The weight of the door is evenly distributed on the center track by center rollers attached to each section. The support track is required on all doors over 20′ wide and over 14′ wide with a pass door (12′ wide with steel bottom rail).

Commercial & Industrial • Section Construction

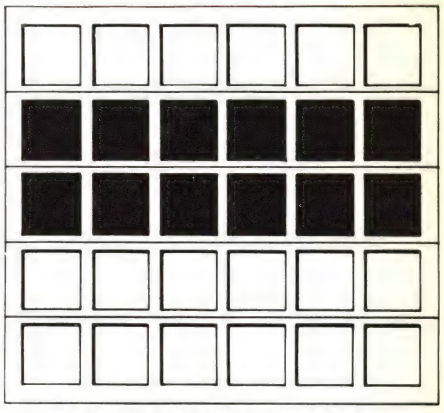
STANDARD

Section Construction

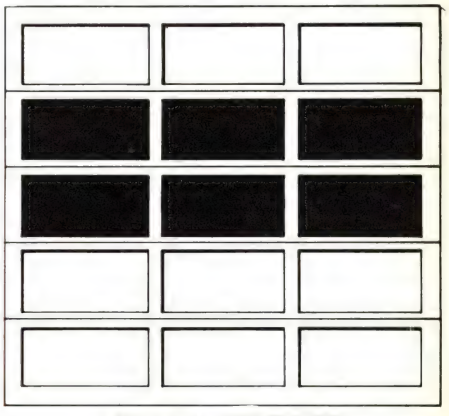
Stiles & Rails are of 1¾″ Douglas fir, Sitka spruce, or equal. Blind mortised & tenoned, steel dowelled & waterproof glued. Panels are of ¼″ exterior grade 3 ply fir plywood. All sections are sanded both sides, ready for paint. Stop moulding and glass moulding furnished. Any or all sections may be left open for glass. Doors over 12′-6″ wide are reinforced with extra deep U-bar stiffeners. Doors 18′-0″ wide & over require special rigid truss on bottom section. Doors 20′-0″ wide & over, (14′-0″ wide with pass door) require center support track. Pass doors can be furnished in doors up to 18′-2″ wide with wood bottom rails, up to 16′-2″ wide with steel bottom rails.

Panel & Section Schedule

Door Height	No. of Sections	Panel Schedule	No. of Reg. Panels	No. of Wide Panels
Up to 8′-6″ High	4	Up to 10′-6″ Wide	6	3
8′-7″ to 10′-6″ High	5	10′-7″ to 12′-6″ Wide	8	4
10′-7″ to 12′-6″ High	6	12′-7″ to 14′-6″ Wide	10	4
12′-7″ to 14′-6″ High	7	14′-7″ to 16′-6″ Wide	12	6
14′-7″ to 16′-6″ High	8	16′-7″ to 18′-6″ Wide	14	6
16′-7″ to 18′-6″ High	9	18′-7″ to 20′-6″ Wide	16	8

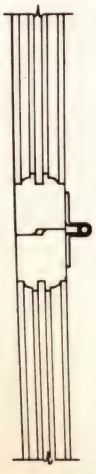


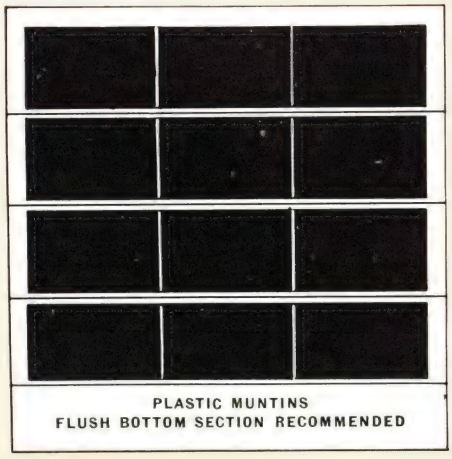
REGULAR PANEL CONSTRUCTION



WIDE PANEL CONSTRUCTION

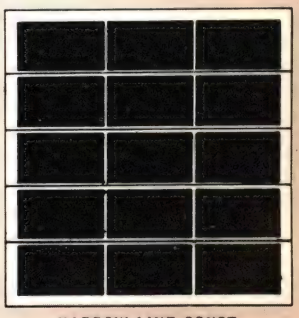
SERVICE STATION



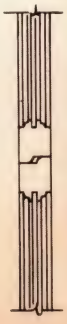


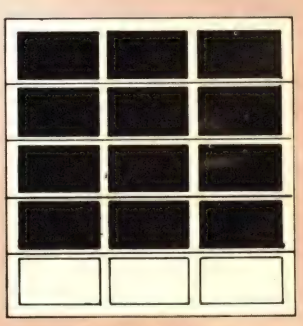
PLASTIC MUNTINS
FLUSH BOTTOM SECTION RECOMMENDED





NARROW-LINE CONST.
1″ WOOD MUNTINS

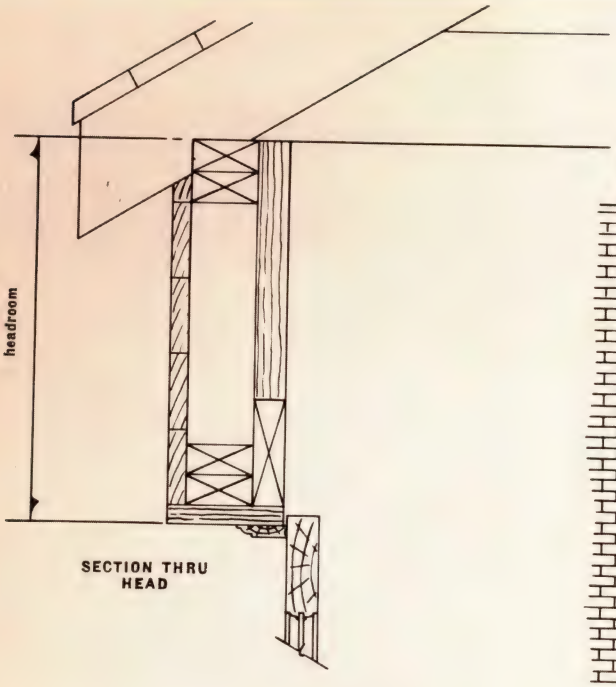


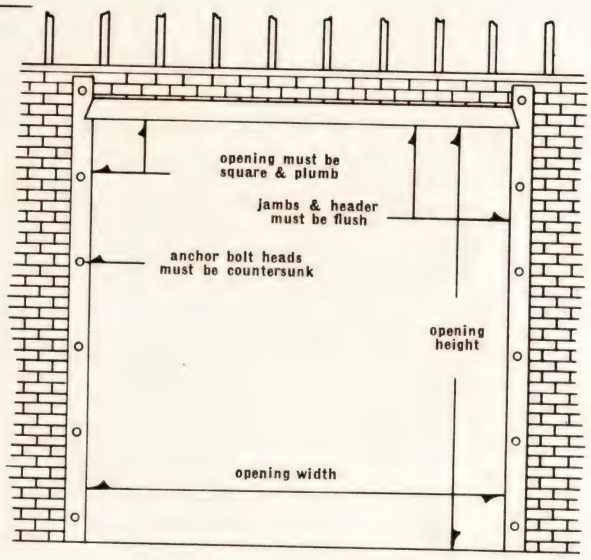


STANDARD SERVICE
STATION CONSTRUCTION

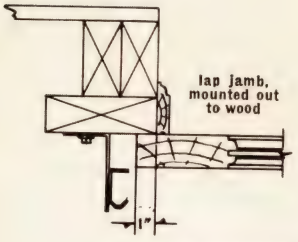
Stiles & rails are of 1¾″ Douglas fir, Sitka spruce or equal. Blind mortised & tenoned, steel dowelled & waterproof glued. Panels are ¼″ exterior grade 3 ply fir plywood. Rails on doors with Plastic muntins are reinforced with continuous hinges. Limited to sizes not over 10′-8″ wide or over 12′-1″ high. Rails on doors with 1″ wood muntins reinforced with 3/16″ x 1″ steel bars. Limited to sizes not over 10′-8″ wide or over 12′-1″ high. Service Station doors also available in regular and wide panel construction. Limited to sizes not over 20′-2″ wide or over 13′-1″ high, not over 168 sq. ft.

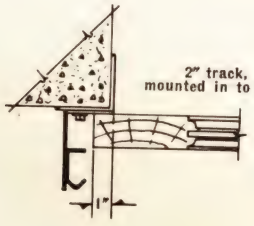
Framing & Jamb Details

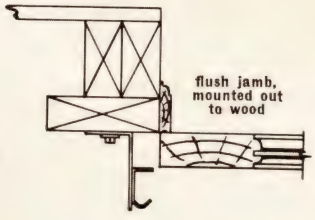




FRAMING DETAIL









REPRESENTATIVES *Located:*

Alabama
Birmingham
Mobile
Montgomery

Arkansas
Jonesboro

Colorado
Denver
Grand Junction

Connecticut
Bridgeport
Torrington
Hartford
New Britain
New Haven
Waterbury

Delaware
Wilmington

District of Columbia
Washington

Florida
Ormond Beach

Idaho
Boise

Illinois
Aurora
Belleville
Bloomington
Chicago
Decatur
Dixon
East St. Louis
Elgin
Evanston
Freeport
Galesburg
Joliet
Kankakee
Moline
Peoria
Quincy
Rockford
Rock Island
Skokie
Springfield
Waukegan

Indiana
Bedford
Bloomington
East Chicago
Fort Wayne
Gary
Hammond
Indianapolis
Logansport
Mitchell
New Albany
South Bend
Whiting

Iowa
Cedar Rapids
Davenport
Des Moines
Mason City
Sioux City

Kansas
Kansas City
Topeka
Wichita

Kentucky
Lexington
Louisville

Maine
Portland

Maryland
Baltimore

Massachusetts
Boston
Brockton
(Avon)
East Hampton
Worcester

Michigan
Battle Creek
Detroit
Flint
Grand Rapids
Jackson
Kalamazoo
Monroe
Saginaw

Missouri
Joplin
Kansas City
Springfield
St. Joseph
St. Louis

Nebraska
Lincoln
Omaha

New Jersey
Atlantic City
Bridgeton
Camden
Elberon
Hammonton
Jersey City
Newark
Passaic
Paterson
Elizabeth
Trenton
Vineland

New Mexico
Albuquerque

New York
Albany
Binghamton
Buffalo
Cortland
New York City-Mineola, L.I.
Rochester
Schenectady
Syracuse
Utica

North Carolina
Asheville
Chapel Hill
Winston-Salem

North Dakota
Bismarck
Fargo

Ohio
Akron
Canton
Cincinnati
Cleveland
Columbus
Dayton
Toledo
Youngstown

Oklahoma
Oklahoma City
Tulsa

Pennsylvania
Allentown
Erie
Harrisburg
Philadelphia
Pittsburgh
Scranton
York

South Carolina
Columbia

South Dakota
Sioux Falls

Tennessee
Knoxville
Memphis
Nashville

Texas
Amarillo
Dallas
Fort Worth

Utah
Salt Lake City

Virginia
Richmond
Roanoke

West Virginia
Charleston
Huntington

Wisconsin
Green Bay
Madison
Milwaukee
Oshkosh
Plattville
Whitewater

Wyoming
Casper

RAYNOR MANUFACTURING COMPANY
Dixon, Illinois **Hammonton, New Jersey**

Form 6000, Copyright, 1954—Raynor Manufacturing Co., Printed U.S.A.

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REYNOLDS ALUMINUM

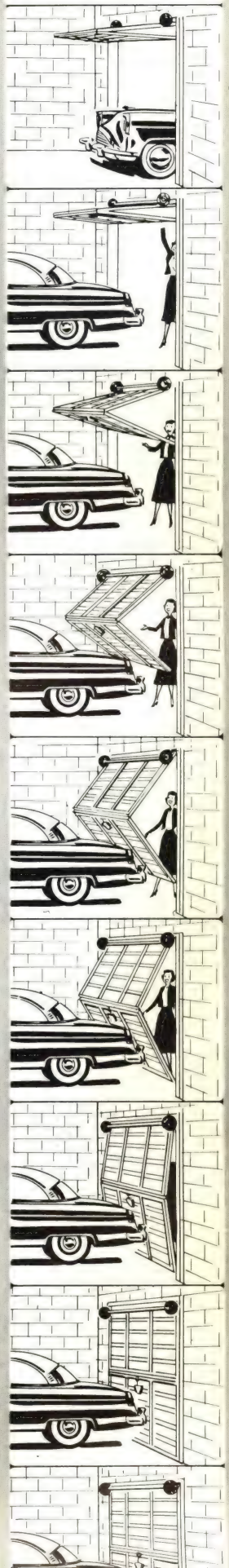
SELF LIFTING **GARAGE DOORS**

REYNOLDS ALUMINUM SELF LI



TING GARAGE DOORS

Featuring
THE DOOR THAT OPENS AND CLOSES EASILY



EVERYTHING YOU WANT IN A GARAGE DOOR

Here's the newest idea in garage doors . . . a simple two-panel door of leather-grain embossed aluminum that lifts itself and folds compactly overhead in only six inches of head room. It's a beautifully modern door for either new construction or replacement.

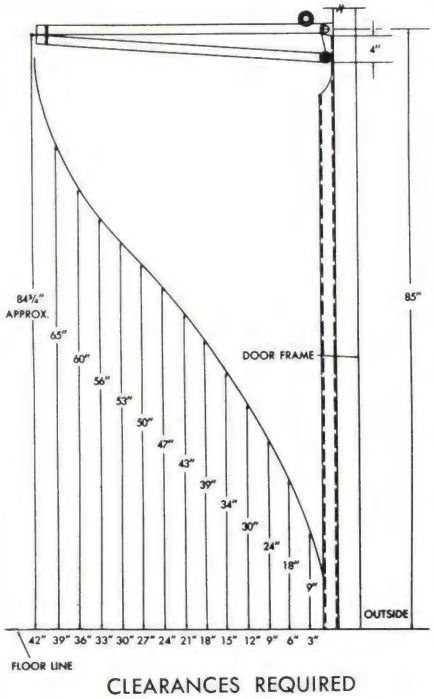
The Reynolds Aluminum Self Lifting Garage Door has been field tested by Reynolds engineers. It is one of the simplest and most practical garage doors you will find on the market today.

It's a quality door through and through. The door frame is fabricated from sturdy aluminum extrusions welded for additional strength and is covered with leather-grain embossed aluminum sheets. The lock is a precision made product and is mounted in a recessed cast aluminum housing. Resilient weatherstripping seals sides and bottom of the door. Rollers are permanently lubricated, need no oiling. Pivot shafts, rollers and operating cables are stainless steel.

Careful and simplified design together with low installation cost have resulted in an economical, beautiful and trouble-free garage door that anyone can afford.

NEW SELF LIFTING OPERATION . . . saves space . . . saves effort

Note how the simple hinge action of the Reynolds Aluminum Self Lifting Garage Door operates without cumbersome overhead tracks as it lifts up and into the garage. As for lifting effort . . . it just doesn't require any. Simply unlatch, push and it lifts itself. Special spiral cable drum and torsion spring combine to assure lasting "self lifting action".



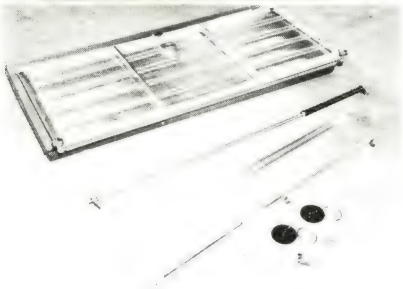
CLEARANCES REQUIRED FOR DOOR TO OPEN

LASTING BEAUTY—nothing to rust or rot

Since there is nothing to rust, warp, swell or rot, the Reynolds Aluminum Self Lifting Garage Door assures years of trouble-free service. It does not require paint for weather protection; but if desired, it can be painted after a first coat of inexpensive metal primer.

REYNOLDS ALUMINUM
SELF LIFTING
GARAGE DOORS



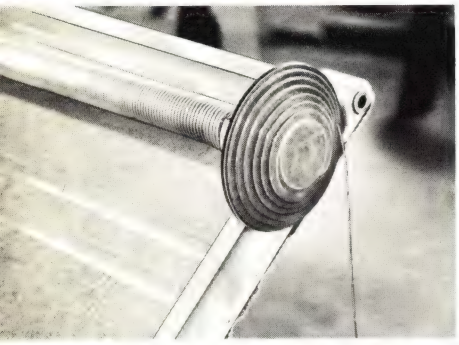


SIMPLIFIED INSTALLATION SAVES TIME AND MONEY

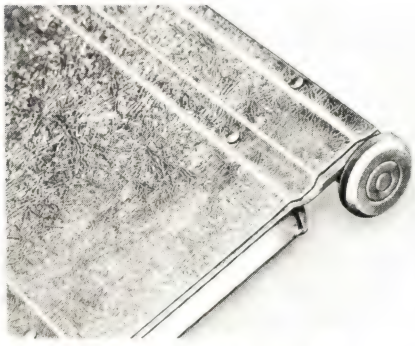
Your Reynolds Aluminum Self Lifting Garage Door arrives on the job ready for immediate installation. It is assembled and packed complete in one compact 3¾″ x 47″ x 98″ (or 110″) carton weighing less than one hundred pounds. Easy to follow installation instructions included with every door make it possible for the home owner or builder to install quickly and easily. The door can be completely installed in an hour or less using ordinary hand tools.

STANDARD SIZES: 8′ wide x 7′ high and 9′ wide x 7′ high.

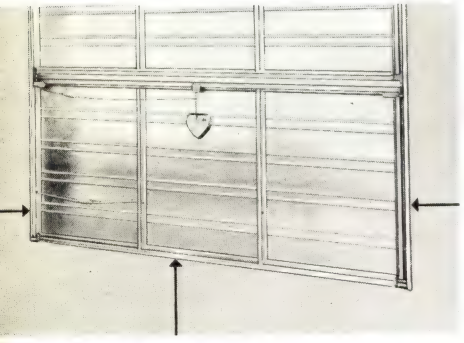
CHECK THESE FEATURES



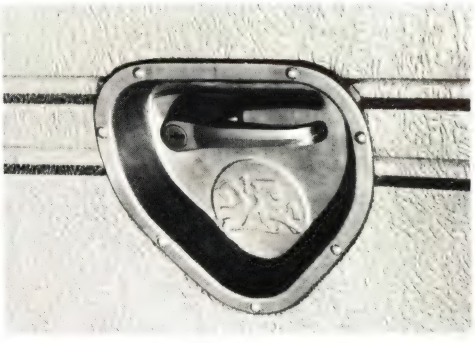
PRECISION SPIRAL CABLE DRUM with aircraft type stainless steel cable equalizes torsion throughout the opening and closing cycle, gives "self lifting" action.



OIL IMPREGNATED ROLLERS are rustproof and permanently lubricated. Smooth, trouble-free operation is assured with the Reynolds Aluminum Self Lifting Garage Door.



WEATHERSTRIPPING along the sides and bottom provides weather-tight fit. Side weatherstripping cushions closing action; bottom weatherstripping helps compensate for irregular driveway surfaces.



RECESSED LOCK operates latches which are adjustable for secure locking. Door can be unlocked and opened from inside the garage at either the left or right side of the door without using key.

SUGGESTED ARCHITECT SPECIFICATIONS

This specification is submitted as a guide in the selection and installation of overhead type doors suitable for use on garages, warehouses, etc. Modifications which do not impair quality or workmanship may be made at the discretion of the architect after consultation with and approval of Reynolds Metals Company.

WORK NOT INCLUDED BUT ESSENTIAL TO INSTALLATION All door openings shall be the size indicated on plans and shall have the header level and the jambs plumb.

WORK INCLUDED Furnish and install aluminum doors complete with accessories as supplied by Reynolds Metals Company. Furnish and apply aluminum pigmented asphalt paint to all masonry and dissimilar metal surfaces coming in contact with the aluminum door or accessories.

MATERIAL Door and accessories shall be fabricated from structurally sound material of uniform quality and free from harmful defects. All aluminum material and parts fabricated therefrom shall meet the established specifications of Reynolds Metals Company as to alloy, temper, gauge, dimensions and workmanship.

GENERAL Handling, storage and installation of the door and accessories shall conform to the instructions supplied by Reynolds Metals Co.

THE MOST COMPLETE LINE OF ALUMINUM BUILDING PRODUCTS

CORRUGATED ROOFING AND SIDING • NAILS
RIBBED EMBOSSED SIDING • WEATHERBOARD SIDING
WINDOWS • 5-V AND 8-V CRIMP ROOFING AND SIDING
GUTTERS AND DOWNSPOUTS • FLASHING
INDUSTRIAL CORRUGATED • REFLECTIVE INSULATION
GARAGE DOORS • COMPLETE ROOFING
AND SIDING ACCESSORIES

REYNOLDS METALS COMPANY

(Contact your nearest Building Products Sales Office listed below or write direct to Building Products Division, 2000 So. Ninth Street, Louisville 1, Kentucky.)

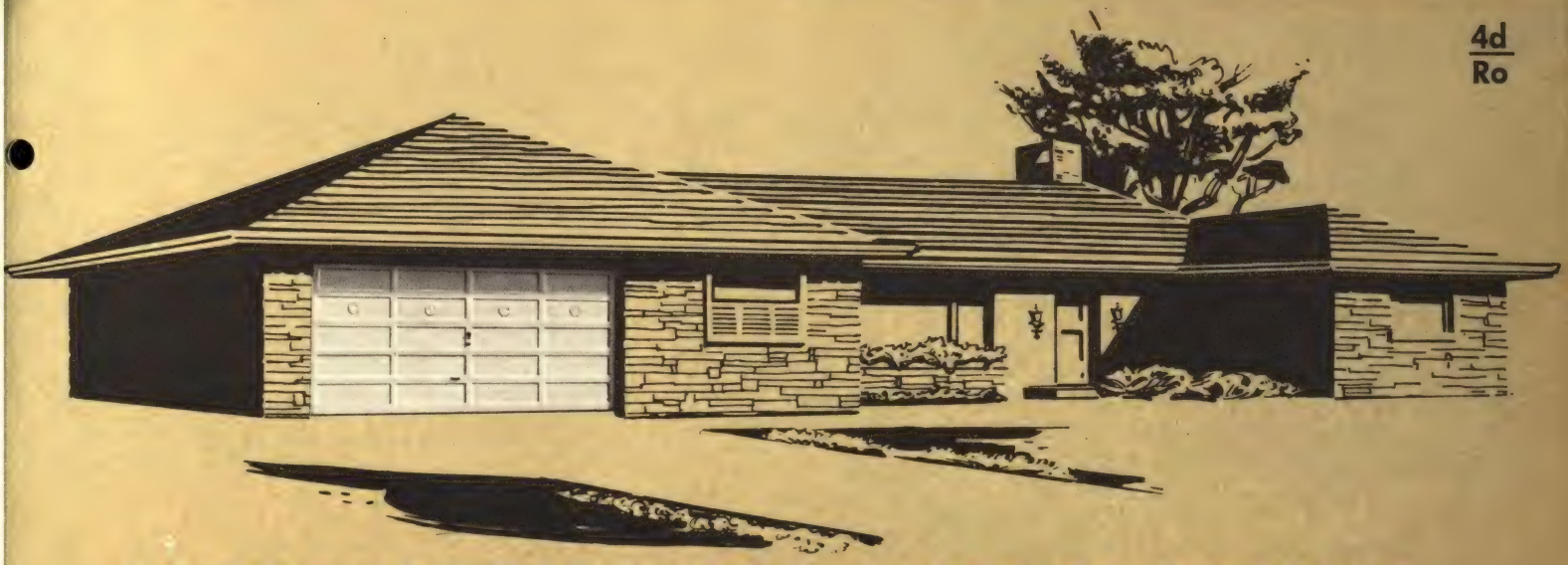
SALES OFFICES

Atlanta, Baltimore, Birmingham, Boston, Charlotte, Chicago, Cincinnati, Cleveland, Columbus, Dallas, Denver, Des Moines, Detroit, Grand Rapids, Houston, Indianapolis, Kansas City, Los Angeles, Louisville, Memphis, Milwaukee, Minneapolis, New Orleans, New York, Phoenix, Pittsburgh, Portland, Richmond, Salt Lake City, San Francisco, Seattle, St. Louis, Tampa.

BP-441-C-9/54

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DESIGNED TO PLEASE • BUILT TO SATISFY

RŌ-WAY



RESIDENTIAL GARAGE DOORS

Overhead Type



ROWE MANUFACTURING COMPANY • GALESBURG, ILLINOIS



GOOD LOOKS

EASY OPERATION

LONG LIFE

Take sound design, careful engineering, top quality materials, superb construction . . . and you have the reasons why Ro-Way is America's most wanted door for residential garages.

From every standpoint, Ro-Way doors are *designed to please.* Their clean, uncluttered lines blend with and enhance any style of architecture. Their outstanding features assure smooth, quiet, easy-up, easy-down operation. And every Ro-Way door is built to last—*built to satisfy*—with fine construction details and proud workmanship throughout.

So look to Ro-Way for the finest in residential garage doors.

Features Every Home Owner Wants

COMPLETE LINE. Models and sizes to fit every residential garage requirement, in a wide range of attractive styles.

TAPER-TITE TRACK. For complete, positive protection against the weather. Patented design prevents rollers from rubbing against track sidewalls—reduces friction and noise. See details at right.

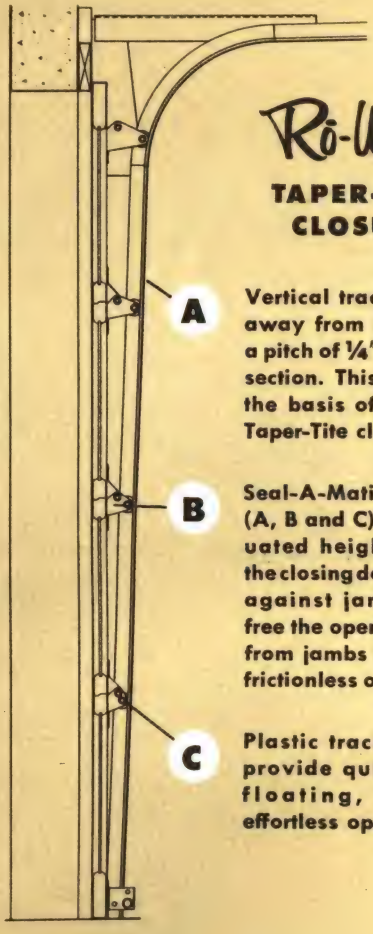
SEAL-A-MATIC HINGES. Graduated to provide perfect opening and closing control.

POWER-METERED SPRINGS. Individually matched to the weight of each door for precise balance. Extension springs mounted below horizontal tracks for easy installation and adjustment. Torsion springs mounted above header, partially concealed.

QUIET, SMOOTH-RUNNING PLASTIC ROLLERS. Standard equipment on 1-car doors. Provide easy, responsive operation. Long-lasting—tests equal to 25 years service show no measurable wear. Steel rollers are standard equipment on 2-car doors—plastic rollers optional. Flexible, preformed cables operate over ball bearing sheave wheels.

DOUBLY-PROTECTED HARDWARE. All Ro-Way hardware is heavy gauge steel, both Parkerized *and* painted—*after fabrication*—for double protection against rust. Even inside edges of holes are doubly protected this way.

QUALITY MILLWORK. Mortise and tenon joints not only glued but *steel* doweled as well. Muntins, rails and stiles are precision squared. Sections are rabbeted to assure weather-tight joints. Millwork is drum sanded for uniformity, with additional hand sanding for real smoothness of finish.



Ro-Way TAPER-TITE CLOSURE

A Vertical tracks taper away from jambs at a pitch of ¼" per door section. This taper is the basis of Ro-Way Taper-Tite closure.

B Seal-A-Matic hinges (A, B and C) of graduated height guide the closing door firmly against jambs, yet free the opening door from jambs for easy, frictionless operation.

C Plastic track rollers provide quiet, full-floating, almost effortless operation.

there's a Ro-Way for every Doorway





STANDARD 4-SECTION RO-WAY DOORS

Extension Springs

Most popular doors in the Ro-Way line, because they blend so well with so many different styles of residential architecture. Embodying all of the fine Ro-Way features described on the opposite page, these standard 4-section doors are available in a wide range of sizes for one and two-car garages.

EXTENSION SPRINGS have proved their dependability in years of up-and-down service. Providing stretch-lift power, Ro-Way tailor-made extension springs are "Power-Metered" to counterbalance the weight of the individual door. Mounted below the horizontal tracks for easy, convenient installation and tension adjustment. When tension is applied, coils separate quietly, without friction. See illustration at right.

THREE U-BAR STIFFENERS (top, middle and bottom) extend full width of all Ro-Way two-car doors 14′ or more in width, for extra strength and rigidity, and longer life.

FROM MILLWORK TO HARDWARE—EVERY INCH A RO-WAY

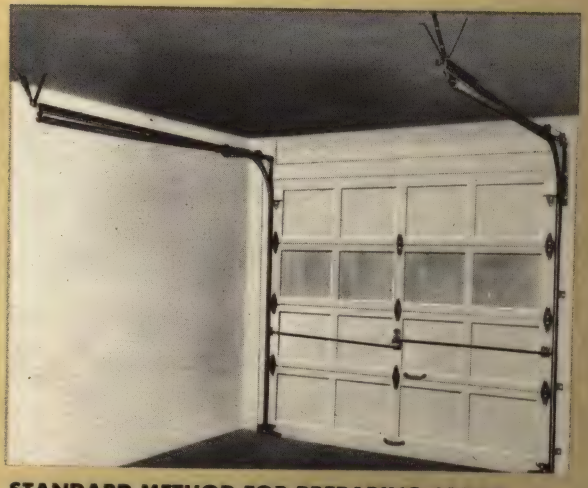
Every Ro-Way door is designed, engineered and completely fabricated in Rowe's own modern plant. Millwork is fashioned by skilled craftsmen using modern production machinery and methods. Hardware, too, is fabricated in our own plant—much of it on special machines designed and built by Rowe. When you specify Ro-Way, you know it's every inch a Ro-Way—not an assembly of parts from various sources.

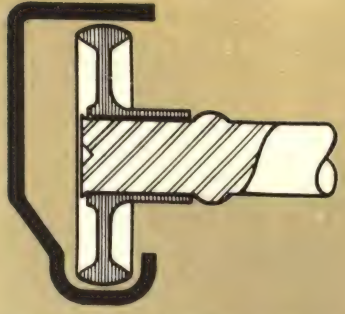
See Page 7 for sizes and specifications

Ro-Way Doors

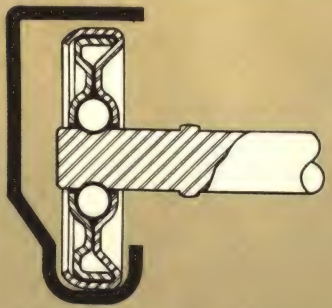
UNAFFECTED BY WEATHER

- **Can't be blown or banged open or shut.**
- **Operation unaffected by moisture-swollen jambs or millwork.**
- **Easy to close even if floor is raised by frost.**
- **No snow to shovel away—can't freeze shut.**
- **Inside surface never exposed to weather—entire door up and inside when open.**



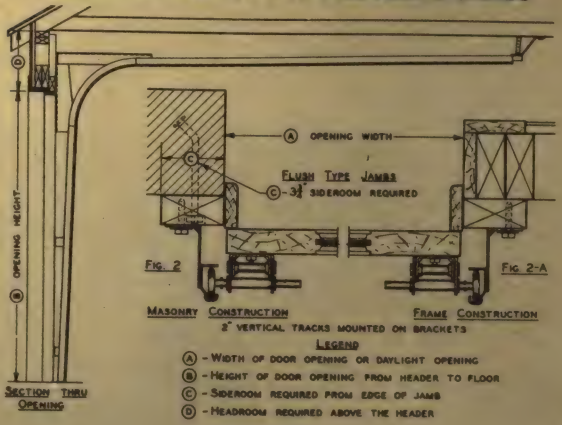


PLASTIC TRACK ROLLERS, **used on all 1-car doors, are exceptionally quiet and long-wearing. Optional equipment on 2-car doors.**



STEEL TRACK ROLLERS, **used on 2-car doors, are made with steel balls and double-thick treads for easy operation and long life.**

STANDARD METHOD FOR PREPARING JAMBS





THE HANDSOME RO-WAY

Classic

Designed especially for ranch style houses

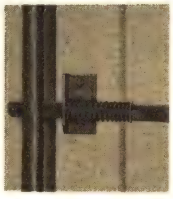
Over the years, the name RO-WAY on overhead type doors has meant advanced design, skilled engineering, fine quality, careful workmanship, top performance. And today's Ro-Way doors are the finest ever.

A good example of this is the increasingly popular Ro-Way *Classic*. Designed especially for ranch type houses, its simple, restrained lines blend harmoniously with this style of architecture. See how the clean-lined horizontal panels accentuate the long, low, ground-hugging lines of the house. Note the impression you get of added size. And see how the *Classic* complements the beauty of the home.

RO-WAY QUALITY THROUGHOUT. Ideal for any 1-floor plan house, the *Classic* is available in the 2-car, 4-panel wide style shown above, and in the 1-car, 2-panel wide style shown below. Both styles incorporate all of the fine Ro-Way features described on Page 2, including extension springs, Taper-Tite track, Seal-A-Matic hinges, and doubly protected hardware. Also available with torsion springs.

See Page 7 for Installation Data and Specifications

there's a Ro-Way for every Doorway



Lock bar enters a slot in each vertical track to lock door securely on both sides.



Lock assembly is built especially for Ro-Way doors. Key-operated from outside, and by thumb latch from inside.



Exterior view shows neat, compact arrangement of lock cylinder plate and lock handle.



Extra heavy, extra long corner bracket permanently joins end stile and bottom rail. Lifting cable is attached to extension of corner bracket—outside of vertical track—to permit convenient installation.

MORE Ro-Way FEATURES







RO-WAY Torsion Spring DOORS

FOR 1- AND 2-CAR GARAGES

Newest addition to the Ro-Way line of residential garage doors—designed especially for low-cost homes, project developments, new and modernized garages, both attached and detached. Quality doors in every respect, yet modestly priced to fit any budget. Feature for feature, dollar for dollar, these Ro-Way doors are outstanding values.

LOW HEADROOM! Big savings in space. Three models require only 6″ headroom—three models only 12⅛″.

TORSION SPRINGS! For smooth, quiet, easy operation. Partially concealed—mounted on full length revolving shaft. Power-Metered to the weight of the door. Single spring on 1-car doors; twin springs on 2-car doors.

PLASTIC ROLLERS! Quietest, longest-lasting rollers available. Tests equivalent to 25 years of service show no measurable wear. Standard equipment on all 1-car doors —optional on 2-car doors. Steel rollers are standard equipment on 2-car doors.

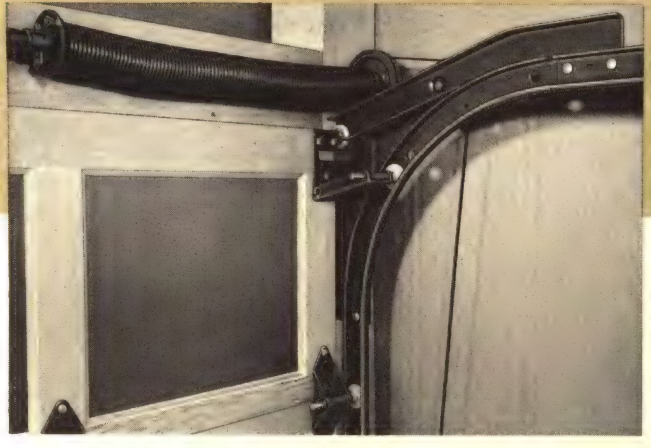
SMART STYLING! Designed to blend with most architectural designs. Models available in 1⅜″ and 1″ thickness. New streamlined contour on panel and glass mold.

QUALITY PANELS! ¼″ fir plywood on 1⅜″ thick doors; 3/16″ Dorlux (Masonite Presdwood) panels on 1″ thick doors.

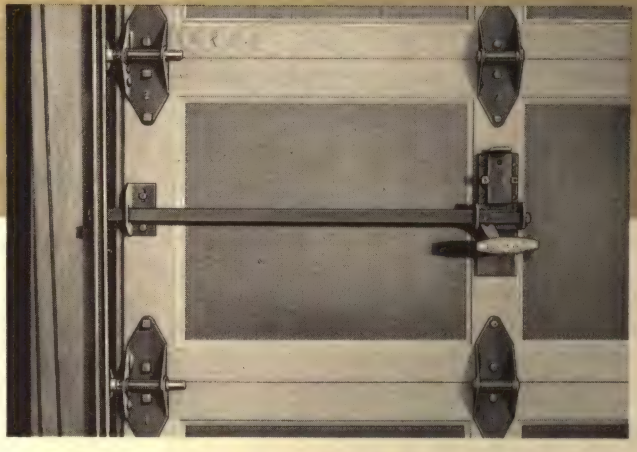
LOW-COST INSTALLATION! Simplicity of design speeds installation time. That cuts installation cost.

RO-WAY CRAFTSMANSHIP! Same fine workmanship as on all Ro-Way doors. Taper-Tite tracks and Seal-A-Matic hinges for weather-tight closure. All hardware Parkerized and painted for maximum rust resistance.

See Page 7 for Installation Data and Specifications



Torsion spring balanced to the weight of the door provides smooth, quiet, twist-lift power for easy operation. Exceptionally low headroom required. Note clean-lined rugged hardware, plastic rollers, quality details throughout.



Locking device may be positioned at either side. Lock bar fits slot in vertical track. Lock assembly, specially built for Ro-Way doors, is key-operated from outside, by thumb latch from inside. Rugged construction in every detail.

there's a Ro-Way for every Doorway

THE LOW HEADROOM

MODEL 21

Rō-WAY DOOR

Only 2½ inches of headroom required





The Secret's in the Patented TWO-WAY SWITCH

A simple two-way switch (photographs above), using a single horizontal track, permits smooth, easy operation of the door.

On closing, track rollers on the three lower sections follow the 15-inch radius curved track to vertical track. Trip-Set finger (A) trips switch trigger (B), closing switch. Top section roller (C) continues along horizontal track until door is sealed against header.

As door is raised, roller (D) opens switch (E), which is held open by trigger (B), permitting other rollers to pass.

Knife-Edge Switch Bearing

Switch will always be free from bearing trouble. Knife-edge bearing is open at the bottom—has no pivot to cause friction, needs no oiling, never becomes greasebound. Trigger (B) has no pivot, no place for dirt to collect. Works free and easy even in salt air areas. Switch and trigger will operate by gravity alone—but for fast, positive action a booster spring (F) has been added.

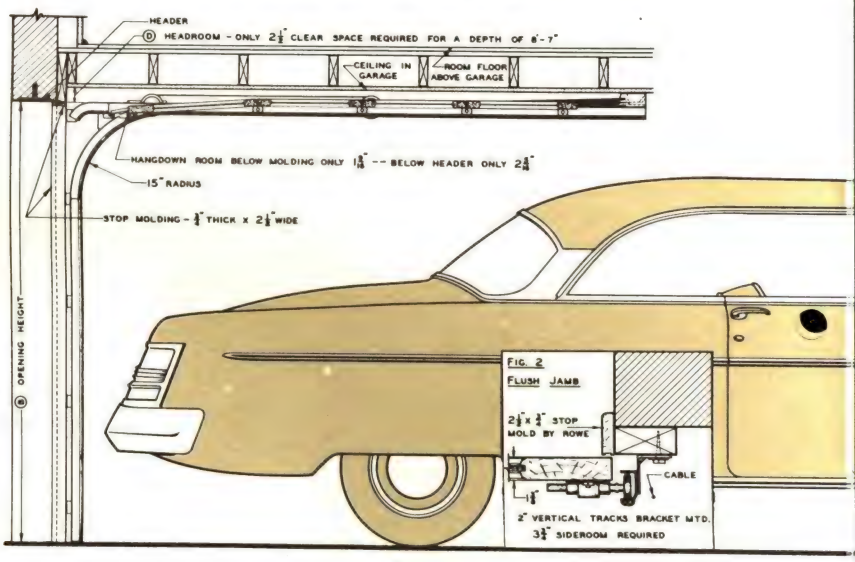
One of the most remarkable overhead type garage doors ever designed—and the only one requiring so little headroom. Actually requires 4 to 12 inches *less* headroom—which means 4 to 12 inches of sidewall can be saved all around on new construction. And *that* saving in materials and labor may be enough to pay for the door!

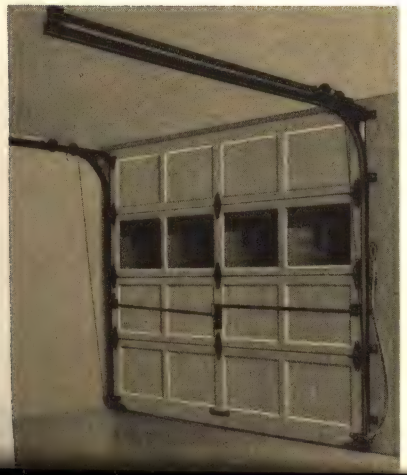
Top Section Tilts—for garage ventilation. May be tilted back 8 inches while door itself remains closed and locked. Permits gases and fumes to escape, lets hot air out, yet keeps garage safe.

Self-Sealing Top Section—when door is closed, top section is firmly sealed against header. Top track roller fits into curved end of horizontal track and securely holds section in place.

Ro-Way Quality Throughout—all the fine quality construction and performance features described on Page 2.

See Page 7 for Installation Data and Specifications





The Only Overhead Type Door Requiring so Little Headroom

Left: Interior view of the Model 21 Ro-Way door. Note ceiling is only 2½ inches above door opening.

Right: An actual installation of the Model 21 door in a basement garage. Low headroom requirement permits savings in material and labor.



RŌ-WAY

OVERHEAD TYPE DOORS

for Residential Garages

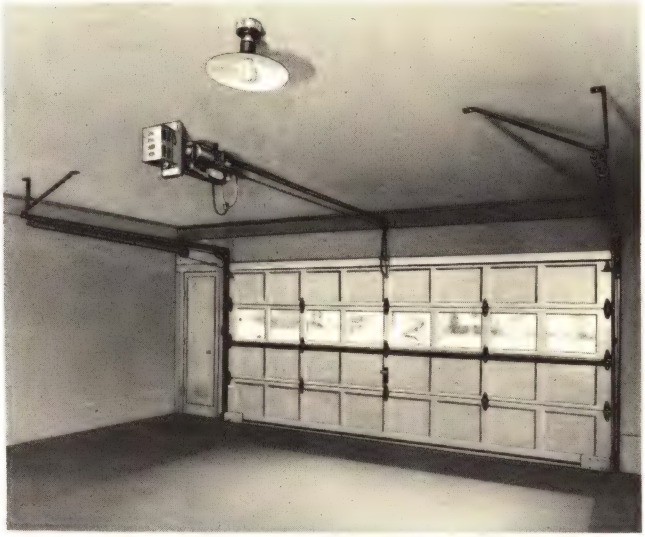
Ro-Way doors are available for any size residential garage door opening. Standard sizes can be shipped promptly. Special sizes individually made to fit the opening.



INSTALLATION DATA - DETAILED SPECIFICATIONS

MODEL NO.	TO FIT OPENING SIZE*	SECTIONS HIGH	PANELS WIDE	DOOR THICKNESS	HEADROOM	SPRINGS†
21	8′w x 6′6″ or 7′h & 9′w x 7′h	4	4	1⅜″	2½″	E
241	8′w x 7′h, 9′w x 7′h & 10′w x 7′h	4	4	1⅜″	9½″	E
201	8′w x 7′h, 9′w x 7′h & 10′w x 7′h	4	4	1⅜″	14″	E
341	8′w x 7′h, 9′w x 7′h & 10′w x 7′h	4	6	1⅜″	9½″	E
301	8′w x 7′h, 9′w x 7′h & 10′w x 7′h	4	6	1⅜″	14″	E
541	15′w x 7′h & 16′w x 7′h	4	8	1⅜″	10¼″	E
501	15′w x 7′h & 16′w x 7′h	4	8	1⅜″	14″	E
641	15′w x 7′h & 16′w x 7′h	4	8	1¾″	11¼″	E
601	15′w x 7′h & 16′w x 7′h	4	8	1¾″	15″	E
342**	8′w x 7′h & 9′w x 7′h	5	2	1⅜″	9½″	E
302**	8′w x 7′h & 9′w x 7′h	5	2	1⅜″	14″	E
542**	15′w x 7′h & 16′w x 7′h	5	4	1⅜″	10¼″	E
502**	15′w x 7′h & 16′w x 7′h	5	4	1⅜″	14″	E
642**	15′w x 7′h & 16′w x 7′h	5	4	1¾″	11¼″	E
602**	15′w x 7′h & 16′w x 7′h	5	4	1¾″	15″	E
151-3S	8′w x 6′6″ or 7′h & 9′w x 7′h	4	3	1″	6″	T
111-3S	8′w x 6′6″ or 7′h & 9′w x 7′h	4	3	1″	12⅛″	T
251-3S	8′w x 6′6″ or 7′h & 9′w x 7′h	4	3	1⅜″	6″	T
211-3S	8′w x 6′6″ or 7′h & 9′w x 7′h	4	3	1⅜″	12⅛″	T
551-3S	15′w x 7′h & 16′w x 7′h	4	4	1⅜″	6½″	T
511-3S	15′w x 7′h & 16′w x 7′h	4	4	1⅜″	12⅛″	T
441	8′w x 7′h & 8′w x 8′h	4	6	1¾″	10½″	E
401	8′w x 7′h & 8′w x 8′h	4	6	1¾″	15″	E

NOTE: Sideroom required, 3¾″ for all models.
*Special size doors, also available to fit openings not shown.
**"Classic" model, 5-section doors.
†E-extension springs; T-torsion springs.



Interior view, showing clean, compact arrangement of extension springs, track, mounting, etc. Note especially how sides are free of obstructions.

GLASS OPENING. On 4-section 7′ high doors, next to top section (#3) is regularly left open for glass; 6′ 6″ high doors have top section (#4) open. On 5-section *Classic* doors, next to top section (#4) is regularly left open. If requested, other sections may be left open, or all sections closed with panels. Doors may be glazed at extra cost.

GENERAL SPECIFICATIONS

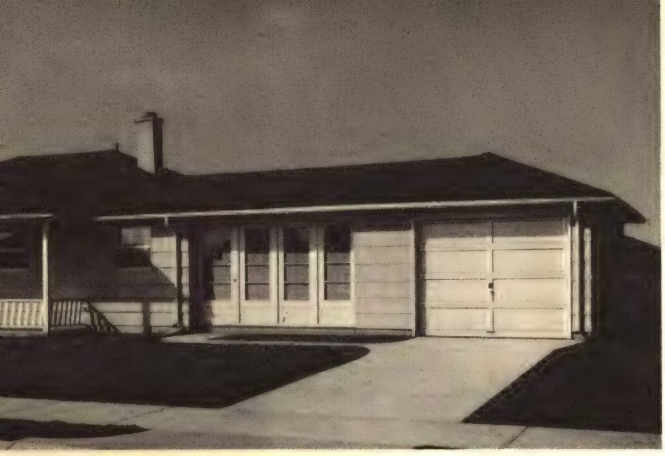
All Residential Doors

Ro-Way door sections, track and hardware are made to fit opening sizes. MILLWORK—stiles and rails are 1″, 1⅜″ or 1¾″ thick Douglas Fir. Panels are ¼″ thick Fir plywood, except on 1″ thick doors, which have 3/16″ Dorlux panels (Masonite Presdwood). HARDWARE—sheaves, track and curved sections are made from 13- and 14-gauge steel. Track rollers are plastic on one-car doors; steel on two-car doors. Hinges, corner brackets and locking equipment are specially designed for extra strength, longer service. Cylinder lock for key operation included. Specifications subject to change.

ARCHITECTS' SPECIFICATIONS

Overhead Type Doors shall be Model—(See chart above) Ro-Way Overhead Type as manufactured by Rowe Manufacturing Company, Galesburg, Illinois. Door sections to have mortise and tenon glued joints. All tracks shall embody TAPER-TITE Closure and SEAL-A-MATIC Hinges. All sheaves to be ball bearing. Track rollers to be plastic or steel. Locking equipment shall consist of ¾″ steel bars extending through slot in vertical track—lock bars shall be key operated from exterior and by thumb latch from interior. All steel parts to be made rust-resisting by Parkerizing process and finished with metallic paint.

there's a Ro-Way for every Doorway

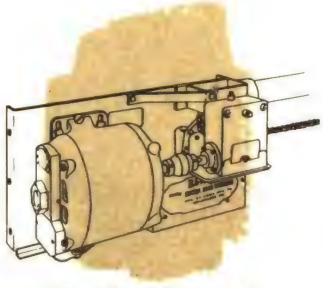








there's a Ro-Way for every Doorway



RO-WAY MOTOR OPERATORS

For truly convenient, effortless operation, motor controls and electronic remote control are available for all Ro-Way doors. Send for descriptive folder, which gives full details.

COMMERCIAL DOORS. A complete line of heavy duty doors for commercial and industrial buildings is available. Request special folder.

NATIONWIDE SALES AND SERVICE

Ro-Way door distributors are located in all principal cities, where they provide expert consulting, sales and installation service. See the yellow pages of your telephone directory for the distributor nearest you, or write direct to Rowe Manufacturing Company, Galesburg, Illinois.

Rō-Way
OVERHEAD TYPE DOORS

ROWE MANUFACTURING COMPANY

Galesburg, Illinois • *Since 1908*

Form No. D-388 8-54

Printed in U. S. A.

You can't beat the convenience of a

Rō-Way ELECTRIC OPERATOR

MODEL 70

for residential garage doors



4d
Ro

Unlocks Door

Opens Door

Turns On Light

Closes Door

Locks Door

Turns Off Light

1 switch does all 6

ROWE MANUFACTURING COMPANY · GALESBURG, ILLINOIS, U.S.A.

Rō-Way OVERHEAD TYPE *Doors and Electric Door Operators*

PRODUCTS OF ROWE MANUFACTURING CO., GALESBURG, ILL., U.S.A.

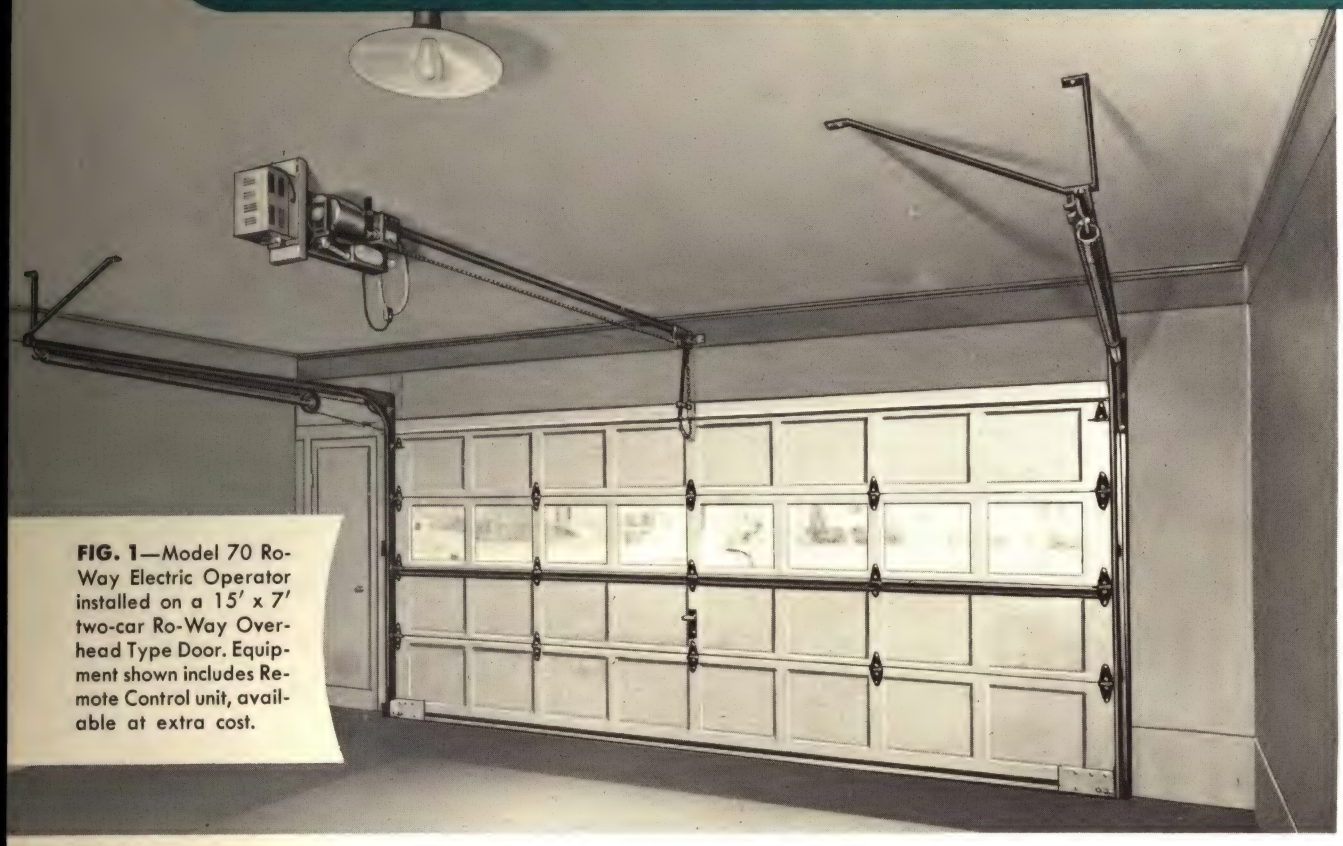


FIG. 1—Model 70 Ro-Way Electric Operator installed on a 15′ x 7′ two-car Ro-Way Overhead Type Door. Equipment shown includes Remote Control unit, available at extra cost.

FIG. 1

MODEL 70 RO-WAY ELECTRIC OPERATOR

For residential garage doors not over 16′0″ wide by 8′0″ high

Talk about convenience! This new Model 70 Ro-Way Electric Operator for residential garage doors does *six* chores at the flick of a switch! Unlocks and opens the door . . . turns lights on and off . . . closes and locks the door. *And all automatically.* Saves time, saves work, saves *you.*

New in design, Model 70 is made and backed by one of the oldest and largest manufacturers of overhead type doors. Ruggedly built for years of active service. Easily installed on 1 or 2 car overhead type garage doors.

1. Mounting base
2. Limit switches
3. Carrier track tube
4. Oil fill plug
5. Roller chain
6. Drive sprocket and chain
7. Worm gear reduction drive box
8. Electric relay and control box
9. Power unit

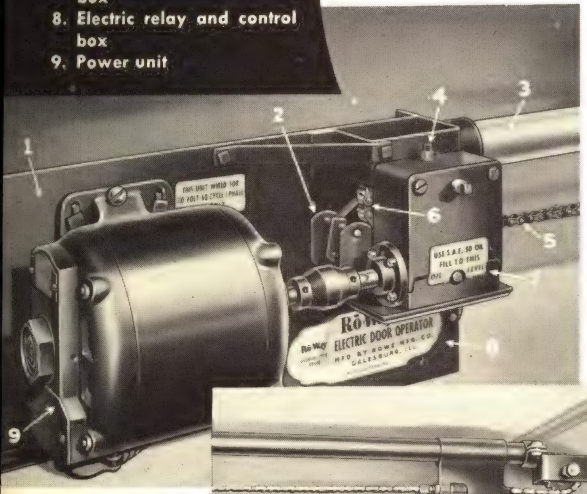


FIG. 2

FIG. 2—MODEL 70 POWER ASSEMBLY. Built in the Ro-Way factory—the result of years of engineering research. Simple in construction—yet husky and reliable. Standard ¼ h.p. motor is directly connected to a worm-gear speed reducer. Positive limit switches control up and down movement of door—easily adjustable to different height doors. Roller chain to track carriage is quiet and positive in operation. Electric control relays are in box on lower side of base of operator unit. Plug-in outlet provides connection for push button stations, key post switches or other control stations.

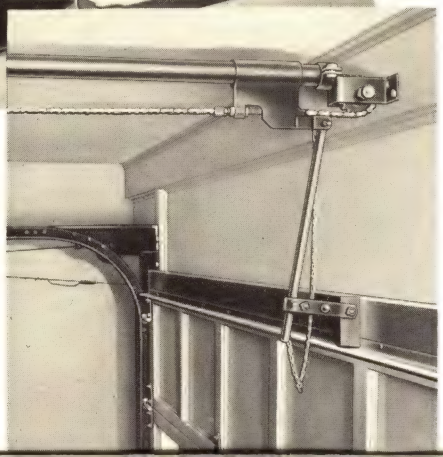


FIG. 3—TRACK CARRIAGE. Illustration shows track carriage with connecting arm attached to top rail of door. Bracket attached to end of carriage tube is mounted on header above door. Door opens and closes as carriage moves along tube. In case of electric power failure, pull-chain easily releases pin in connecting arm to permit temporary manual operation.

FIG. 3

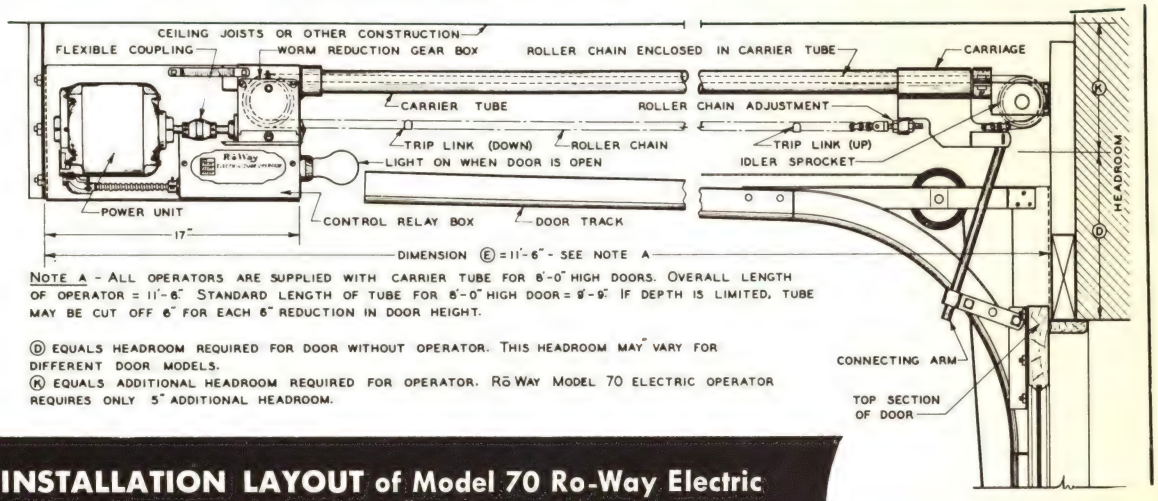


FIG. 4

NOTE A - ALL OPERATORS ARE SUPPLIED WITH CARRIER TUBE FOR 8'-0" HIGH DOORS. OVERALL LENGTH OF OPERATOR = 11'-6". STANDARD LENGTH OF TUBE FOR 8'-0" HIGH DOOR = 8'-9". IF DEPTH IS LIMITED, TUBE MAY BE CUT OFF 6" FOR EACH 6" REDUCTION IN DOOR HEIGHT.

Ⓓ EQUALS HEADROOM REQUIRED FOR DOOR WITHOUT OPERATOR. THIS HEADROOM MAY VARY FOR DIFFERENT DOOR MODELS.
Ⓚ EQUALS ADDITIONAL HEADROOM REQUIRED FOR OPERATOR. RŌ WAY MODEL 70 ELECTRIC OPERATOR REQUIRES ONLY 5" ADDITIONAL HEADROOM.

FIG. 4—INSTALLATION LAYOUT of Model 70 Ro-Way Electric Door Operator. Note especially only 5″ additional headroom required to accommodate Operator. Total depth required: 11′-6″.

Model 70 Ro-Way Electric Door Operator is designed for residential sectional overhead type garage doors only—not larger than 16′ 0″ wide x 8′ 0″ high. Equipped with ¼ h.p. standard reversible motor, it opens or closes the door at a speed of 1½ feet per second. Motor is wound for 110 volt, 60 cycle, single phase alternating current (special motors available at extra cost), and is protected against overload by thermal cutout. Friction disc safety clutch stops door if it meets any obstruction. Polarized plug receptacles provided on rear of base plate for power supply, push-button control wires, and for remote control equipment. Standard outlet for lamp on front side of electric relay box. Up to 500 watts may be connected to this outlet for garage or yard lamps which light as door is opened.

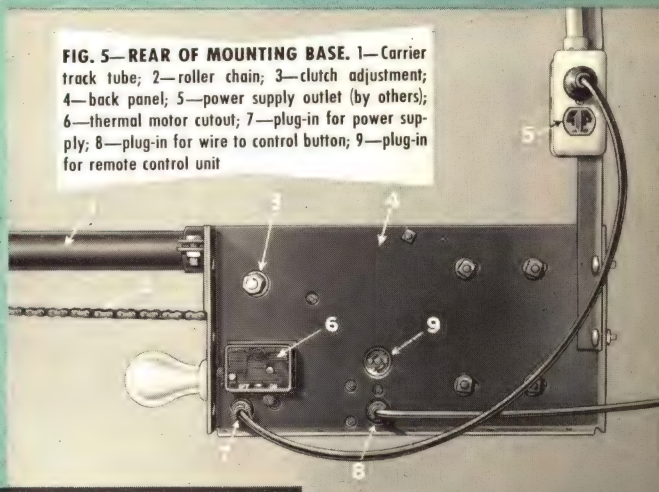


FIG. 5—REAR OF MOUNTING BASE. 1—Carrier track tube; 2—roller chain; 3—clutch adjustment; 4—back panel; 5—power supply outlet (by others); 6—thermal motor cutout; 7—plug-in for power supply; 8—plug-in for wire to control button; 9—plug-in for remote control unit

WORM GEAR SPEED REDUCER, CHAIN DRIVE SPROCKET AND FRICTION CLUTCH. Shown in the cutaway view at the right (Fig. 6). The Model 70 Operator features a sturdy, silent worm gear speed reducer—no bulky V-belts to slip or require adjustment. Drive worm and gear run in an oil bath. Roller bearings with oil retainer seals are used throughout.

Friction clutch is easily adjustable to provide proper tension for movement of the door.

Limit switches are operated by trip links located on roller drive chain, which automatically stop door when it has reached the fully open or fully closed position.

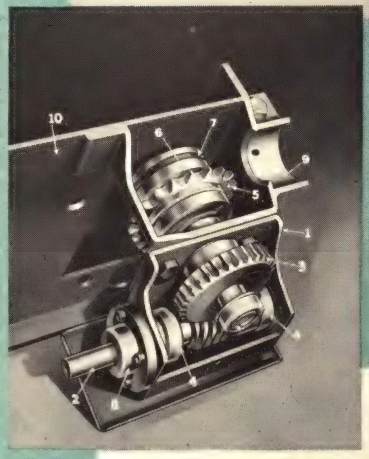


FIG. 6—DRIVE AND WORM REDUCING GEAR MECHANISM. 1—Gear case; 2—worm shaft and worm; 3—worm gear; 4—end thrust ball bearings; 5—roller chain driving sprocket; 6—safety clutch—twin disc; 7—clutch compression springs; 8—enclosed oil seal; 9—carrier tube bracket; 10—mounting base.

FIG. 7—STANDARD CONTROLS. Operation of Model 70 Ro-Way Electric Operator is of the single button momentary contact type. Equipment includes one single-button control switch (No. R-471, as shown) which provides OPEN-STOP-CLOSE-STOP operation. Door may be stopped in any position, but must complete direction of travel before reversing. Additional push button stations, also shown in Fig. 7, are available at extra cost.

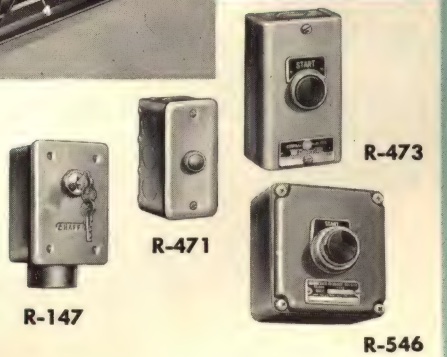
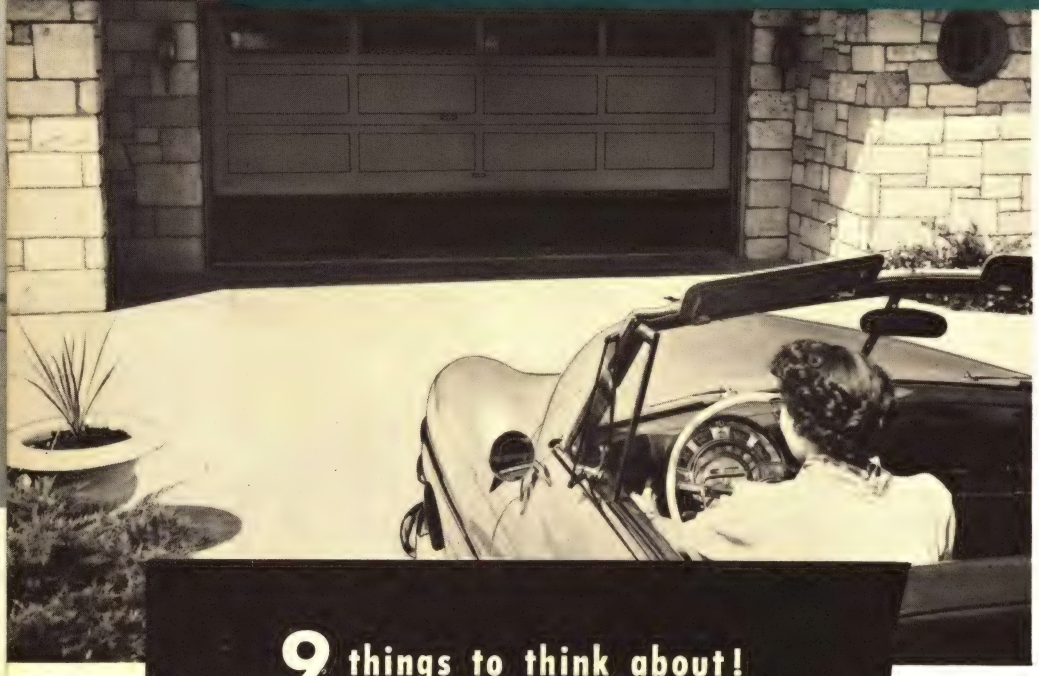


FIG. 7

Rō-Way OVERHEAD TYPE *Doors and Electric Door Operators*

PRODUCTS OF ROWE MANUFACTURING CO., GALESBURG, ILL., U.S.A.



9 things to think about!

you get them all in the

MODEL 70 Rō-Way ELECTRIC OPERATOR!

- Automatically opens, closes and locks your garage door
- Turns garage lights on and off
- Automatic Safety Clutch—stops movement if door meets obstacle
- Requires minimum clearance for installation
- Door can be opened manually if power fails or is shut off
- Built-in Thermal Circuit Breaker protects motor against overload
- Direct drive—power is transmitted directly to door from ¼ h.p. motor through worm gear type speed reducer
- Limit switches cut current when door reaches full open or closed position
- Economical and easy installation—power assembly is built in Ro-Way factory

INSTALLATION REQUIREMENTS

1. Model 70 Ro-Way Electric Door Operator is fo residential use only with sectional overhead typ doors not over 16′ 0″ wide by 8′ 0″ high.
2. Headroom required—5 inches over highest poi of door travel. Depth required—11′ 6″ from i side face of wall above opening.
3. Motor is regularly furnished wound for 110 vol 60 cycle, single phase alternating current, ¼ h.p (Other motors for special currents or conditio available at extra cost.) Controls and contr circuit are 110 volt, and one single-button contr station on 2-foot extension cord is included.
4. Temporary 3-foot extension power cord is i cluded as regular equipment.
5. All electrical connections, both power and co trol circuits, are made at plug-in receptacles c back of base plate.
6. Light bulb outlet on control will handle up to 50 watts capacity. *Note:* Bulb not included.

WIRING: *Requires only one circuit running from 11 volt, 60 cycle AC outlet to motor. Additional contr points may be wired to house or within garage.*

ARCHITECTS' SPECIFICATIONS

Overhead type door shall be equipped with Ro-Way Residential Type Electric Operator, Model No. 70, as made by Rowe Mfg. Co., Galesburg, Illinois. Electric Operator shall be equipped with safety clutch, limit switches, built-in worm gear speed reducer, ¼ h.p. motor wound for 110 volt, single phase, 60 cycle AC, protected with thermal circuit breaker. One single-button control station shall be included. (If remote control is required, add: Ro-Way Remote Control shall be included so that door may be opened and closed by pushing a button on instrument panel of car.)

there's a Ro-Way for every Doorway!

Rō-Way OVERHEAD TYPE DOORS

Manufactured by ROWE MANUFACTURING COMPANY Galesburg, Illinois, U.S.A.

Form No. D-317A

Printed in U.S.A.



DASHBOARD CONTROLLED Rō-Way ELECTRIC OPERATOR for Overhead Type Garage Doors

Just press a button in your car—Electronic Impulse opens and closes door, turns lights on and off!

Drizzle or downpour, snow or blow, night or day—with a Dashboard Controlled Ro-Way Electric Operator you don't even leave your car to unlock and open the garage door and turn on the light! You just touch a button on the dashboard—and it's all done for you!

When you're safely in—or backing out—touching the dash button closes and locks door, turns out light.

Here's how it works—from any point within approximately 30 to 60 feet of your garage (see Fig. 14). When you touch the dash button, a simple transmitter installed under the hood of your car sends out an electronic impulse. This impulse is picked up by a synchronized receiver in your garage (Fig. 13) which actuates the door operator automatically.

And it always works! Never affected by rain, snow or ice on the driveway. Operation is instant, positive—no work, no inconvenience, no exposure to weather.

Your transmitter is individually tuned to your receiver for protection against unauthorized outsiders opening your door. If more than one car in family, all transmitters are tuned to single receiver.

Decide now to enjoy the wonderful convenience of this new Dash Controlled Ro-Way Electric Operator.

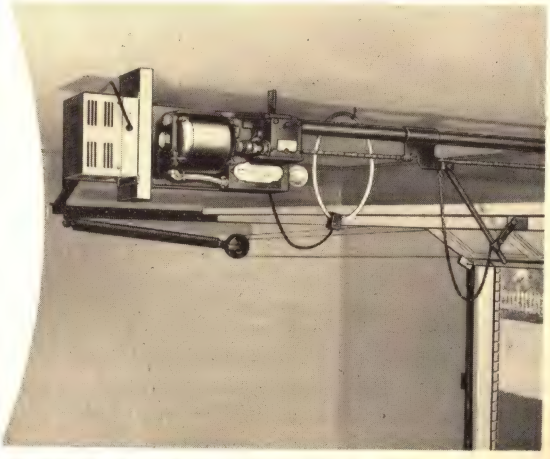


FIG. 13—Receiver in garage is tuned to transmitter in your car—picks up electronic impulse to actuate door operator.

CONTROL GARAGE DOOR AND LIGHTS FROM ANY POINT WITHIN APPROXIMATELY 30 TO 60 FEET!

From any point INSIDE garage—or within approximately 30 to 60 FEET OUTSIDE—your dashboard control unlocks and opens your garage door and turns on the light as you approach—closes and locks door and turns out the light as you leave.

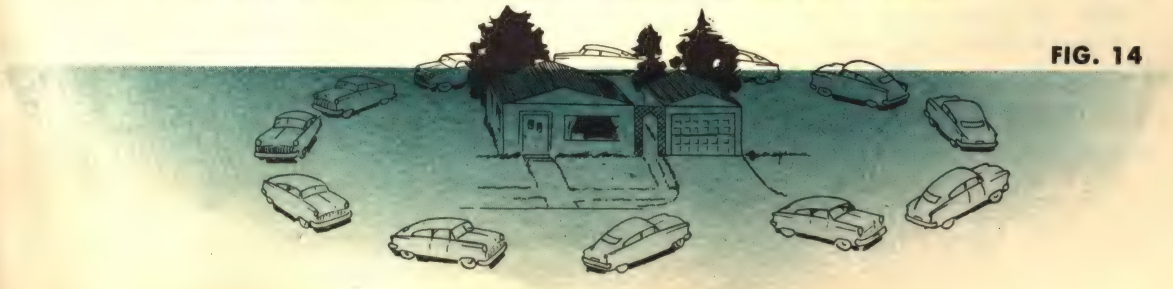


FIG. 14

Dashboard Remote Control For MODEL 70 Rō-Way ELECTRIC DOOR OPERATOR

Dashboard Remote Control For MODEL 70 Rō-Way ELECTRIC DOOR OPERATOR

MODEL 70 Rō-Way ELECTRIC DOOR OPERATOR

Available With Dashboard Control!



Fig. 8—PRESS DASHBOARD BUTTON

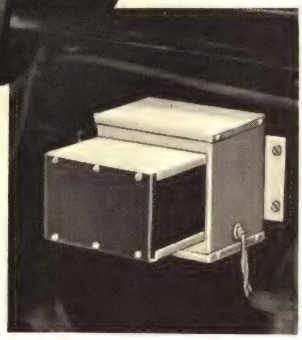


Fig. 9—TRANSMITTER SENDS IMPULSE

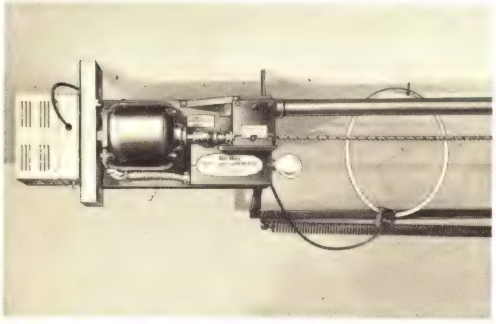


Fig. 10—RECEIVER PICKS UP IMPULSE—OPERATES POWER UNIT

Your garage door *AUTOMATICALLY*

—opens when you approach

—closes when you leave

The ultimate in garage door convenience—the Model 70 Ro-Way Electric Operator with Dashboard Control! As you approach your garage, just press a button on the dashboard of your car, and presto!—your garage door is automatically unlocked and opened, and your garage lights are turned on! No need to get out of your car—at night, or in rain or snow or freezing weather. When going out, you press the button again—out goes the light, down comes the door, and it's automatically locked.

Magic? No. Just a simple transmitter and receiver, utilizing the principle of electronic impulse. Transmitter is installed in your car, (Fig. 11, 12) and connected to battery through ignition switch. Receiver is installed in garage (Fig. 10) adjacent to power unit of Model 70 Ro-Way Electric Operator, with antenna hung on wall or suspended from ceiling.

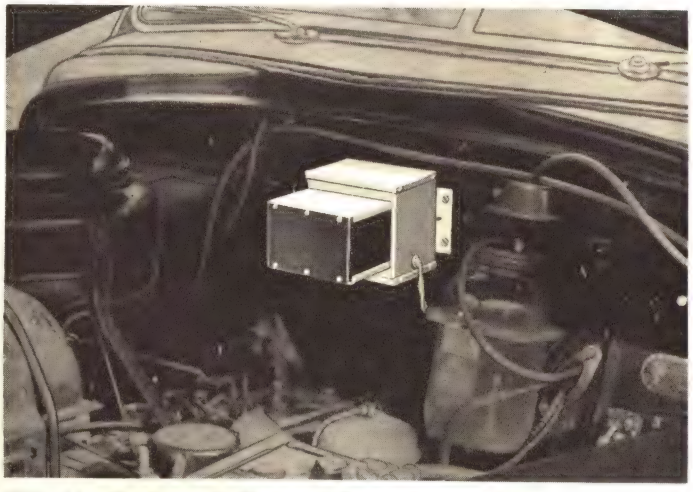


FIG. 11—Dashboard Remote Control Transmitter installed on firewall of car.

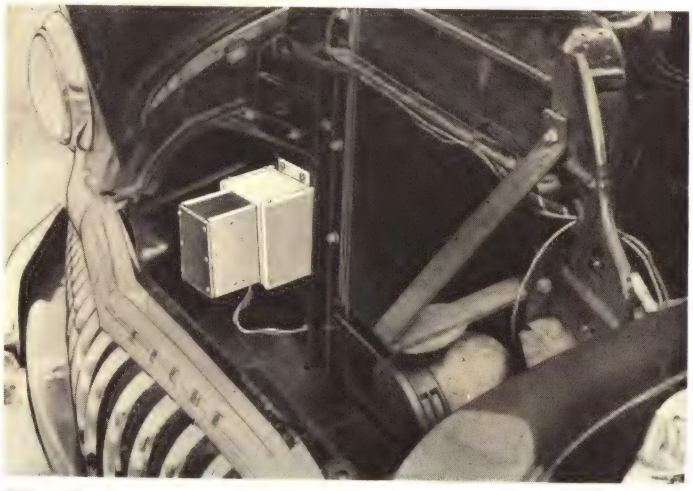


FIG. 12—Transmitter installed in back of grille, adjacent to radiator.

SPECIAL FEATURES

- Operates from any point within approximately 30 to 60 feet of your garage.
- Transmitter is individually tuned to your receiver.
- No wires to stretch—no digging—no annoyance. No switches buried in driveway. Transmitter can be removed when car is sold or traded.
- Easily and quickly installed—no complicated mechanism.
- Saves heat in garage—door can be quickly closed without leaving car.

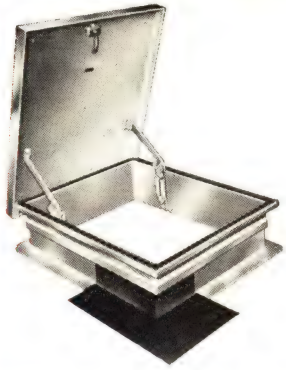
ROWE MANUFACTURING CO.

Galesburg, Ill. U.S.A. *Established 1908*

Bilco® 1955 doors

for special services

4e
Bi



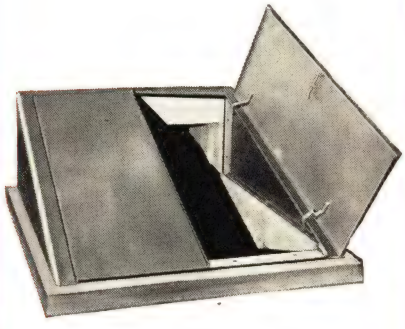
Bilco

- roof scuttles
- ceiling access doors



Bilco

- sidewalk doors
- sidewalk elevator doors
- pit doors
- floor doors

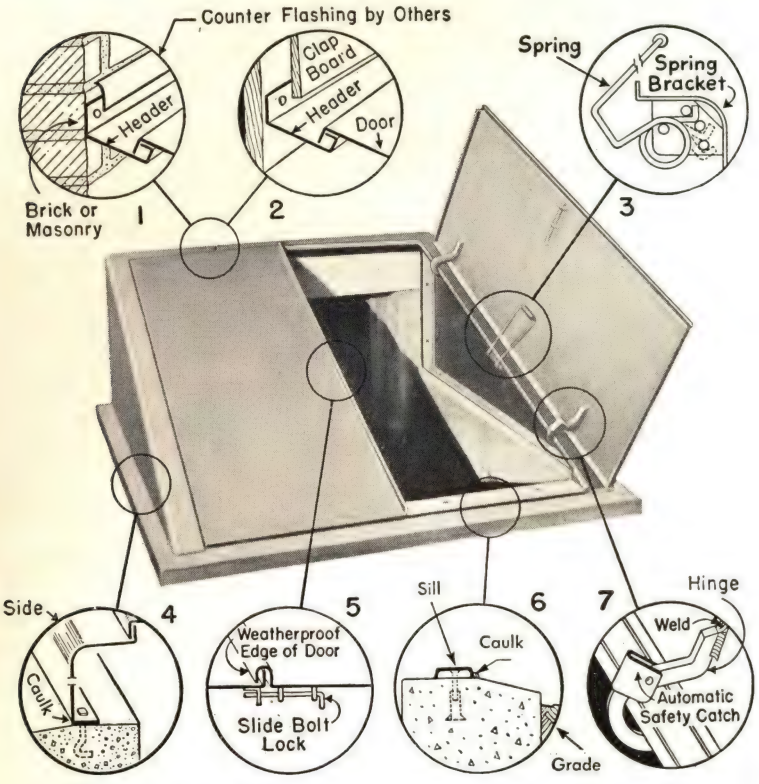


Bilco

- basement doors

THE BILCO COMPANY, NEW HAVEN 5, CONN.

construction features



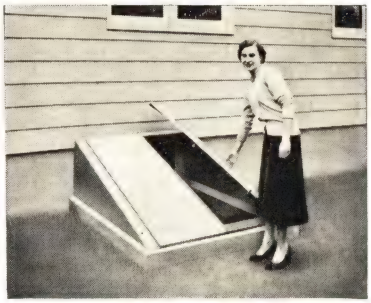
1. Header flange fastened to brick or masonry and flashed or caulked.
2. Header flange fastened to sheathing with clapboards or shingles carried over it.
3. "Feather Action" door operators.
4. Section showing weathertight flanges and method of fastening unit to masonry.
5. Interior slide bolt locks doors securely.
6. Section showing 2" wide sill and method of fastening to masonry.
7. Rugged ⅜" x ¾" hinge and automatic hold open safety catch.

Compactly packaged for easy handling, including all hardware, caulking, assembly and anchor bolts.



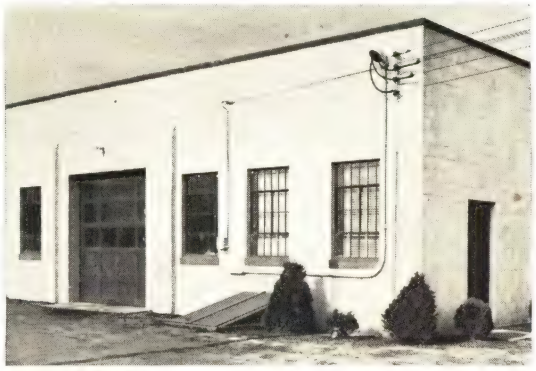


Fast one man installation—as little as 10 minutes on new construction.



Sturdy 12 gauge steel doors open and close at a touch.

The best basement entrance for any type building.



INDUSTRIAL



COMMERCIAL



APARTMENTS

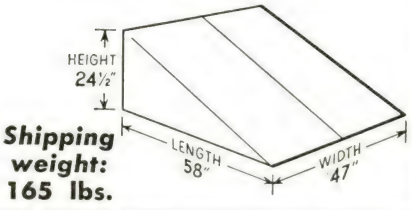


HOMES

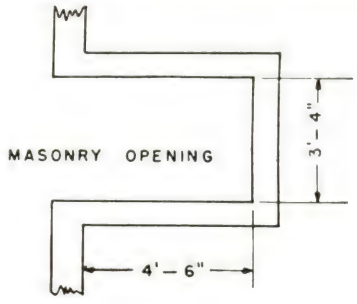
three standard sizes

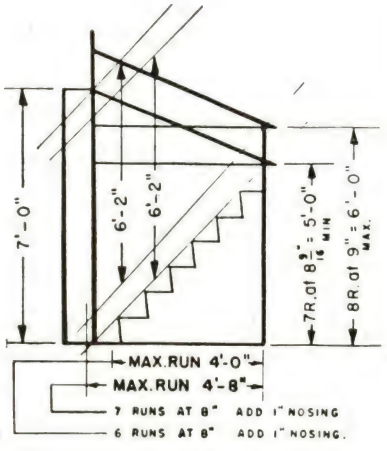
SPECIAL SIZES NOT AVAILABLE

SIZE A Bilco Door

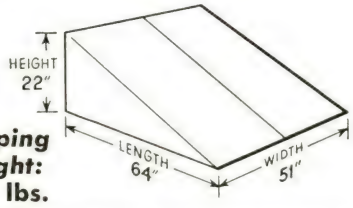


***Shipping weight:* 165 lbs.**

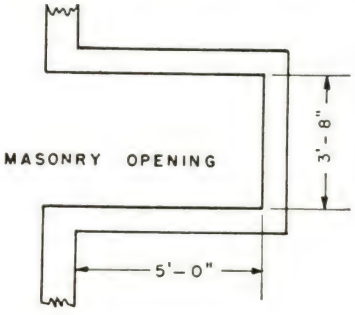


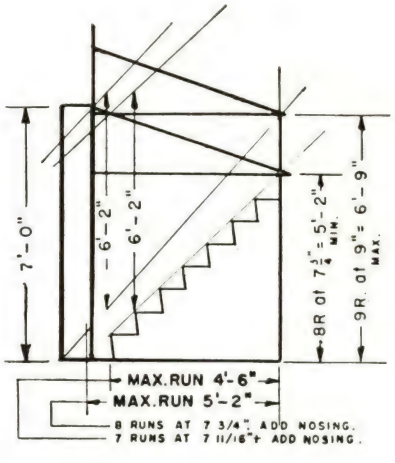


SIZE B Bilco Door

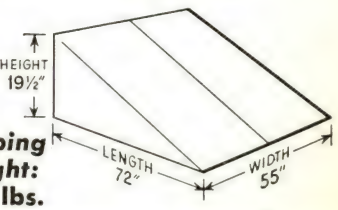


***Shipping weight:* 185 lbs.**

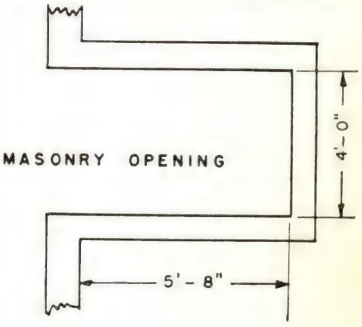


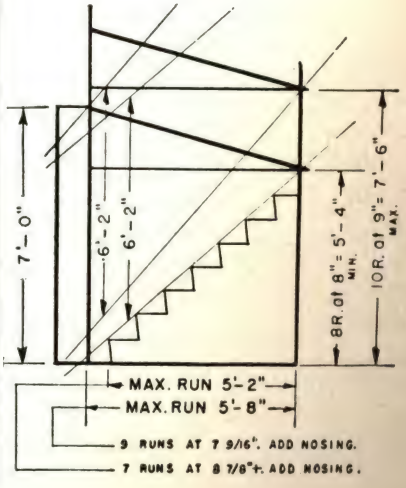


SIZE C Bilco Door



***Shipping weight:* 215 lbs.**





NOTE:

1. **More run may be given to steps, even to starting first riser 2″ to 3″ inside of cellar wall. This however, reduces headroom unless vertical opening exceeds the 7′0″ height shown above. Layouts for other basement depths, ask for form SL-300.**
2. **If inside door is high because of shallow grade, raise Bilco, cut backs of sidepieces at proper angle, pour masonry on pitch under door.**

to specify or order

Bulkhead door to basement shall be BILCO Size____. Door to be standard packaged assembly available from local lumber and building supply dealers. Unit shall be constructed of #12 gauge steel prime coated with gray zinc chromate paint. It shall be furnished complete with all hardware, assembly bolts, caulking compound and hook anchors. Installation to be in accordance with manufacturer's instruction sheet. Painting contractor shall apply finish coat of _____(color) metal enamel after installation.

Bilco *"Spring Balanced"*
ROOF SCUTTLES OR HATCHWAYS

TYPE "S" Standard Size pictured

Clear opening 2'-6" x 3'-0"

for Access to Roof or Attic

"For Better Construction and Performance"

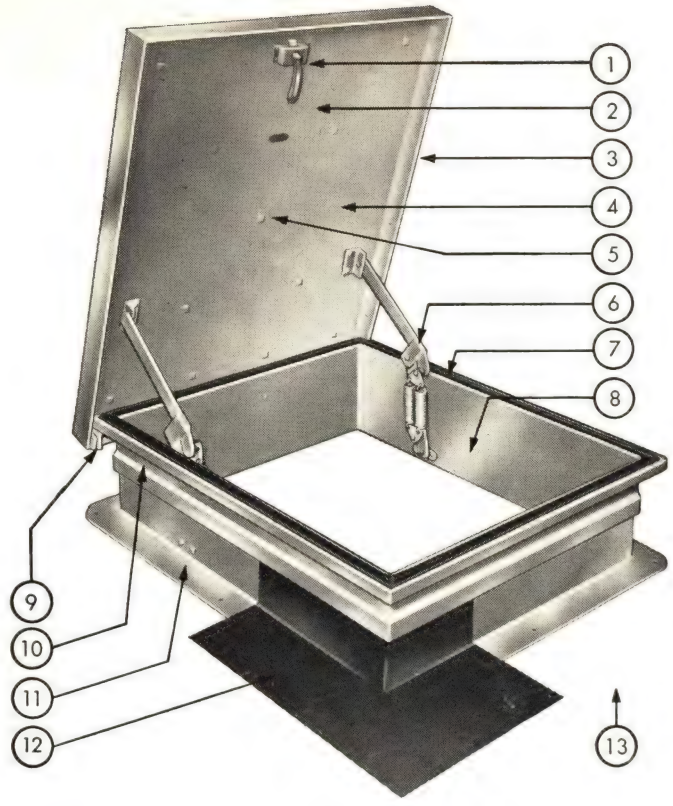
OUTSTANDING FEATURES

- Complete packaged unit
- Easily installed over pre-set anchor bolts in 5 minutes
- Economical
- Easy opening and closing
- Held firmly in open position
- For flat or sloping roofs
- Ruggedly built
- Insulated against climatic conditions
- Absolutely weather-tight
- Full welded corners on cover, frame and integral cap flashing
- Roofing slips under integral flashing *without* removing flashing from frame. Manufactured in copper-bearing steel, galvanized steel, aluminum, copper, and stainless steel.

Other Standard Sizes

Type "N" Narrow Side Hinged—2'-6" x 4'-6"
Type "L" Long Side Hinged—2'-6" x 8'-0"
Type "D" Double Doors—(max.) 8'-0" x 8'-0"
Type "G" Glazed Doors—(max.) 3'-0" x 5'-0"

Can be made to special sizes



1. Padlock Hasp
2. Spring Latch and Handle
3. 14-gage Insulated Cover
4. 22-gage Cover Lining
5. Carriage Bolts with Lead Washers
6. Reverse Action Lifting Levers
7. Continuous Rubber Air Stop
8. 14-gage Shaft
9. Heavy Pintle Hinges
10. Metal Cap Flashing
11. Flange for Securing Scuttle to Rough Roof
12. Roofing Material
13. Rough Roof

For complete information and prices, write for Catalog 12P

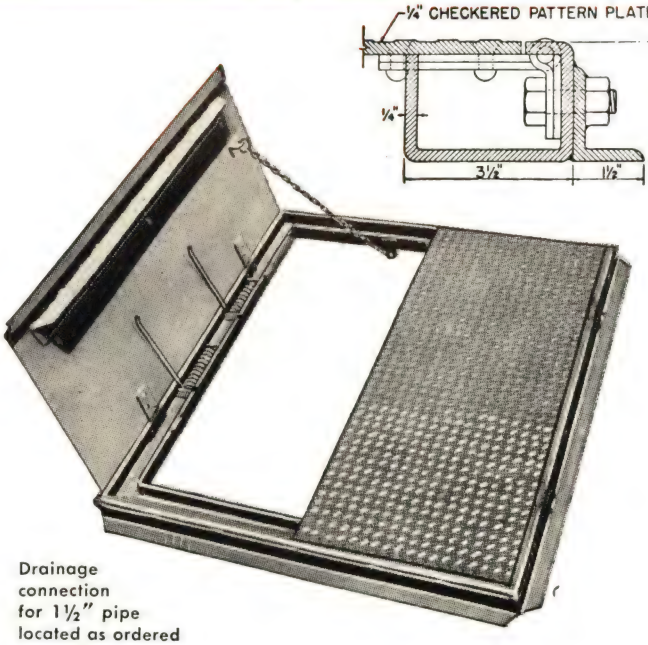
Bilco *"Watertight"* *
SIDEWALK ELEVATOR AND ASH HOIST DOORS
TRANSFORMER VAULT AND PIT DOORS
TRENCH COVERS AND FRAMES

TYPE "A" Sidewalk Door pictured

"For Better Construction and Performance"

OUTSTANDING FEATURES

- Watertight
- Rolled channel frame
- All welded
- Checkered plate doors
- Heavy rolled brass hinges
- 1 ½" drain coupling
- Center drain channel
- Guard bar furnished
- Chain holding stops
- Automatic bow strike locks for elevator doors
- Inside slide-bolt lock or outside flush socket lock
- 300#/sq. ft. loading standard
- Made to special requirements
- * Spring Balanced for easy operation



Drainage connection for 1½" pipe located as ordered

Type	Clear opening		Shipping Wt. lbs.
	Width	Length	
A-10	2'10"	3' 4"	330
A-20	3' 4"	3'10"	355
A-30	3'10"	3'10"	380

TYPE "A" SAFETY GUARD BAR

Standard Construction

¼" Checkered Pattern Plate.

SPECIAL NOTE: Door frames may be drained either to a dry well under sidewalk or to disposal system.

For complete information and prices, write for Catalog 12P

THE BILCO COMPANY

NEW HAVEN 5, CONN.

PLAN A USEFUL BASEMENT!

4e
He



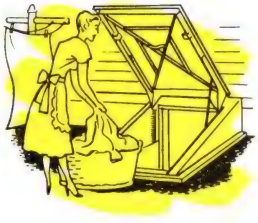
THE SERVICE ENTRY FOR MODERN BASEMENTS!

THE MOST USEFUL DOOR

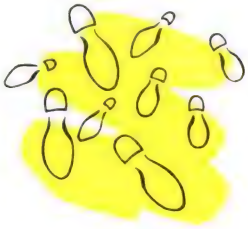


HEATILATOR

SERVICE-WAY



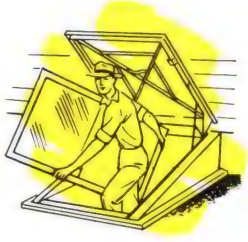
Saves work on washday. Heavy clothes baskets can be carried direct from basement to clothesline with fewer steps—fewer stairs to climb.



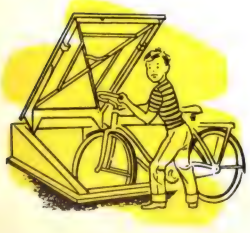
Saves tracking dirt through house. Repair men, meter readers and children with muddy feet can go directly to the basement from outdoors.



Permits installation of bulky equipment. Home freezers, ping pong tables, hobby shop equipment . . . even a piano—are easily moved into the basement through the spacious Service-way opening.



Allows convenient storage of screens and storm windows. Now it's a cinch to take them in and out of the basement without damaging upstairs walls or woodwork.



Relieves that cluttered garage. Lawn mowers, garden tools, bicycles and other toys can be kept in the basement—easily taken in or out when needed.



Adds to home enjoyment. Permits full use of valuable basement space for recreational or storage purposes — increases the value of your home.

Copyright 1954, Heatilator Inc.

IN THE HOUSE!

Check these *SERVICE-WAY* features!

ALL-WELDED CONSTRUCTION
The Service-way is built of heavy-gauge sheet steel—electrically welded for maximum strength and durability.

STRUCTURALLY REINFORCED
Reinforcing members are welded to the underside of the one-piece door for extra rigidity. Door can be walked on without danger or damage.

DOUBLE ACTION SPRINGS
Specially designed spring suspension counterbalances the weight of the door in all positions for finger-tip operation.

WEATHER-TIGHT
Overlapping flanges on frame and door assure snug fit—keep out rain, snow and wind.

QUICK-RELEASE SAFETY ROD
Door is easily locked in full open position to prevent accidental closing or being blown shut by wind.

BURGLAR-PROOF
Two slide bolts lock door securely from inside for protection against intruders, animals, etc.

READY TO INSTALL
The Service-way is completely assembled and prime coated at the factory to save time and labor on the job. Weight 185 lbs.

EASY TO MAINTAIN
There's no wood to rot, no hardware to break. An occasional coat of paint assures a lifetime of trouble-free service.

SPECIFY THE SERVICE-WAY IN YOUR BUILDING PLANS

This improved basement entry is one of the most desirable convenience features for the modern home. By providing direct access to the basement from outdoors the Service-way saves countless steps, simplifies dozens of household jobs and makes valuable basement space easily available for storage or recreational purposes. It is practical—economical—and worth many times its moderate cost.

The Service-way adds to property values too—makes any house easier to sell because prospective buyers quickly recognize the extra convenience. It is truly "the most useful door in the house"! Be sure to include it in your building plans. For additional information see your building material dealer or write Heatilator, Inc., Syracuse 5, N. Y.



SIMPLE FUNCTIONAL DESIGN!
Design blends with any style of architecture. When painted in matching color the Service-way becomes a part of the house itself.

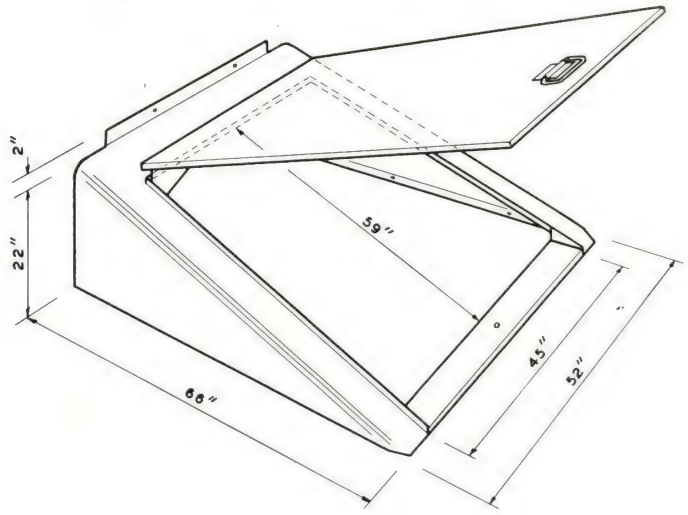


FINGER-TIP CONTROL!
You'll be amazed to see how easily the single, counterbalanced Service-way door opens and closes—either from inside or outside.

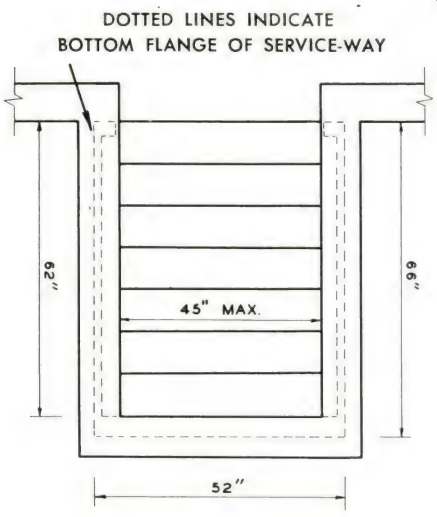


SPACE TO SPARE!
The extra wide opening provides plenty of clearance for handling large and bulky objects—plus ample headroom for even the tallest person.

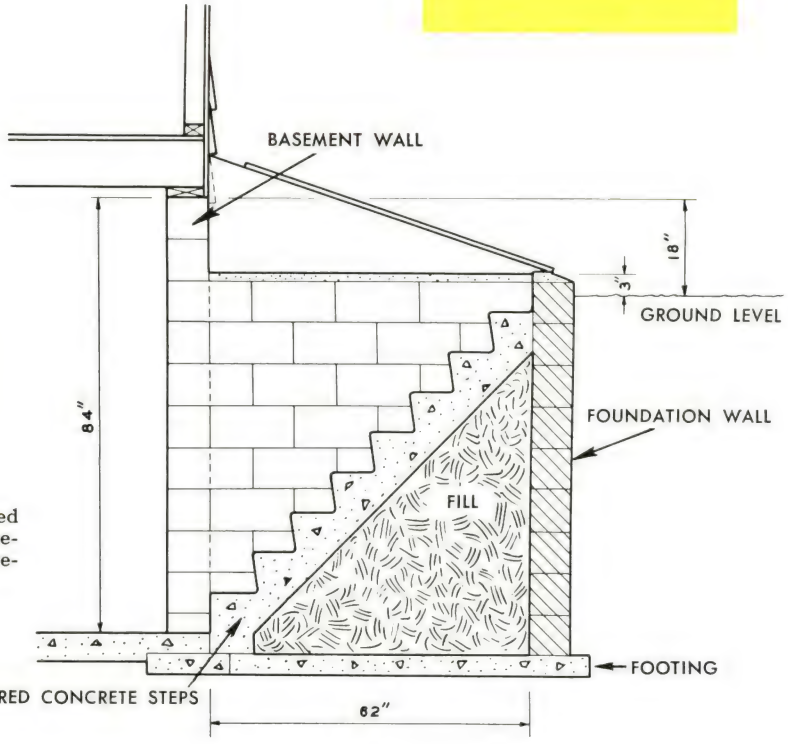
SERVICE-WAY INSTALLATION DETAILS



Service-way dimensions



Foundation plan



Stair layout
for average basement

9 RISERS 7¾" — 8 TREADS 7¾"

NOTE: Depth of stair treads can be increased by starting first riser flush with inside of basement wall, although this results in slightly reduced headroom.

For additional information or assistance with a particular installation problem, write

HEATILATOR INC. *Makers of the world famous Heatilator Fireplace — America's leading fireplace.* SYRACUSE 5, N.Y.

Form No. 801

Printed in USA

windows

section 5

aluminum a

steel b

wood c

jalousies d

ALTEX

Flex-a-lite

ALUMINUM AWNING-VENT AND FIXED TYPE WINDOWS



ONE



BASIC

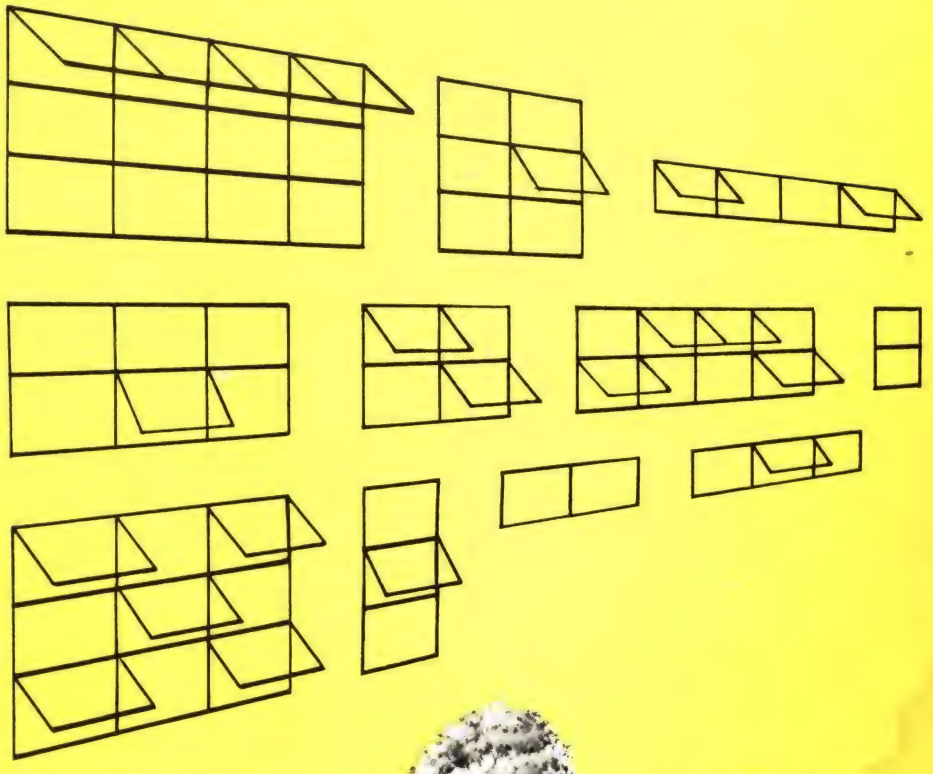


SIZE



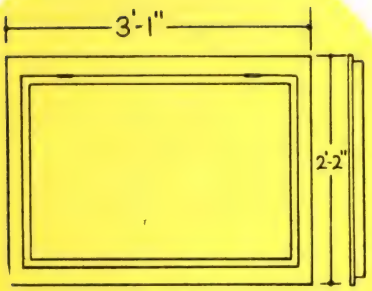
IN 4 VARIATIONS...

for unlimited arrangements in ribbons, stacks and multi-grouping

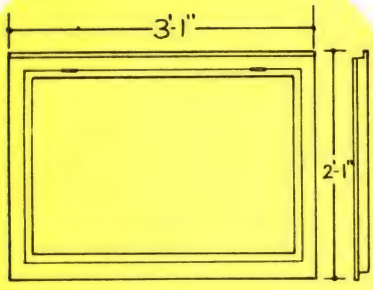




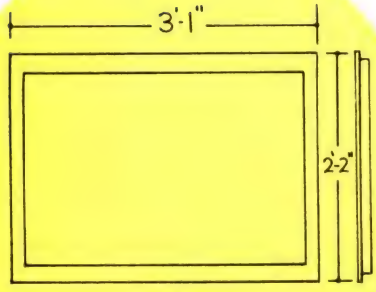
ALTEX ENGINEERING COMPANY • 125 INDUSTRIAL ROAD • SUMMERVILLE, S. C.



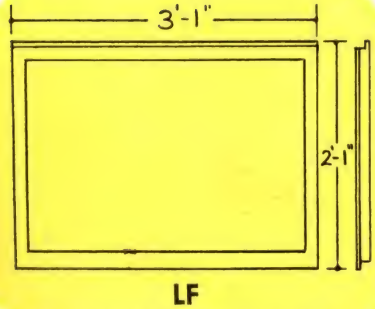
TV
TOP VENTED WINDOW



LV
LOWER VENTED WINDOW



TF
TOP FIXED WINDOW



LF
LOWER FIXED WINDOW

Flexability

IS THE KEYNOTE OF

ALTEX

FLEX-A-LITE WINDOWS

The ALTEX FLEX-A-LITE window has been designed and engineered to provide the Builder and Home Owner with **one basic size window in four variations.** These four types of units, **TF** and **LF** (fixed), **TV** and **LV** (vented), can be used in a multiplicity of combinations to provide the optimum in fenestration.

The Type **TV** and **TF** windows have an outside flange about the complete perimeter of window. On the Type **LV** and **LF** windows the flange at head of window is located on the inside. This permits any window to be stacked on top of a Type **LV** or **LF** window without the use of a horizontal mullion bar. For joining windows side by side an "H" type vertical mullion bar is used.

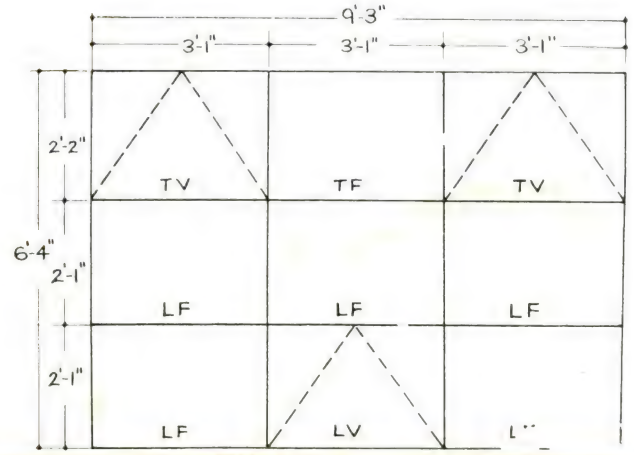
The diagram below shows the grouping of the four different types of windows to form a wall of windows.

A WORD TO DEALERS:

Because the ALTEX FLEX-A-LITE window is made in **one basic size** and 4 variations, only a minimum stock on hand is required. **Think what this means in reduced inventory!**

SHORT FORM SPECIFICATION

The windows shown on the drawings shall be ALTEX FLEX-A-LITE aluminum awning type and fixed windows as manufactured by Altex Engineering Company, Summerville, S. C. All window members shall be of 63S-T5 aluminum alloy having a minimum tensile strength of 22,000 lbs. per square inch. All hardware shall be of stainless steel or aluminum alloy. All windows shall be glazed with DSB glass using synthetic rubber glazing beads. Windows shall be completely weatherstripped with contour-forming all wool felt.

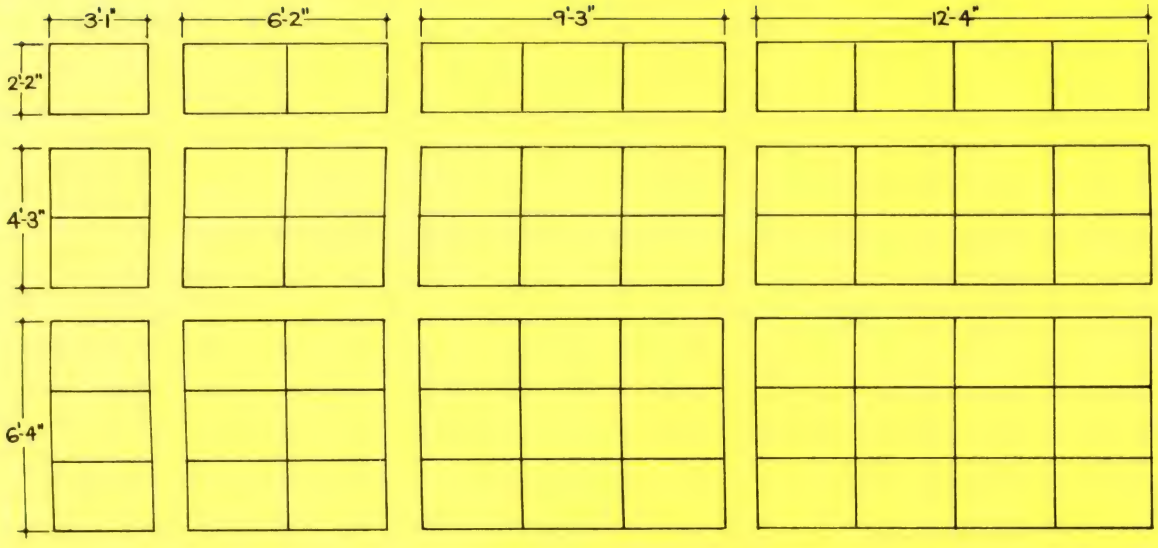


ALTEX

FLEX-A-LITE WINDOWS

- Protected Ventilation
- Completely Weatherstripped
- Under-Screen Operator
- Removable Vent
- Neoprene Glazing
- Lifetime Aluminum
- Aluminum Screens
- Storm Sash Available
- Stainless Steel Hardware
- No Painting Required
- No Maintenance Costs

The all new ALTEX FLEX-A-LITE window is welcomed by architects, builders and home owners as the one window which lends itself to all of the varying needs for light, ventilation and weather protection. It may be used in walls of windows, in ribbons of windows, for single openings or conventional size openings. Vented or fixed units may be located as desired.



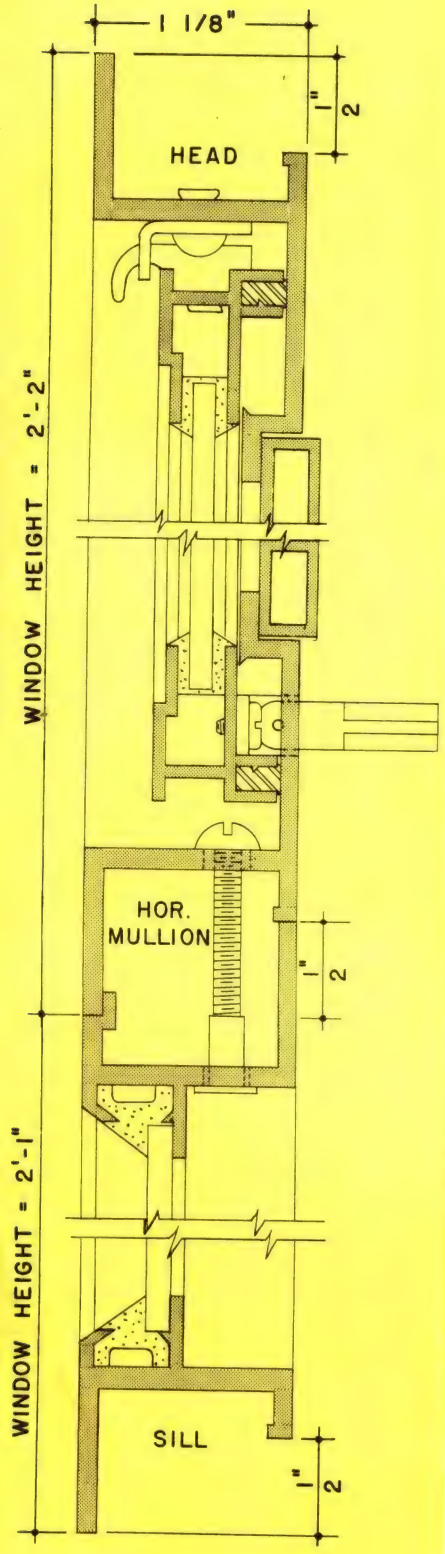
Shown at left are the most common of the many combinations which can be attained with the FLEX-A-LITE window. Vented or fixed windows may be located as desired in these various combinations.

The vent with fixed top hinge offers maximum protection against rain. There is no space above vent through which water can splash in. When closed, the positive contact weatherstrip about complete perimeter of vent makes it virtually airtight. The harder the wind blows the tighter it seals. The underscreen operating bar with positive locking knuckle (not friction) assures continued trouble-free operation.

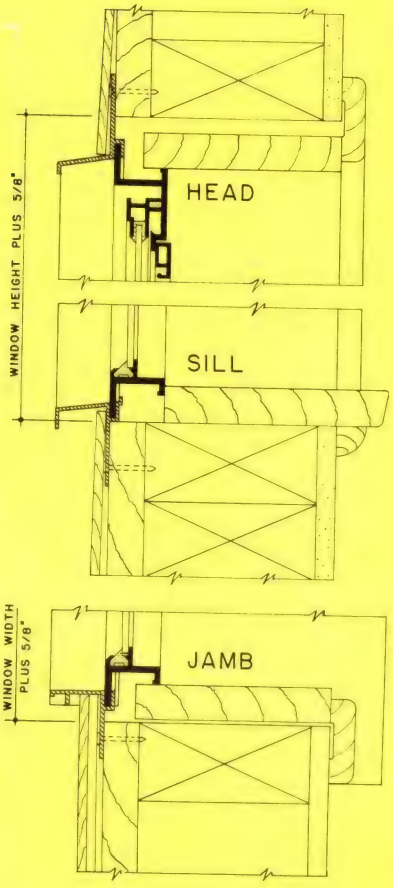
ALTEX FLEX-A-LITE window is easily installed . . . is designed to complement any architecture . . . has the ageless beauty and permanence of aluminum . . . and, with all its advantages, the cost is still competitive.



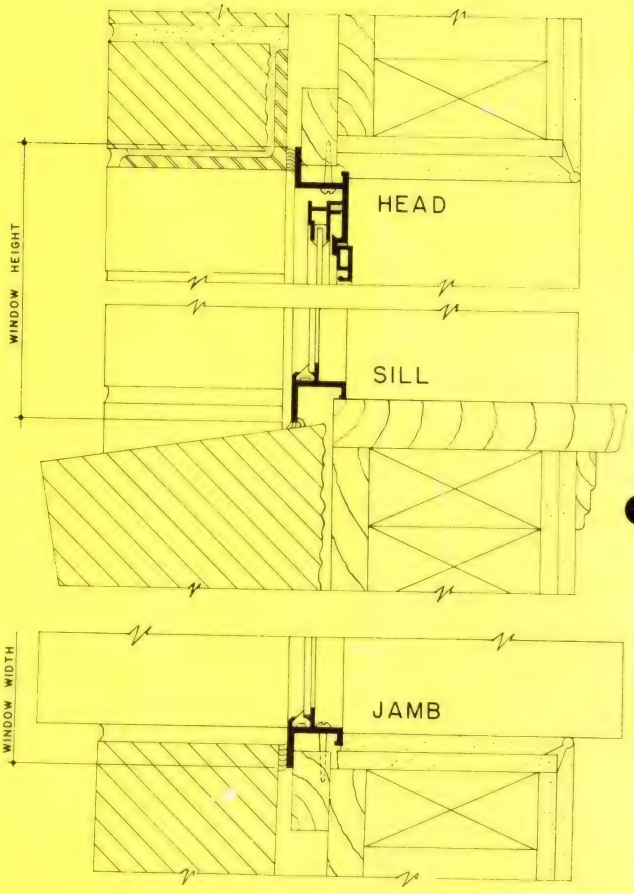
TYPICAL INSTALLATION DETAILS

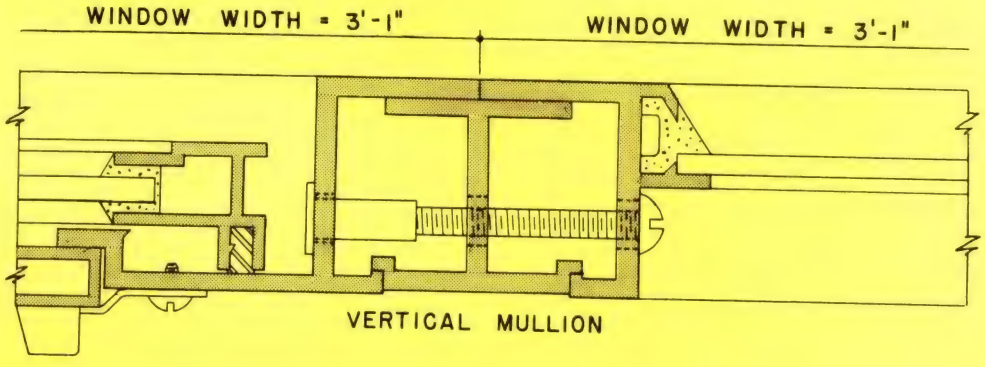


Frame Construction
Using Trim-Fin



Masonry Construction





Specify also ALTEX DOUBLE HUNG ALUMINUM WINDOWS with the flanged frame that affords simple methods of installation. Available in a large number of stock sizes. The completely assembled ALTEX window with factory glass installed, if desired, and all hardware attached assures the Builder a real saving both in initial cost and installation cost.

ALTEX
ENGINEERING
COMPANY
125 INDUSTRIAL RD.
SUMMERVILLE, S. C.



aluminum
vista-walls

ALUMINUM
HOME
PRODUCTS
COMPANY

Knoxville • Tennessee

Duralite

sold by dealers from coast to coast



aluminum
casement
windows

Duralite Aluminum Vista-Walls



Above *is shown a typical installation of Duralite Vista-Walls. Installation was achieved by use of single width units and standard mullions.*

two complete series — *allowing many combinations*

Vista-Walls are manufactured in two complete series of sizes, thus allowing complete flexibility of window area in any conceivable combination of lights from a single unit, to be installed at shoulder height, for bedroom privacy and freedom of furniture arrangement . . . to the floor-to-ceiling window wall so popular in America's newest and finest homes.

tomorrow's windows — *today*

Vista-Walls fully meet the need for windows in the contemporary, functional, and modernistic architectural trend homes. The thin, clean lines of Vista-Walls afford almost unobstructed vision of natural, surrounding beauty, thus creating an illusion of bringing the outside in.

compare these features:

- Feather touch, roto-gear operated ventilators.
- Concealed, counter-balanced hinges.
- Flat, rolled frame aluminum screens.
- Complete flexibility of amount and placement of ventilation.
- Any conceivable combination of lights may be assembled by the use of standard mullions.
- Made from sturdy, extruded aluminum sections, electronically flash-welded, resulting in permanent beauty and many years of maintenance-free service.
- May be adapted for glazing with insulated glass, if desired.

With the present architectural trend toward large, picture windows, the manufacturers of Duralite Casement Windows have designed two complete series of Aluminum Vista-Walls. From the basic idea of complete flexibility of ventilation and window size has evolved a Panel Window System which allows the contractor or builder to obtain any desired combination.

Vista-Walls include very attractive, rolled frame screens made of aluminum. Vista-Walls incorporate the very finest hardware available. A very sturdy length of spring steel is used to actuate your ventilating units.

The use of Vista-Walls as strip windows, set "shoulder height," allows furniture placement in any portion of the room, without interfering with window arrangement. Shoulder-height windows provide complete privacy when desired, while giving adequate light and ventilation.

Vista-Walls, manufactured from sturdy solid extruded aluminum, require no painting. They will not rot, corrode, warp, shrink, or swell. They require a minimum of maintenance or upkeep.

Vista-Walls are designed for optional use of insulated glass. A specially designed aluminum glazing strip is used in ventilators in which the use of insulated glass is desired. This glazing strip, besides being very attractive, gives added strength and sturdiness to the ventilating unit.

Vista-Wall units are joined to create large expanses of window by the use of a very attractive fluted mullion. Vista-Walls are manufactured of aluminum sections which, although very sturdy, present a very pleasing thin line effect. Unlike panel windows of other materials, this results in the maximum of light per square foot of window area.

Vista-Walls are perfect for closing-in breeze ways and porches, since they allow complete summer ventilation as well as winter comfort. Vista-Walls allow complete ventilation, a feature impossible in many other types of windows. Even in a blowing rain there is some degree of ventilation. The very attractive, feather touch hardware used on Vista-Walls allows easy operation of ventilating units, without the necessity for unfastening screen, raising blinds, etc.

The neutral color of Vista-Walls blends exceptionally well with any exterior or interior color scheme. Vista-Walls may be obtained in special sizes, if desired. Vista-Walls may be ordered with the muntins omitted from the fixed sections, to accommodate larger sized picture windows. Vista-Walls may be used in conjunction with large fixed picture windows to produce the increasingly popular picture window with ventilated flankers.

adaptable to any design condition



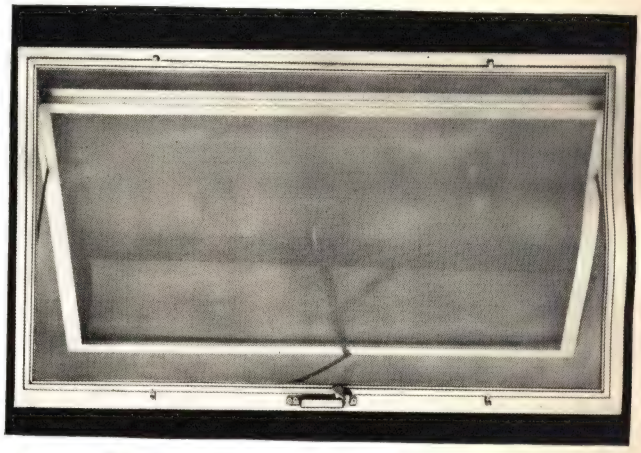
exterior — *Shown above are two single units, mullioned together to form a unit of the increasingly-popular ribbon type of installation, for bedrooms, dens, and applications where privacy and furniture placement are important factors.*



interior — *Shown above is an interior view of the Vista-Wall combination shown on the opposite page. Note high placement of ventilation which permits flexible furniture arrangement for the full advantage of large glass areas.*



ventilators — *Illustrated is a close-up of the ventilator in a semi-opened position. An underscreen roto-gear operator actuates a sturdy spring steel arm, and the ventilator travels on counter-balanced, concealed hinges, for smooth, easy operation.*

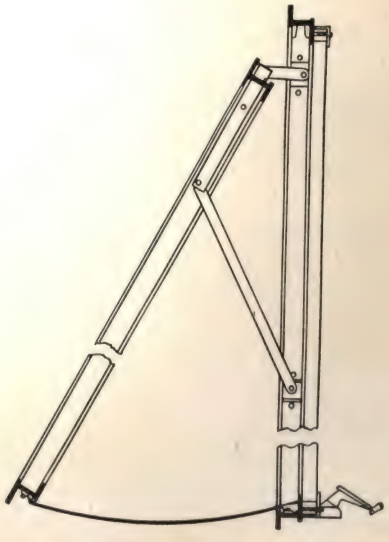


screens — *This interior view shows the rolled frame screen mounted with adjustable clips. Screens need not be removed, except for cleaning, and may be removed or mounted in a matter of seconds.*

counter-balanced concealed hinges



Shown at left is a close-up of the counter-balanced, concealed hinge, which, in combination with the roto-gear operator, results in complete, satin-smooth control of ventilation. A cross-section view of a ventilator, with hardware at the open position, is shown at right.

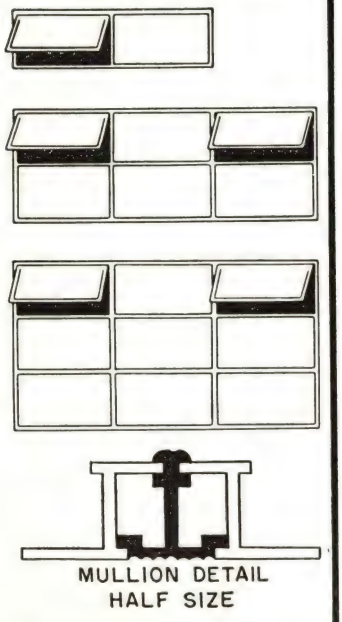


Vista-Walls . . .

aluminum panel window system

types and sizes

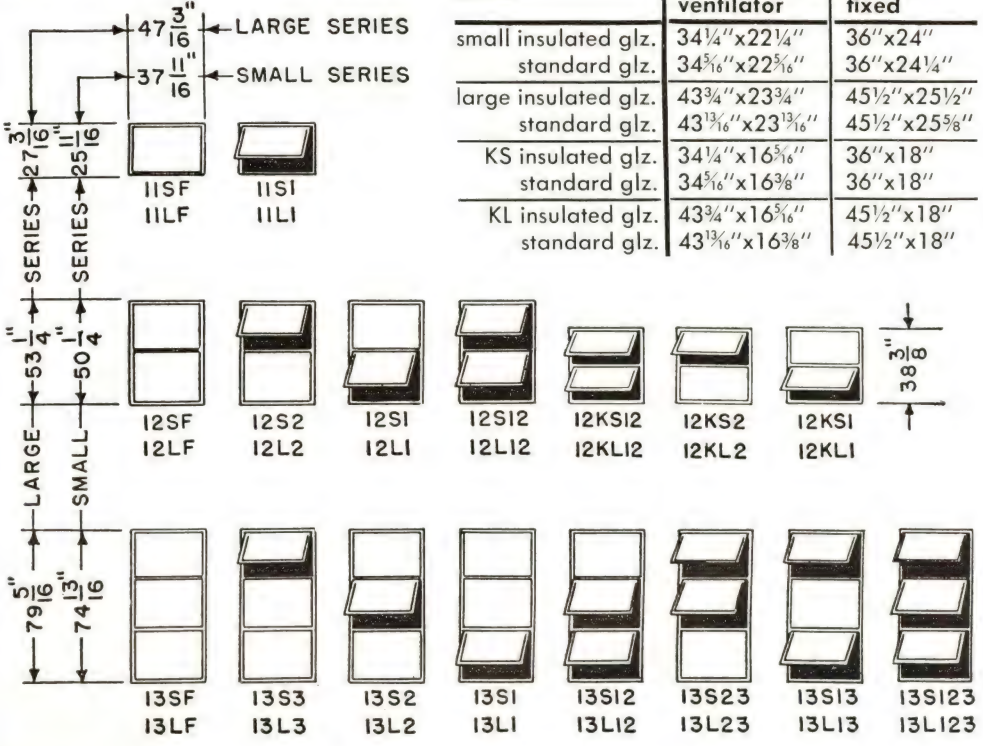
suggested combinations



MULLION DETAIL
HALF SIZE

In determining overall widths of panel window combinations, add ⅛" for each mullion.

sizes



series	glass sizes, inches	
	ventilator	fixed
small insulated glz.	34¼"x22¼"	36"x24"
standard glz.	34⅜"x22⅝"	36"x24¼"
large insulated glz.	43¾"x23¾"	45½"x25½"
standard glz.	43 13/16"x23 13/16"	45½"x25⅝"
KS insulated glz.	34¼"x16 5/16"	36"x18"
standard glz.	34⅜"x16⅜"	36"x18"
KL insulated glz.	43¾"x16 5/16"	45½"x18"
standard glz.	43 13/16"x16⅜"	45½"x18"

specifications

general

Duralite Vista-Walls, as manufactured by Aluminum Home Products Company, Knoxville, Tennessee, shall be manufactured to the following specifications:

material

Vista-Walls shall be manufactured from extruded aluminum sections, of alloy 63ST-5. All hardware, fastenings, and accessories shall be of materials suitable for use with aluminum.

construction

Vista-Walls shall be manufactured with mitered, and electronically flash-welded, corner joints. Welds shall be cleaned and finished smooth. Meeting rails or muntins, where required, shall be tenoned into frame sections and swaged.

finish

Vista-Walls shall be chemically cleaned and shall be etched to a satin finish. A coat of clear lacquer shall be applied to exposed surfaces.

hardware

Hardware shall be of roto-gear or lever-type, underscreen mounted, operated through the sill section or meeting rail. Counter-balanced, concealed hinges shall be used, unless otherwise specified. Hardware shall be finished to match the window. Above types of hardware are at the buyer's option.

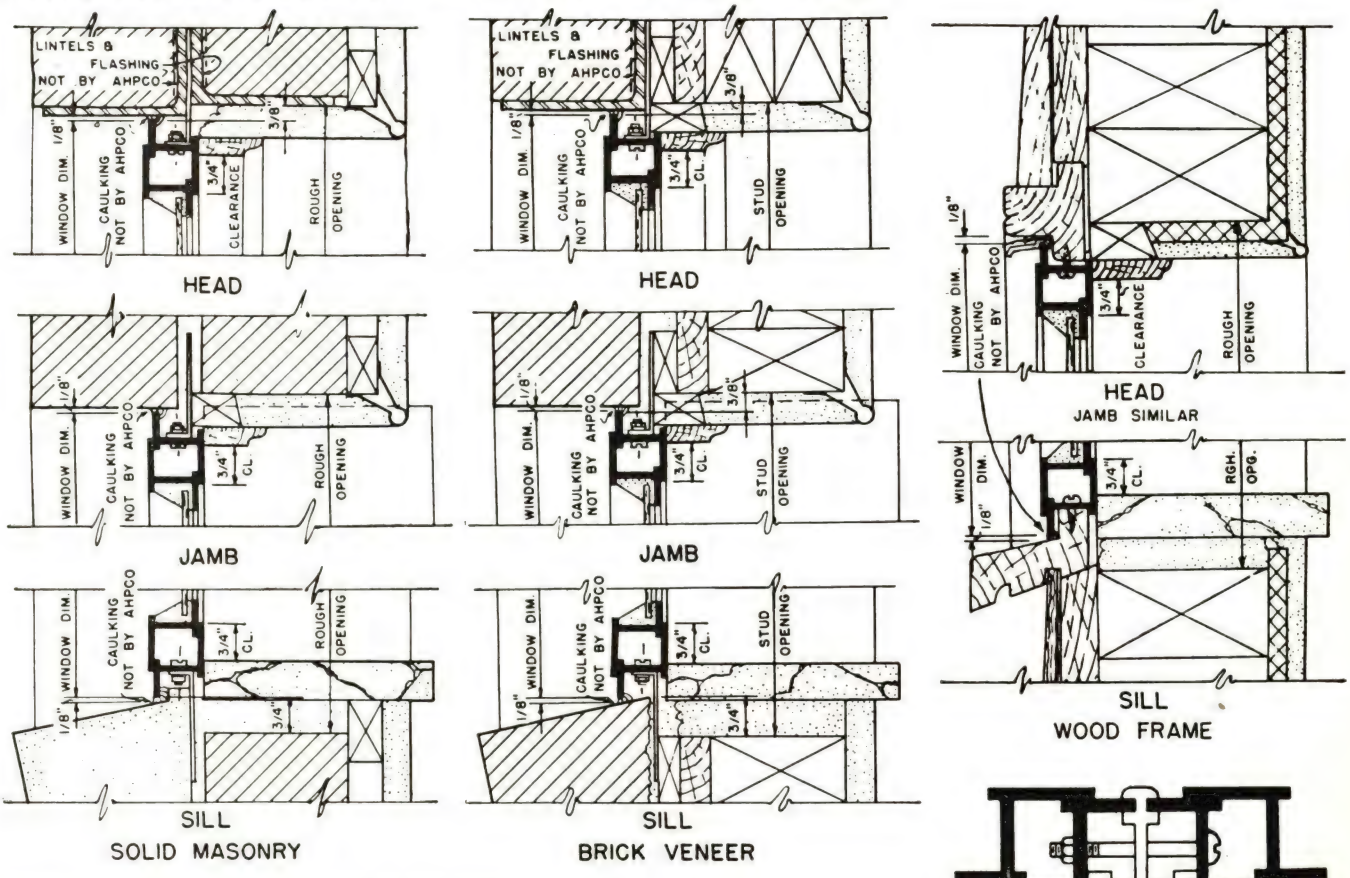
screens

Screens shall be of the flat, rolled type, and shall be mounted with adjustable clips and screws. Aluminum wire of the proper mesh shall be used. All material used in screens and fastenings shall be aluminum.

erection and glazing

Since the erection and glazing of Duralite Aluminum Vista-Walls shall be the function of the buyer or his agents, the manufacturer has no control over the installation methods, but stands ready at all times to provide necessary instructions and advice for the best results from the use of the product. It is suggested that all materials used for erection and glazing shall be of a type suitable for use with aluminum windows and should contain no chemicals harmful to aluminum.

installation details scale 3" = 1' — 0" except as noted



Full size tracing details available on request.

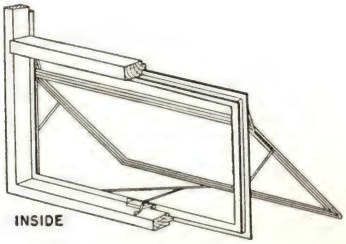
aluminum ventilator sash for wood frames

Duralite Aluminum Ventilator Sash is manufactured in standard sizes for use in rabbetted wood frames, available from most millwork manufacturers. At right and below are cross-sections and a typical installation of these ventilators in wood frames. Typical sizes are:

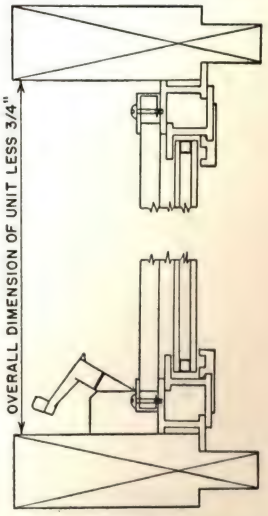
45¾" x 25¾" — Glass Size 42½" x 22½"
36¼" x 24¼" — Glass Size 33" x 21"

Special glazing bead is available, when insulated glazing is desired. Glazing bead is shown in cross-section at right. Special sizes are available, and prices will be furnished upon request.





Isometric view *of installation in wood frame.*



Cross-section *of ventilator, showing installation in rabbetted 2" x 6" wood frame.*

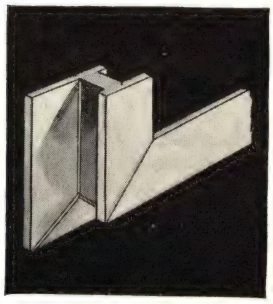


Duralite aluminum

casement windows

- **more light**
- **no upkeep**
- **smart appearance**

easily operated, installed and cleaned



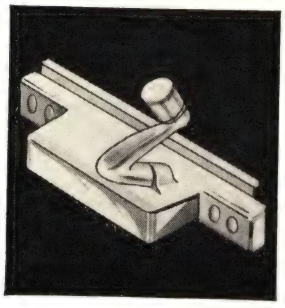
Duralite Casements afford light and ventilation up to almost 100% of the window opening, making for more comfortable, healthful living.

Duralite Casements are built of sturdy, extruded aluminum sections, of an alloy developed especially for strength and weather resistance. Their bright yet neutral color blends well with any interior or exterior color scheme.

Duralite Casements require a minimum of maintenance and upkeep. They are designed and manufactured to last a house-time.

Duralite Casements are equipped with roto-gear, underscreen operators, and die-cast latches, affording feather-touch control of ventilation.

Duralite Casements may be easily and economically installed in any type of construction.



sturdy construction and smart design

Duralite Casements are manufactured with smooth, almost invisible flash-welded joints. They are manufactured from extruded sections, which, though massive enough for more than ample strength, form thin, clean lines, blending with any type architecture.



harmonizing Duralite accessories

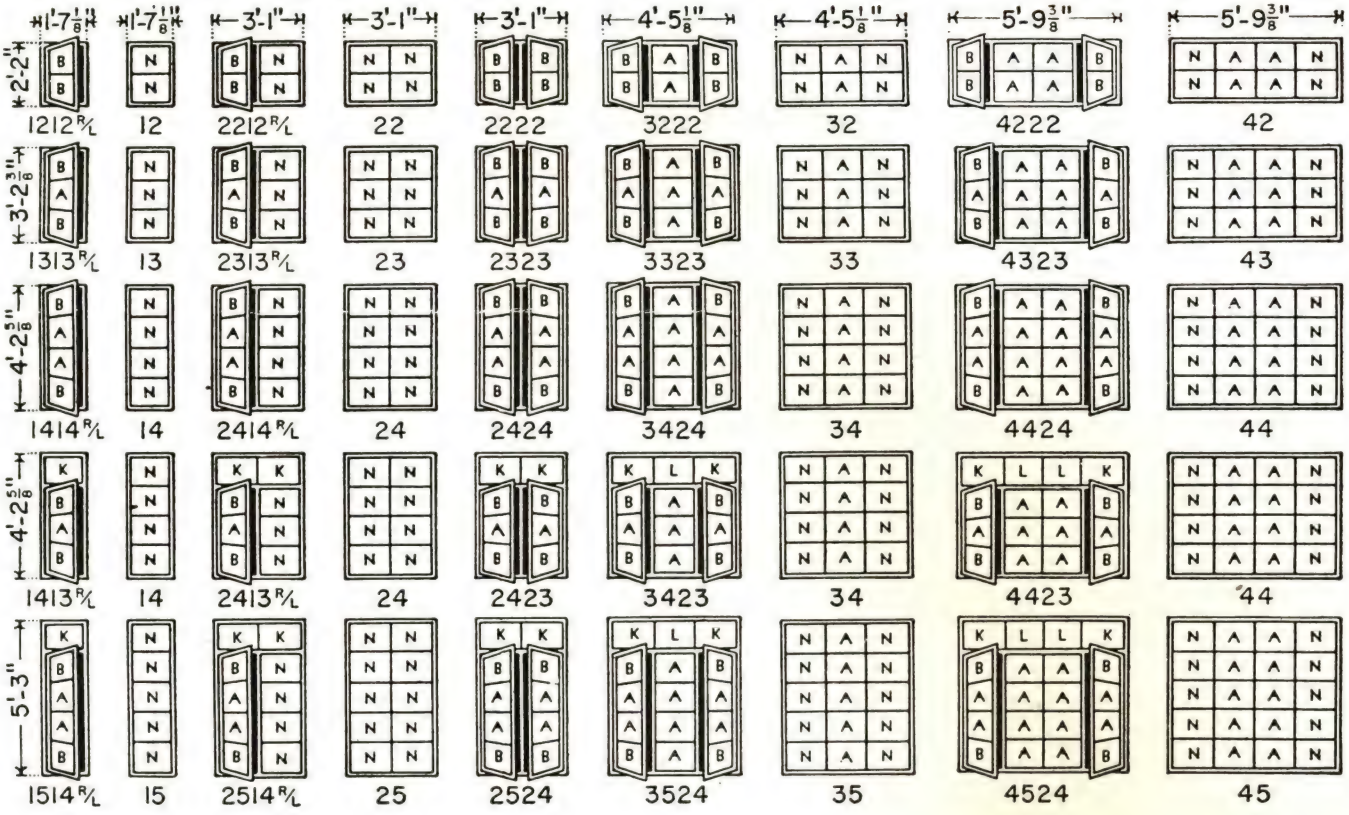
aluminum screens

Matching Aluminum Screens, of the rolled frame type, are available for use with Duralite Casements. They are attached with adjustable clips and screws.

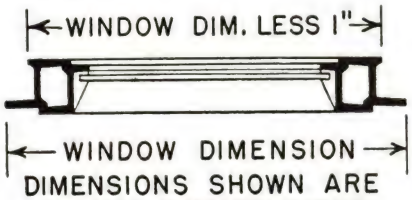
storm sash and weatherstrip

For added weather protection, storm sash and weatherstrip are available for standard and special size Duralite Casements.

wide choice of types and sizes



	glass sizes, in	
series	wide	high
A	16	12
B	16	11 5/16
K	17¼	11⅝
L	16	11⅝
N	17¼	12



QUALITY APPROVED

C-A1

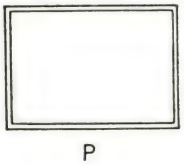
A.W.M.A. Quality Specifications—Materials, Construction, Strength of sections and Air infiltration requirements—confirmed by PITTSBURGH TESTING LABORATORY.

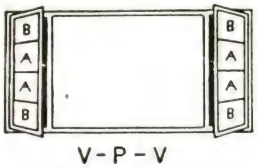
MEMBER—ALUMINUM WINDOW MANUFACTURERS ASSOCIATION

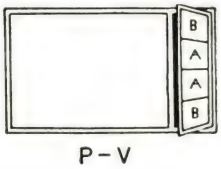
Duralite picture windows

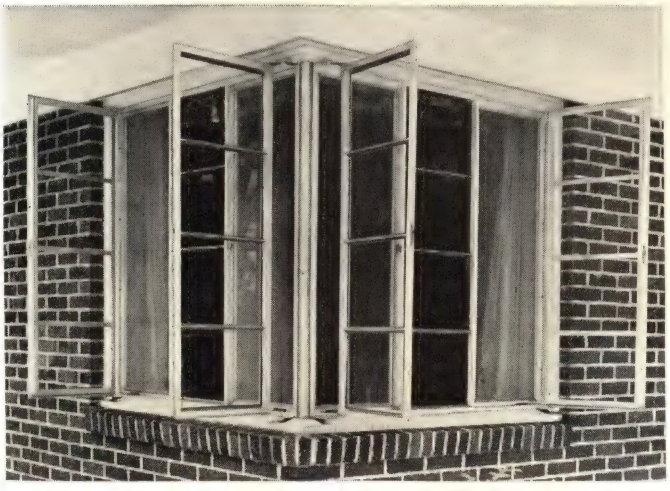
Below are shown three basic styles of picture windows. These styles may be modified as to size of picture panel and the amount and placement of ventilation.

We are set up to render excellent service on sash of this type.



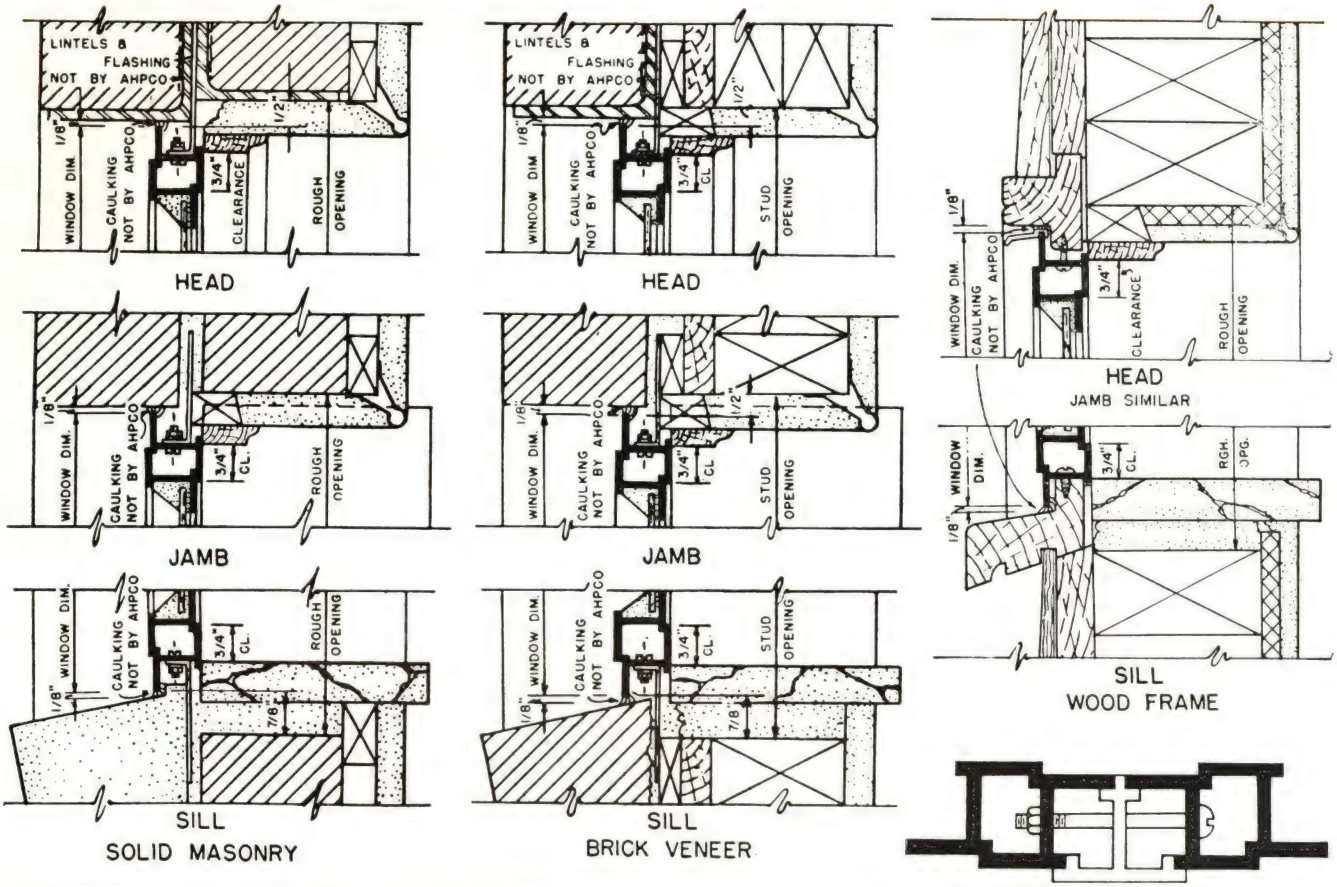






Duralite® aluminum casement windows

installation details scale 3" = 1' — 0" except as noted



Full size tracing details available on request.

specifications

general

Types and sizes shown herein shall be manufactured by Aluminum Home Products Company of Knoxville, Tennessee, to specifications as follows:

material

Duralite Aluminum Casement Windows shall be fabricated from solid extruded aluminum sections, frame and ventilator members to have a minimum nominal thickness of 1/8". Major sections used shall be of 1" depth. All Duralite Aluminum Casement Windows shall be fabricated from alloy 63ST-5, or its equivalent.

construction

All corners shall be mitered and electrically flash-welded. Welds shall be cleaned and shall be free from discoloration. Muntin bars shall be tenoned into frame and ventilator members and shall be firmly attached at cross joints. Side hinged ventilators shall be hung on self-cleaning extension hinges. Hinges shall be securely attached to the frame and ventilator. Drip caps shall be furnished to fit at the top of all ventilators.

finish

Duralite Aluminum Casement Windows shall be chemically cleaned and shall be etched to a satin finish. A coat of clear lacquer shall be applied to exposed surfaces.

hardware

Hardware for adjusting the ventilators shall be of the roto-gear, underscreen type. Locking handles shall be furnished for locking the ventilators in the closed position. All hardware shall be finished to match the windows. Other types of hardware may be specified.

screens

Aluminum Screens, made from rolled sections and approved mesh aluminum wire, complete with attaching clips, are obtainable from Aluminum Home Products Company or their dealers.

storm sash

Storm sash of extruded or rolled aluminum shapes, interchangeable with screens, are obtainable either glazed or unglazed. Storm sash shall be complete with heavy duty mounting clips.

weatherstrips

Special alloy spring-tension weatherstrips for all sizes of Duralite Casement Windows are obtainable from Aluminum Home Products Company or their dealers.

ALUMINUM HOME PRODUCTS COMPANY

Member • Aluminum Window Manufacturers Association

Carr Street and Southern Ry. • Knoxville, Tennessee

QUALITY APPROVED C-A1

APCO aluminum windows





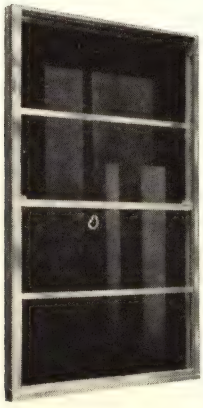


ALUMINUM PRODUCTS CO.
1901 FRANKLIN AVE. • HOUSTON 2, TEXAS



The APCO Aluminum Window offers the utmost in beauty, durability, efficient design and lasting economy. It is sturdily built from heavy extruded aluminum sections. Spring-tape balances of finest quality give smooth and silent finger tip operation. Metal-backed weatherstripping of woven wool pile assures positive weather-tightness. And all these outstanding advantages are combined in this revolutionary new aluminum window at surprisingly low initial and final cost.

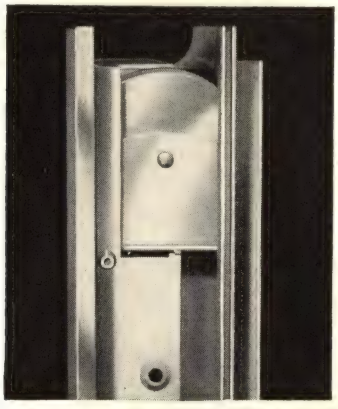
special features



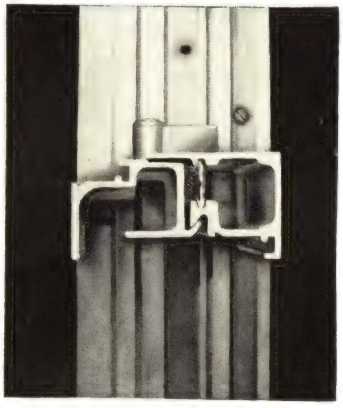
fixed upper sash—The fixed upper sash permits absolutely weather-tight construction, a factor of vital importance in modern air conditioning. The meeting rail is tenoned through the jambs, affording much greater rigidity and structural strength than is possible in the conventional double-hung window with two sash operating independently in the same frame.



twin locks—Specially designed twin locks assure maximum protection against intruders. Attractive lock levers are placed at the extreme sides of the meeting rail for strength and beauty. They are made from 75 S-T-6 aluminum alloy and assembled with stainless steel washers and compression springs for additional protection against air infiltration. They do not obstruct the line of vision.

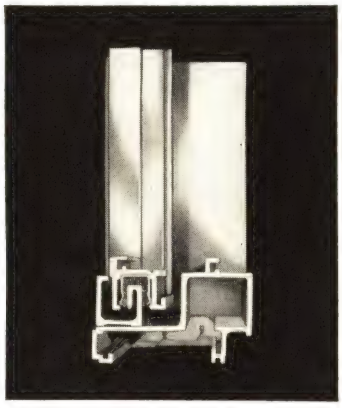


spring tape balances—Concealed within the frame jambs are two stainless steel spring tape balances which offer the utmost in lifetime operation. This type of balance combines with APCO's unique weatherstripping to assure silent, finger tip sash operation.

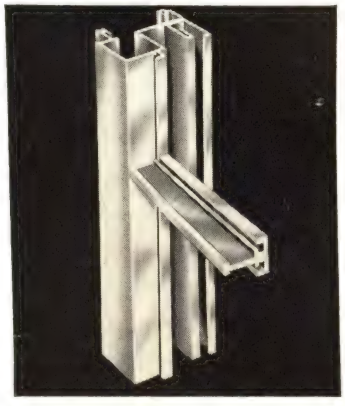


weatherstripping — APCO weatherstripping is made of woven pile fabric manufactured from the finest wool obtainable, and backed with aluminum. This design assures perfect operation year in and year out, with a minimum of air infiltration in any weather.

Whether you plan a commercial building, a costly residence, or a modestly priced home, you will want to know about this most versatile window before you specify. APCO extruded aluminum window is readily adaptable to many types of construction. Its low cost, easy installation, and long life recommend it to every builder. In these pages you will find a brief statement of APCO Window features and advantages, with important construction details. You are invited to ask for additional information.

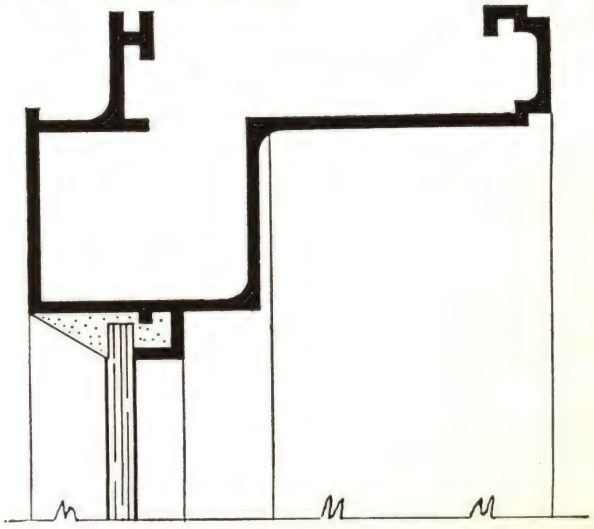


extruded sections—The heavy extruded aluminum sections of APCO Windows have been specially designed to provide the maximum obtainable strength in relation to cross sectional area. The hollow bottom rail incorporates an integral continuous lift which adds the virtue of convenience in sash operation and, at the same time, increases the sturdy strength of this section.

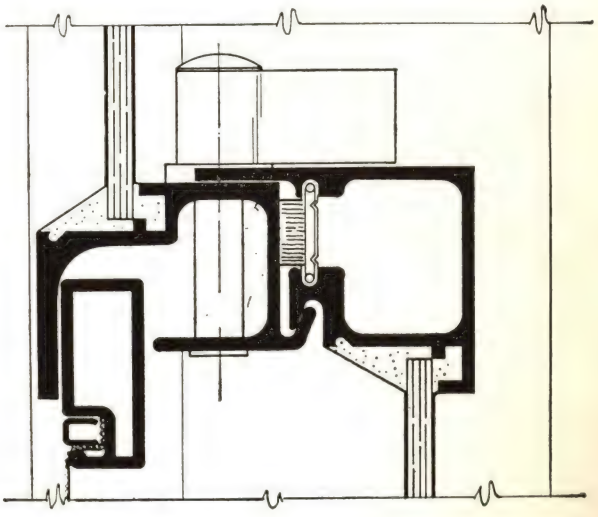


muntin—The heavy tee muntin is secured to the aluminum frame by a special patented method. Its scientific design and sturdy construction make it resistant to wind pressures. Modern clear cut lines add real beauty to the window and improve its strength.

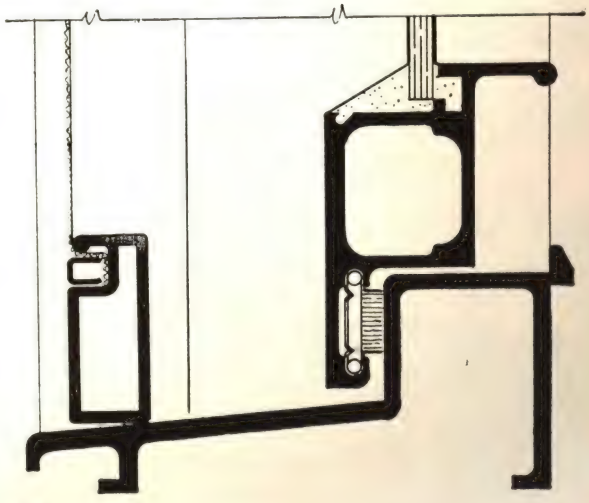
full size sections



head



meeting rail



sill

stock sizes and types

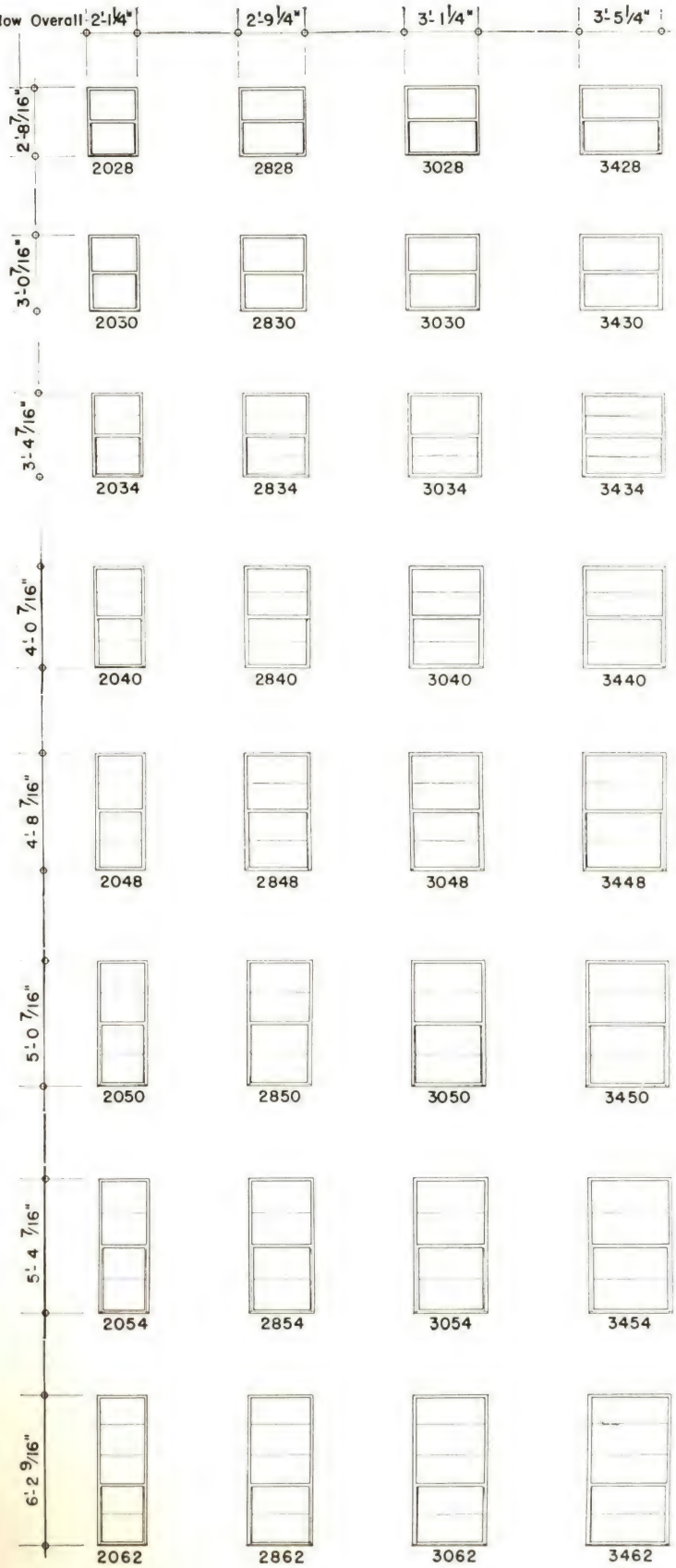
APCO offers a large selection of stock window sizes which are illustrated on this page. All stock sizes are available in various muntin bar arrangements such as Style B (all muntins removed) and Style C (horizontal and vertical muntin arrangement). Custom sizes are available in any dimensions up to and including 3'5 ¼" in width and 9' in height. Windows 2'0 7/16" high available in all widths shown.











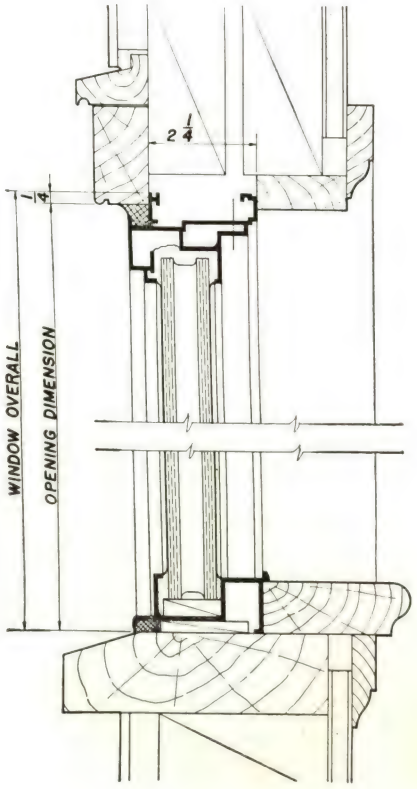
picture windows



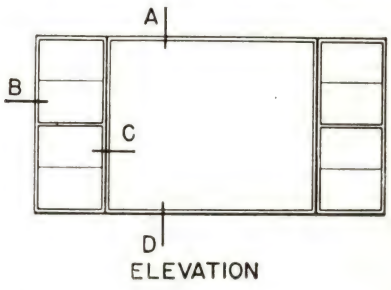
APCO manufactures a complete line of picture window frames to be used in connection with its stock windows. Standard widths are 4′1¼″, 5′1¼″, and 6′1¼″, available in all standard heights as shown on the window schedule. The APCO picture window combination as detailed opposite is particularly attractive in that all units fit flush jamb to jamb and the outside mullion cover presents a clean unbroken appearance unmarred by bolts or screws of any kind. The APCO picture frame will accommodate any size glass up to and including 1″ Thermopane.

double insulating glazing

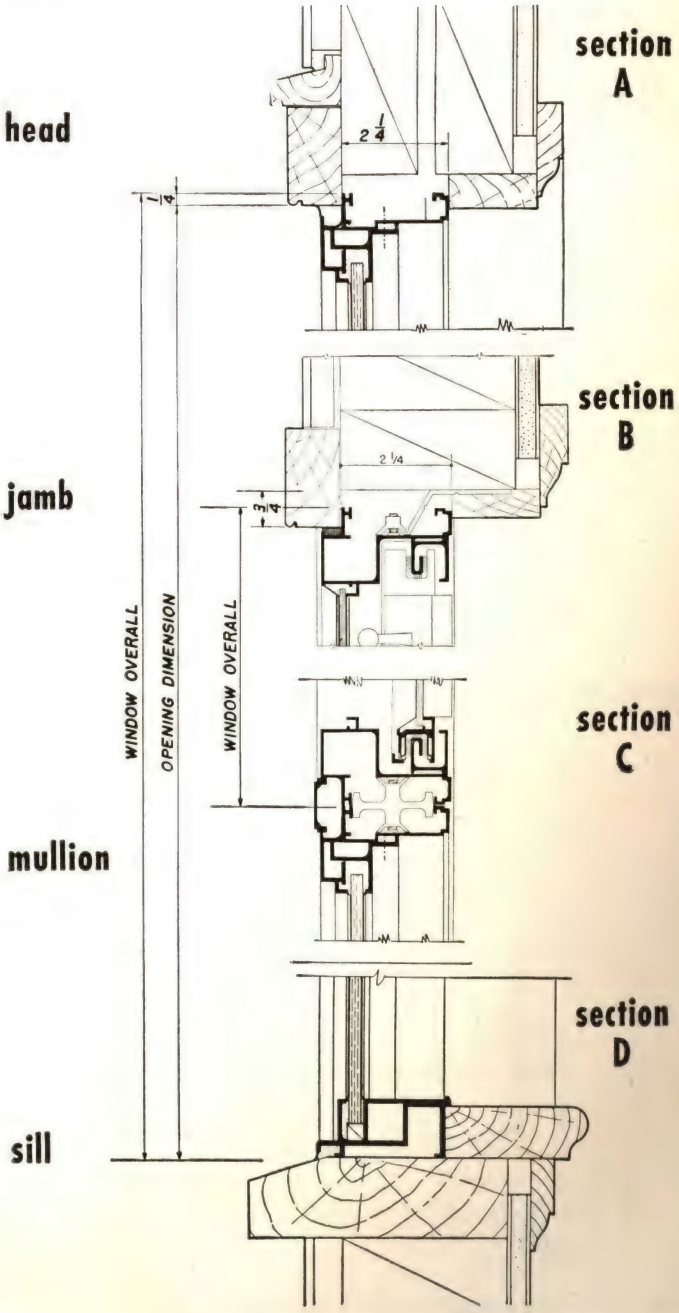
scale: 3″ = 1′0″



combination details—single glazing

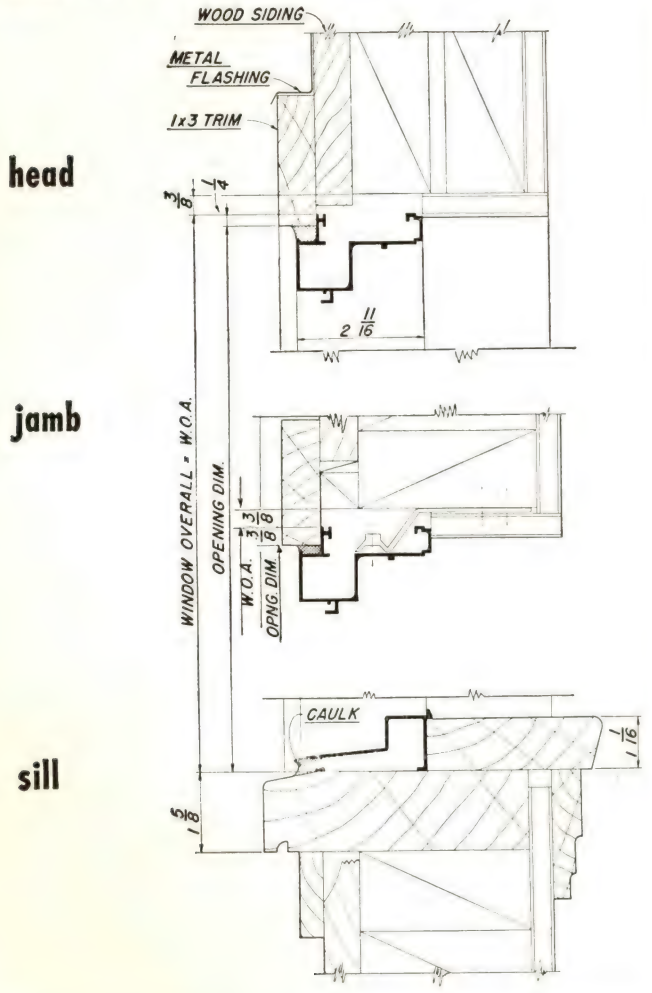


scale: 3″ = 1′0″



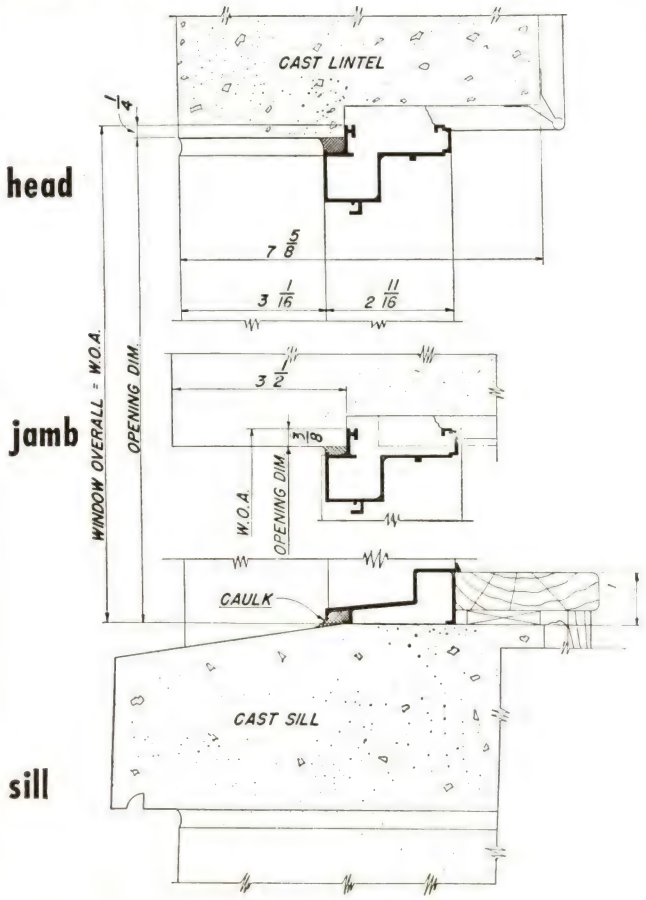
wood frame

scale: 3″ = 1′0″



block construction

scale: 3″ = 1′0″



caution: Protect all surfaces of aluminum which come in contact with mortar by using bituminous paint or asphaltum.

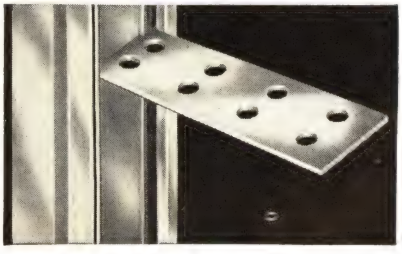
floating installation

APCO's jamb anchor which is adaptable for use in all types of construction except masonry, has eliminated many of the installation difficulties that exist in present day field conditions. Readily affixed to the window frame with stainless steel screws furnished by APCO, jamb anchors afford a permanent yet flexible installation.



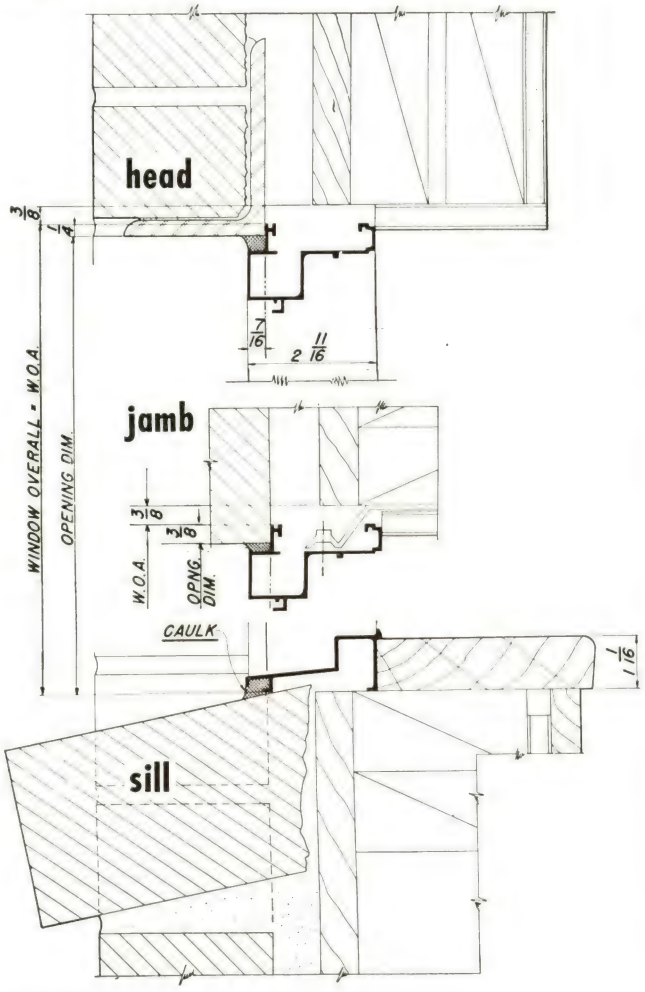
masonry anchor

APCO's special anchor for masonry installations locks into the jamb by a twist of the wrist. The projecting part of the anchor then lies on the mortar between the masonry units and holds the window securely in place. When this anchor is used the APCO window should be set as the walls are raised.



brick veneer

scale: 3" = 1'0"

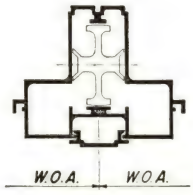


mullion details

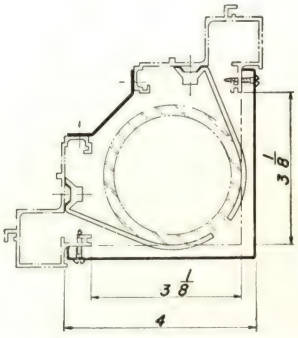
5a
ALm

scale: 3" = 1'0"

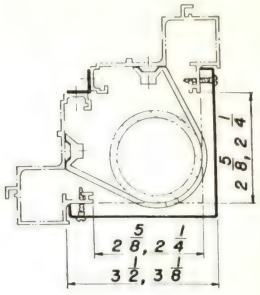
typical mullion



mullion style 90D



mullion style 90C, style 90B



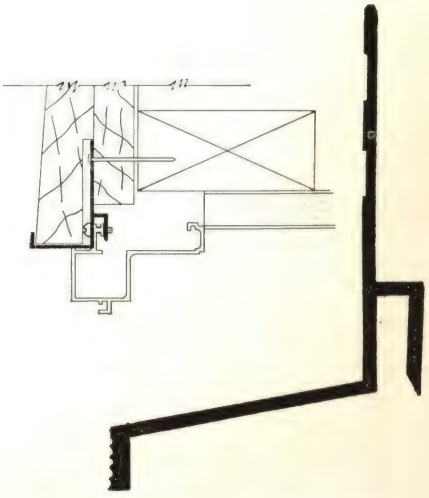
note: Mullion covers are formed from .051 sheet aluminum, are drilled and furnished complete with attaching screws.

fin trim

APCO furnishes an optional extruded fin trim accessory which is designed to afford an additional installation procedure to those outlined on opposite page. Use of the fin trim accessory allows extremely rapid installation and results in a trim finished appearance. It provides an economical installation by eliminating such cost items as brick mold, drip cap, and sill, as well as a saving in labor.

Flanges of the fin trim are nailed to the sheathing or studding, and the siding or brick veneer may be returned to the exposed fin as suggested in the accompanying installation detail. Installation detail of jamb is similar to head detail shown.

Full size section of fin trim is shown at right.



specifications

Windows shall be Aluminum double-hung type with fixed upper sash and fixed meeting rail tenoned through jambs as manufactured by Aluminum Products Co., Houston, Texas.

materials—Both window frames and sash shall be Alcoa 63S-T5 or equivalent. Thickness of sash and frame members .063″ with .078″ thick frame sill.

finish—Shall be standard mill finish with reasonably uniform natural color. No serious surface defects. All units shall receive a coating of special water white metal lacquer preceding shipment from factory.

construction—A permanently water-tight joint shall be made at the corners of sash and frame. All corners shall be constructed in a quality manner which shall be representative of the entire unit in accordance with manufacturer's shop practice. Heads and jambs are to be joined by the brazing technique and are to be mitred; sills and jambs to be joined mechanically and re-inforced by corner blocks.

weatherstripping—Metal backed woven wool pile fabric around entire periphery of operating sash.

hardware—"Twin Locks" attached to fixed meeting rail. Integral continuous lift on bottom rail of sash.

sash balances—Shall be of the spring tape type concealed in the frame jambs.

glazing—Unless otherwise specified, all windows shall be factory glazed with single strength window glass using glazing clips where necessary. Compound suitable for Aluminum windows shall be used to set glass.

accessories—**screens**—Half vertical length screens will be furnished as standard. Full length screens available at slight additional cost. Screens will be equipped with 16 mesh Alclad 56S or equivalent screen cloth.

jamb anchors—Sufficient quantity of jamb anchors complete with screws for attaching to window will be furnished with each window.

masonry type anchors—available upon request.

fin trim accessories—available upon request.

mullions—Where two or more windows are to be installed in a single wall opening, provisions shall be made to provide a satisfactory vertical mullion.

erection—Window frames and sash to be erected by experienced erection contractor in a true and plumb position and securely anchored in place.



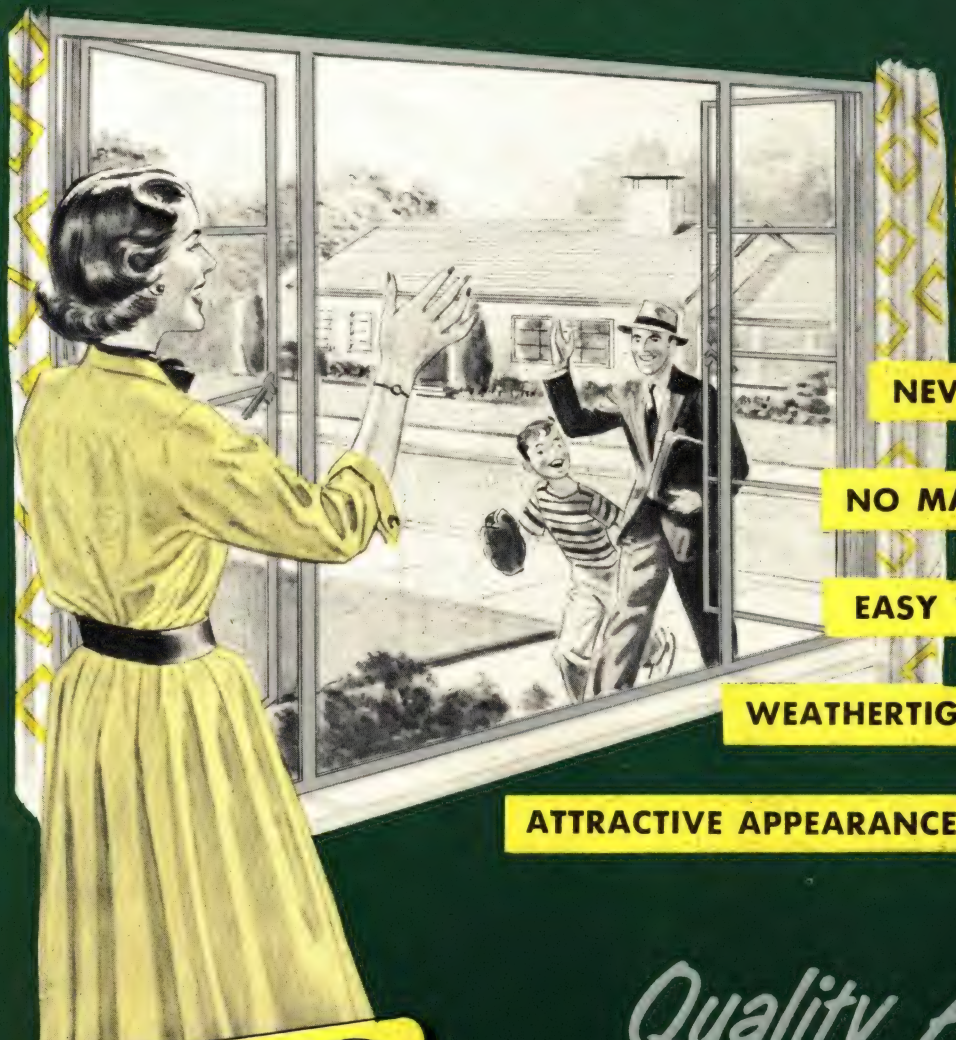






ALUMINUM PRODUCTS CO.
1901 FRANKLIN AVE. · HOUSTON 2, TEXAS

WINDOWS THAT ADD SALES APPEAL TO ANY HOUSE YOU BUILD!



- NO RUSTING
- NO ROTTING
- NEVER NEED PAINTING
- NO MAINTENANCE EXPENSE
- EASY TO OPEN AND CLOSE
- WEATHERTIGHT SEAL
- ATTRACTIVE APPEARANCE

QUALITY APPROVED

(TYPE)

A.W.M.A. Quality Specifications—Materials, Construction, Strength of sections and Air infiltration requirements—confirmed by PITTSBURGH TESTING LABORATORY.

MEMBER—ALUMINUM WINDOW MANUFACTURERS ASSOCIATION

Quality Approved

ALUMINUM WINDOWS

The "TOUCH OF QUALITY" that



Quality Approved



8 REASONS WHY YOU SHOULD USE ALUMINUM WINDOWS:

1. **PREFERRED BY MOST HOME BUYERS**
   Growing demand by the public provides a real sales advantage.
2. **ADD VISIBLE SALES APPEAL**
   that can be seen from outside as well as inside.
3. **FIT ALL STYLES and TYPES of CONSTRUCTION**
   Can be used in ranch, colonial, modern or traditional style houses, with frame, brick, brick veneer or block construction.
4. **EASY TO HANDLE and INSTALL**
   Light in weight, they're easily installed by one man, saving expensive time and labor on the job.
5. **NEVER NEED PAINTING**
   at time of installation or after. Cannot rust or rot.
6. **EASY, TROUBLE-FREE OPERATION**
   Will not swell or warp. Always open and close easily.
7. **NEUTRAL COLOR**
   harmonizes with any color decor, inside and outside.
8. **ACCEPTED BY MORTGAGE OFFICERS**
   as a superior, money-saving building product that lowers maintenance costs and enhances resale values.



Look for this "quality seal"

TESTED For Quality Materials



TESTED For Sound Construction



TESTED For Strength of Sections



TESTED For Low Air Infiltration



appeals to every new-home buyer!

ALUMINUM WINDOWS

Quality-Approved aluminum windows add sales appeal to any house you build, regardless of its design or size.

For the woman, it's the appeal of attractive beauty, ease of operation, weathertightness, and that modern look-of-tomorrow. For the man, it's the practical dollar-and-cents appeal of no painting, no maintenance expense, lower fuel costs.

Customer surveys show that home buyers, in all sections of the country, want these modern windows that cannot rot or rust... that save money on painting and maintenance, year after year... that always operate easily, effortlessly, efficiently... that remain up to date and beautiful for the life of the home.

Why not cash in on this growing demand for aluminum windows on the part of home buyers? As you plan and build new houses, install "Quality-Approved" aluminum windows and see for yourself how they help stimulate sales. Your home buying prospects, as well as your financing agency, will appreciate it, too, if you include screens and storm sash as part of a complete single-package mortgage.

To make sure you get good quality aluminum windows—designed and constructed in accordance with recognized quality standards—insist on windows with the "Quality-Approved" Seal. They are available through many manufacturers in all sizes and styles (double-hung, casement, awning, projected and sliding.) All are tested against rigid performance standards. All are APPROVED for quality of materials, for strength of sections, for sound construction, and for low air infiltration.

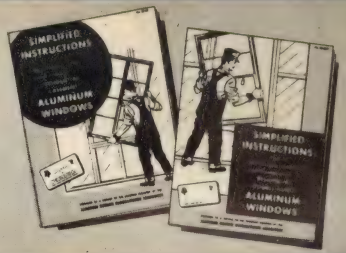
For additional information, consult any of the manufacturers listed on the next page.

Aluminum Window Manufacturers Association

74 Trinity Place, New York 6, N. Y.

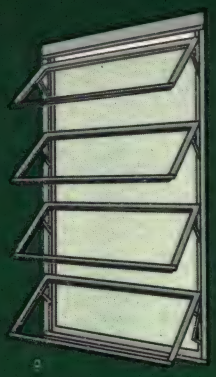
SIMPLIFIED INSTALLATION MANUALS... *FREE!*

Every builder should have copies of these "Simplified Instructions for proper handling and installation of residential aluminum windows." Contain many helpful suggestions—DO'S and DON'TS—profusely illustrated. Send for Double-Hung or Casement Manuals. Address Dept. SB-54, Aluminum Window Manufacturers Association, 74 Trinity Place, New York 6, N. Y.





Look for this "quality seal" when you buy!



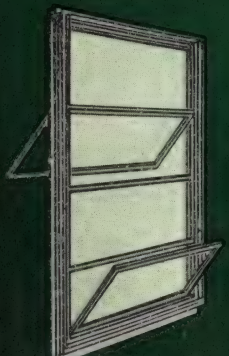
awning



casement



double-hung



projected



sliding

THESE REPUTABLE WINDOW MANUFACTURERS ARE READY TO SUPPLY YOU WITH *Quality Approved* ALUMINUM WINDOWS

	DOUBLE HUNG	CASEMENT	AWNING	PROJECTED	SLIDING
ALCASCO PRODUCTS, Inc. 12640 Burt Road, Detroit 23, Michigan		★			★
ALUMINUM HOME PRODUCTS CO. Carr St., Knoxville, Tenn.		★			
THE WM. BAYLEY COMPANY 1200 Warder St., Springfield 99, Ohio				★	
CECO STEEL PRODUCTS CO. Sterling Aluminum Window Div. 5601 West 26th St., Chicago 50, Ill.	★	★			
CUPPLES PRODUCTS CORPORATION 2650 So. Hanley Rd., St. Louis 17, Mo.	★			★	★
FENTRON INDUSTRIES, INC. 2801 Market St., Seattle 7, Wash.		★	★	★	
MICHAEL FLYNN MFG. CO. 700 E. Godfrey Ave., Philadelphia 24, Pa.	★	★	★		★
GENERAL BRONZE CORP. Stewart Ave., Garden City, N. Y.	★		★		★
HUNTER MANUFACTURING CORP. Box 27, Bristol, Pa.	★				★
METAL ARTS MANUFACTURING CO., INC. Harwell Rd., Atlanta, Ga.	★				★
REYNOLDS METALS CO. (Window Div.) 2000 S. 9th St., Louisville, Ky.	★	★	★	★	★
J. S. THORN CO. 8501 Hegerman St., Philadelphia 36, Pa.	★	★		★	
UNIVERSAL WINDOW CO. 950 Parker St., Berkeley 10, Cal.		★	★	★	
WARE LABORATORIES, INC. 3700 N.W. 25th St., Miami, Fla.		★	★	★	
WINDALUME CORPORATION Kenvil, N. J.	★				

ALUMINUM WINDOW MANUFACTURERS ASSOCIATION

74 Trinity Place · New York 6, N. Y.

GENERAL BRONZE CORPORATION

ALWINTITE®

ALUMINUM WINDOWS

- HORIZONTAL SLIDING WINDOWS
- PICTURE SLIDING WINDOWS
- DOUBLE HUNG WINDOWS
- PICTURE WINDOWS
- AWNING WINDOWS
- VIEWALL WINDOW WALLS
- PAN-O-RAMA SLIDING WALLS
- STORM SASH AND SCREENS
- COMBINATION STORM AND SCREEN WINDOWS
- COMBINATION STORM AND SCREEN DOORS

AB 55

ALWINTITE

OUR HISTORY

You're safe when you specify products of a company which has been faithfully serving the building industry for 45 years. The history of General Bronze Corporation goes back to 1910 and the company's growth since then is one of dramatic and thrilling accomplishment.

PRODUCTION FACILITIES



ALWINTITE aluminum windows by General Bronze are made in the world's largest aluminum window plant. This new, modern plant at Garden City, New York, covers more than 5½ acres of land, provides 300,000 square feet of factory space and has a production capacity of more than 4,000 aluminum windows per day.

RESEARCH AND TESTING

The performance of ALWINTITE windows must meet the exacting requirements of General Bronze research and testing laboratories. Before being approved for the production line, new windows are submitted to weather tests ranging from simulated drizzle and driving rain to gusty squalls and hurricanes up to 110 miles per hour.



MATERIALS AND WORKMANSHIP

ALWINTITE aluminum windows are engineered from the finest quality extruded sections and embody the latest and most advanced features in design, operation and construction. And architects and builders can choose from the widest assortment of aluminum window and door products available anywhere.

EXTRA ARCHITECTURAL SERVICE

ALWINTITE distributors, located conveniently across the country, provide competent architectural engineers for counsel at no obligation. Completely assembled windows are delivered promptly from nearby warehouse stocks for quick, easy installation.

QUALITY APPROVED

(TYPE)

A.W.M.A. Quality Specifications—Materials, Construction, Strength of sections and Air infiltration requirements—confirmed by PITTSBURGH TESTING LABORATORY.

MEMBER—ALUMINUM WINDOW MANUFACTURERS ASSOCIATION

Seals of Approval

REPLACEMENT OR REFUND OF MONEY
Guaranteed by Good Housekeeping
IF NOT AS ADVERTISED THEREIN

Hotels - Hospitals - Apartment Houses



Small Homes - Custom Built Homes



Schools - Institutions

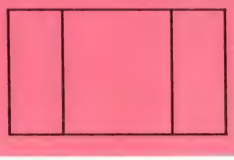
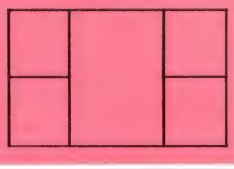
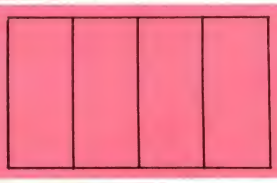


Commercial Buildings



Selector Guide

SIZES AND DETAILS IN THIS CATALOG ARE SUBJECT TO CHANGE WITHOUT NOTICE

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ALWINTITE

HORIZONTAL SLIDING WINDOWS
WITH INTEGRAL FIN-TRIM

Houses Sell Faster...

Home buyers love . . . architects, builders and interior decorators recommend . . . the many practical advantages of ALWINTITE horizontal sliding windows. They can be used in all style houses — in all price classes.

Light weight sash—easily removed for full ventilation or cleaning

More usable wall space for better furniture arrangement

Privacy with eye level visibility

Stainless steel weather-stripping

Plastic glazing channels

Sliding sash—no straining to open or close

Easy to install screens and storm sash

Simple, easy, low-cost installation

Enthusiastic customer acceptance

You'll like the smart, trim lines of the ALWINTITE Sliding Windows . . . their quality construction . . . their built-in stainless steel weather-strip . . . their smooth, easy gliding operation . . . their simple money-saving installation . . their surprisingly low cost. They are available in 15 popular sizes.



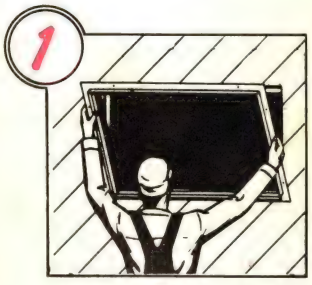
So simple to clean. Both sash easily removed for full ventilation.



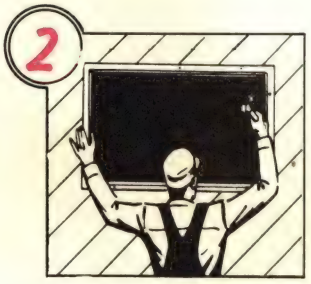
Complete inside privacy with eye-level visibility.



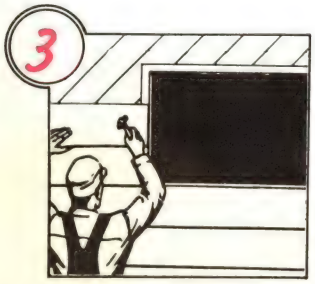
No straining to open or close. More usable space for furniture



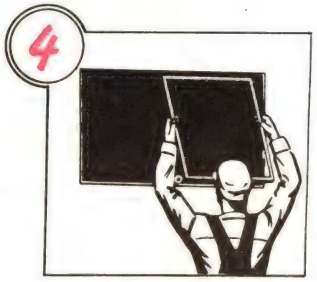
Set window frame in position, plumb and square.



Drive home 10 nails—through holes already in Fin.

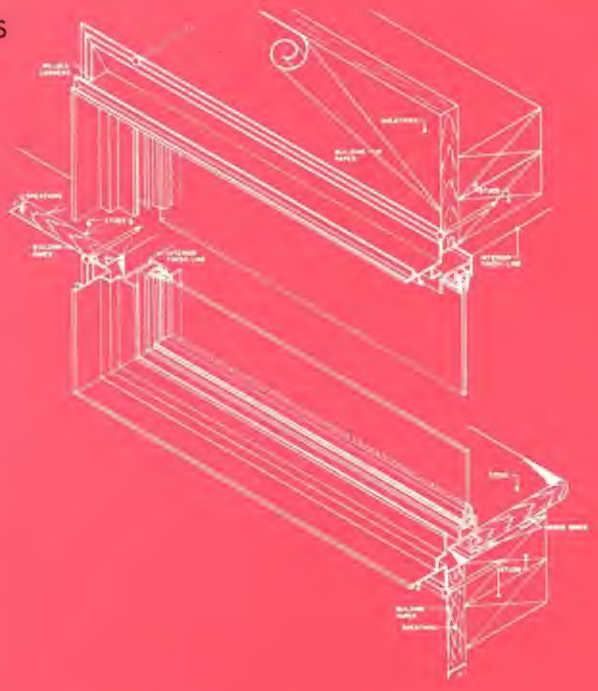


Run siding material up to trim stop. No exterior wood trim is needed.

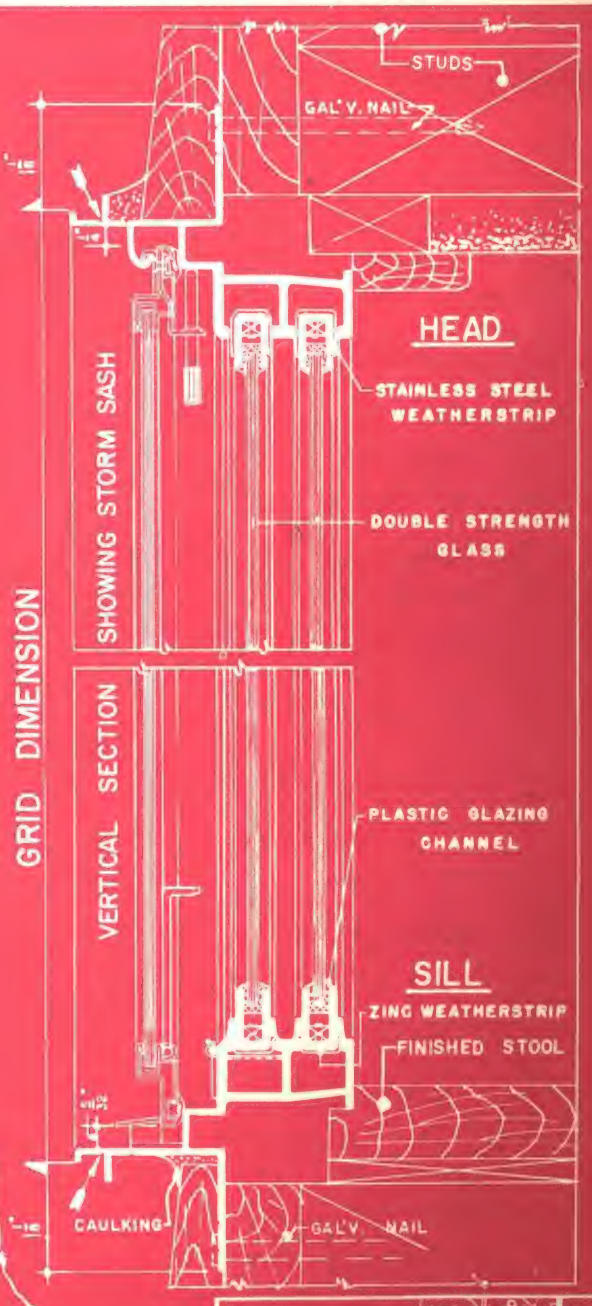


Caulk and put sliding sash units in place. Job is complete.

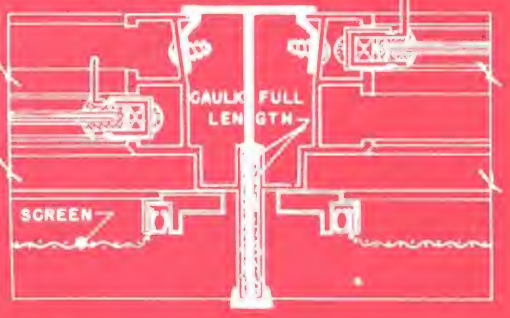
HALF SIZE DETAILS

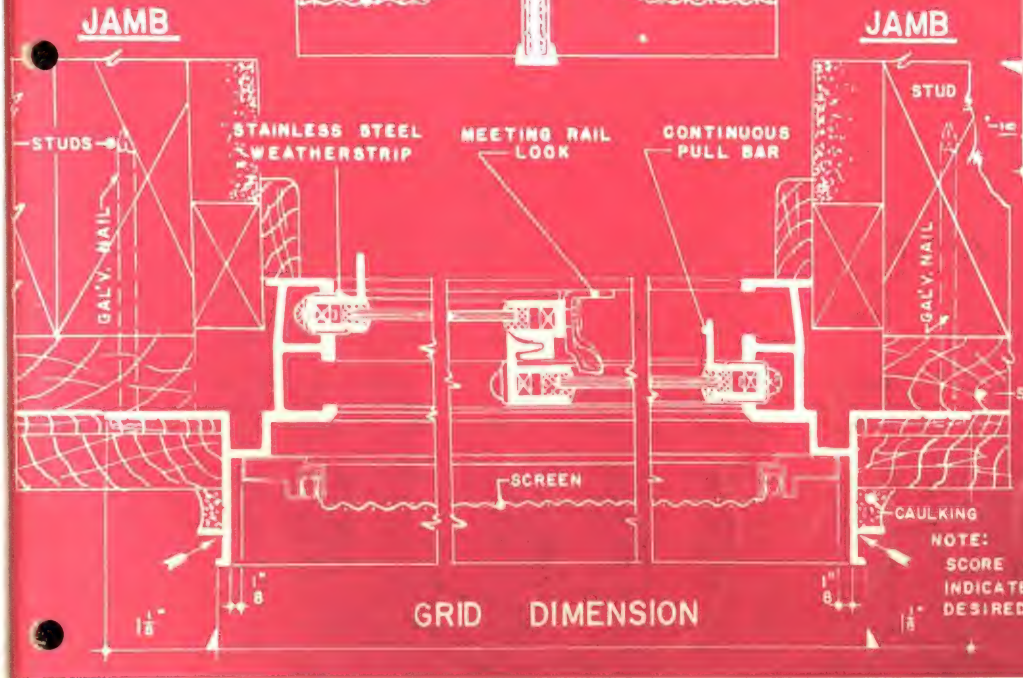






TYPICAL 180° VERTICAL MULLION





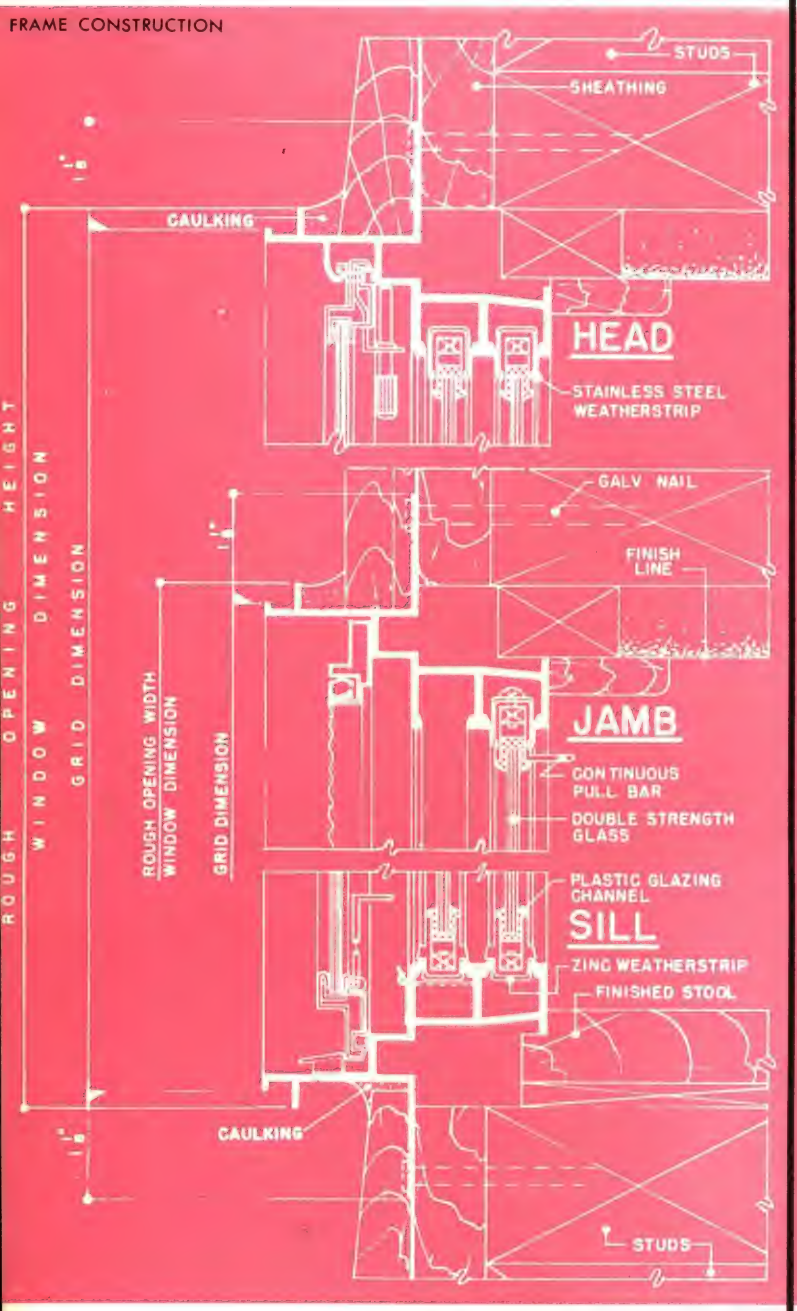


ALWINTITE

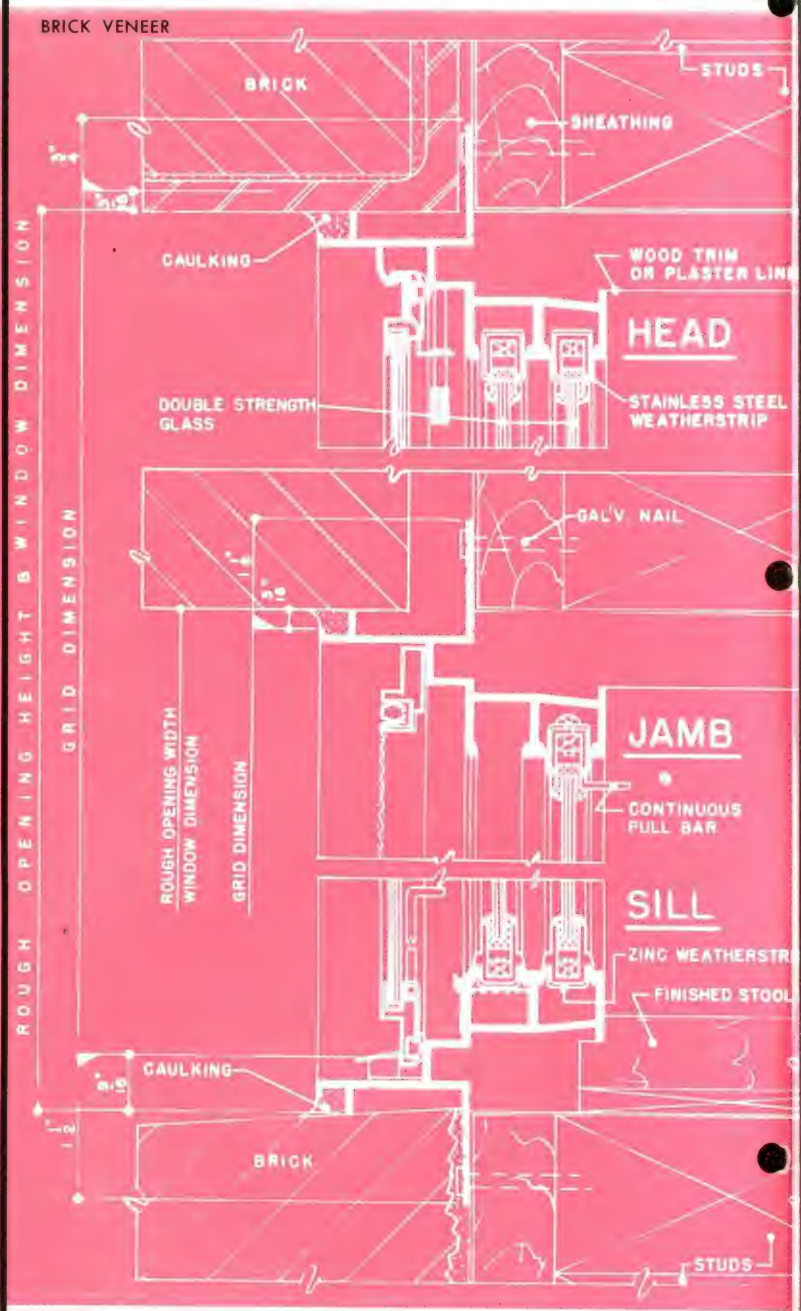
HORIZONTAL SLIDING WINDOWS
WITH INTEGRAL FIN-TRIM

HALF SIZE INSTALLATION DETAILS

FRAME CONSTRUCTION



BRICK VENEER



HORIZONTAL SLIDING WINDOW WITH INTEGRAL FIN-TRIM SIZE DATA

Nominal Size	Window Area* (Sq. ft.)	Modular Grid Size Width	Modular Grid Size Height	Window Dimensions and Rough Opening: Window Dimension (& Single Width)	Double Width	Triple Width	Height (& Window Dim.)	Window Glass Size Width	Window Glass Size Height	Storm Sash Glass Size Width	Storm Sash Glass Size Height
STANDARD											
11117-SF	2.42	—	—	1'-11¾"	3'-11⅜"	5'-10⅝"	1'-7¾"	10⅜"	16⅜"	21⅝"	17½"
3020-SF†	5.17	—	—	3'- 0⅞"	6'- 1⅞"	9'- 2"	2'-0⅞"	16¾"	21½"	34¾"	22⅝"
3921-SF†	7.06	—	—	3'-10⅜"	7'- 8⅞"	11'- 6½"	2'-2⅜"	21½"	23"	44¼"	24⅛"
MODULAR											
2020-MF	3.19	2'-0"	2'-0"	2'- 0⅜"	4'- 0⅞"	6'- 0½"	2'-0⅜"	10½"	21"	22¼"	22⅛"
3020-MF	4.97	3'-0"	2'-0"	3'- 0⅜"	6'- 0⅞"	9'- 0½"	2'-0⅜"	16½"	21"	34¼"	22⅛"
3030-MF	7.76	3'-0"	3'-0"	3'- 0⅜"	6'- 0⅞"	9'- 0½"	3'-0⅜"	16⅞"	33"	34¼"	34⅛"
3034-MF	8.69	3'-0"	3'-4"	3'- 0⅜"	6'- 0⅞"	9'- 0½"	3'-4⅜"	16⅞"	37"	34¼"	38⅛"
3420-MF	5.57	3'-4"	2'-0"	3'- 4⅜"	6'- 8⅞"	10'- 0½"	2'-0⅜"	18½"	21"	38¼"	22⅛"
3434-MF	9.73	3'-4"	3'-4"	3'- 4⅜"	6'- 8⅞"	10'- 0½"	3'-4⅜"	18⅝"	37"	38¼"	38⅛"
4020-MF	6.76	4'-0"	2'-0"	4'- 0⅜"	8'- 0⅞"	12'- 0½"	2'-0⅜"	22½"	21"	46¼"	22⅛"
4030-MF	10.55	4'-0"	3'-0"	4'- 0⅜"	8'- 0⅞"	12'- 0½"	3'-0⅜"	22⅝"	33"	46¼"	34⅛"
4034-MF	11.81	4'-0"	3'-4"	4'- 0⅜"	8'- 0⅞"	12'- 0½"	3'-4⅜"	22⅝"	37"	46¼"	38⅛"
4838-MF	15.37	4'-8"	3'-8"	4'- 8⅜"	9'- 4⅞"	—	3'-8⅜"	26⅝"	41"	54¼"	42⅛"
6020-MF	10.33	6'-0"	2'-0"	6'- 0⅜"	12'- 0⅞"	—	2'-0⅜"	34⅝"	21"	34¼"	22⅛" §
6030-MF	16.12	6'-0"	3'-0"	6'- 0⅜"	12'- 0⅞"	—	3'-0⅜"	34⅝"	33"	34¼"	34⅛" §

SF — STANDARD
MF — MODULAR

* Area Between Stop Beads

§ Two 3020 Storm Sash

§ Two 3030 Storm Sash

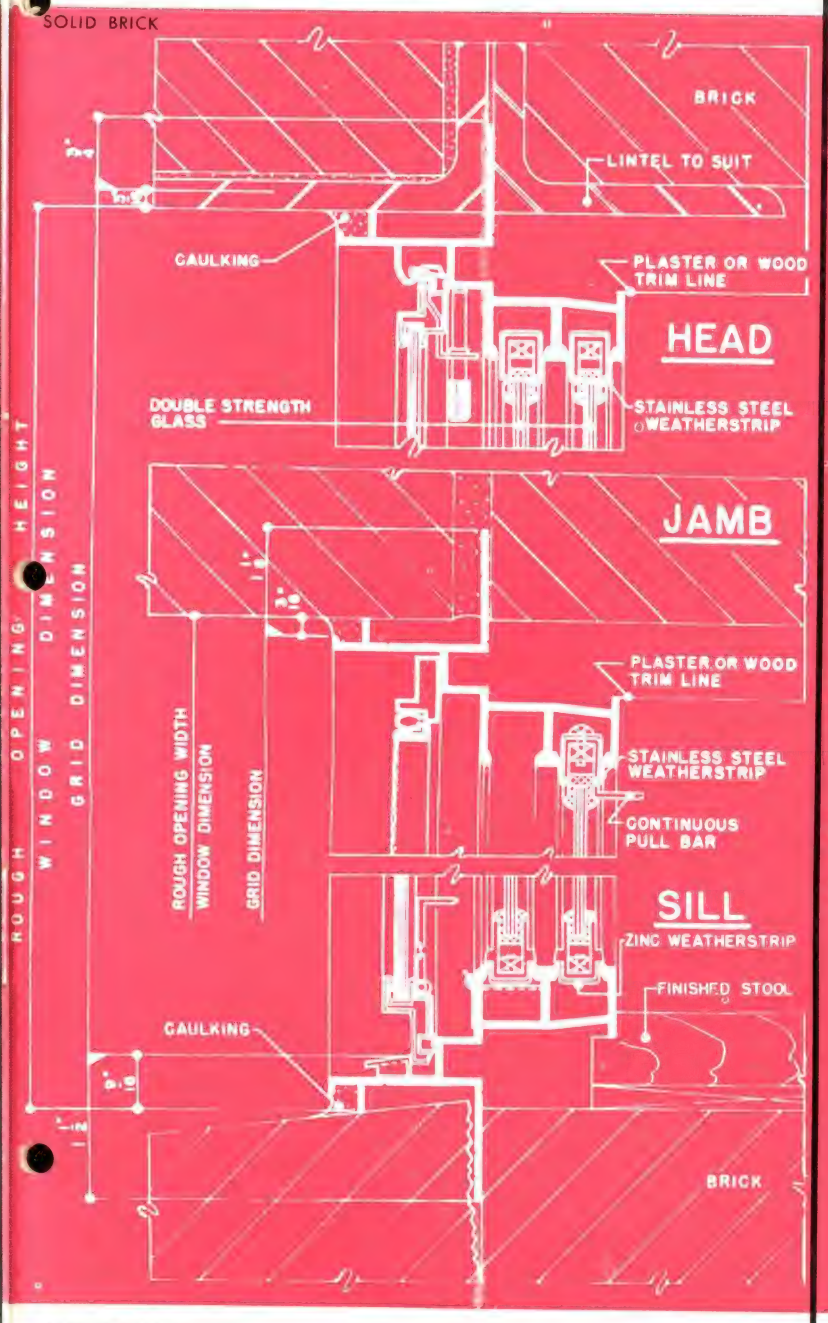
Glass Tol. + 1/16"-0"

Glass Tol. ± 1/32"

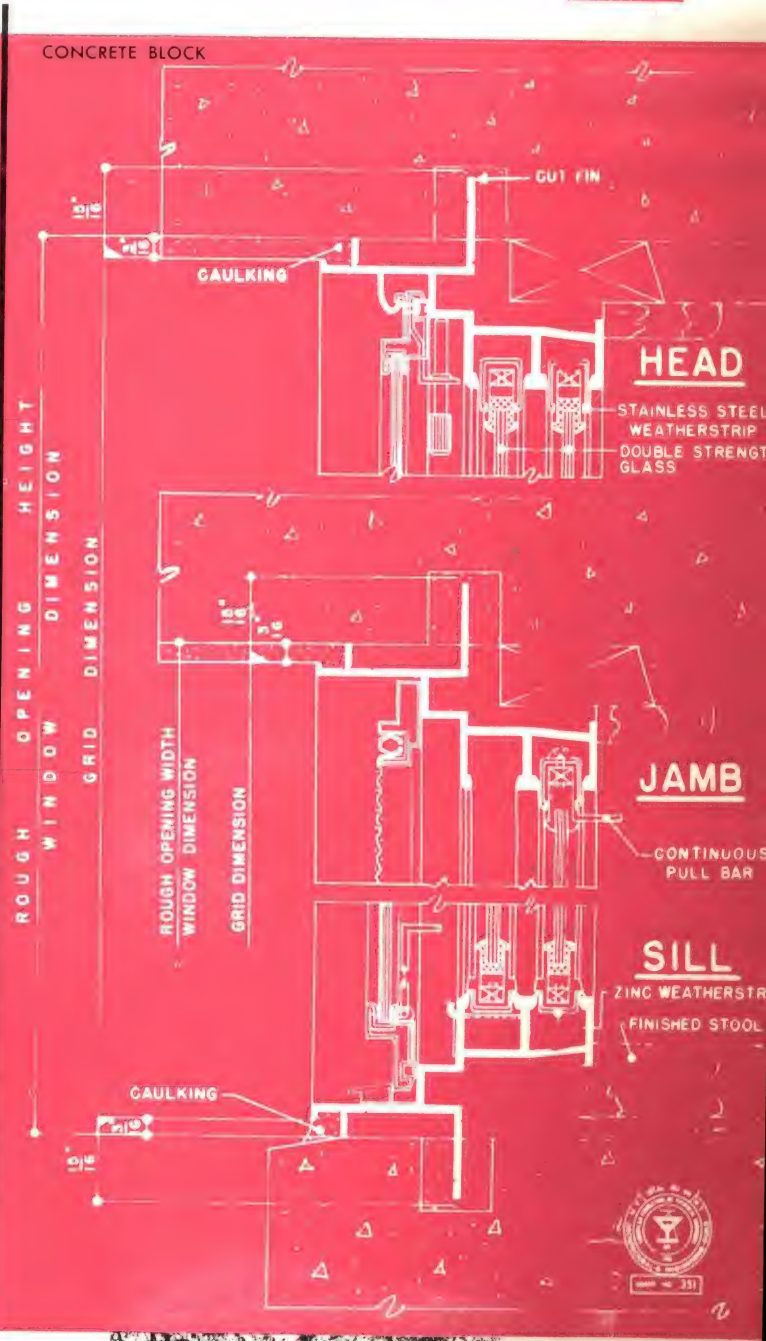
† Also Available for Double Glazing—See Page 11

HALF SIZE INSTALLATION DETAILS

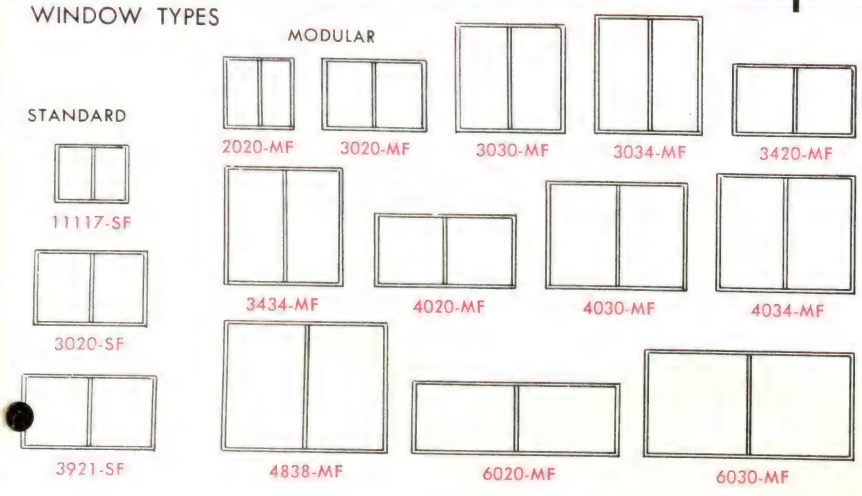
SOLID BRICK



CONCRETE BLOCK



WINDOW TYPES





WOOD BUCK INSTALLATIONS

FOR BOTH... HIGH-PRICED LUXURY HOUSES AND LOW-COST BUDGET HOMES



USE THEM SINGLY, MULLIONED OR IN WINDOW PANEL SYSTEMS.



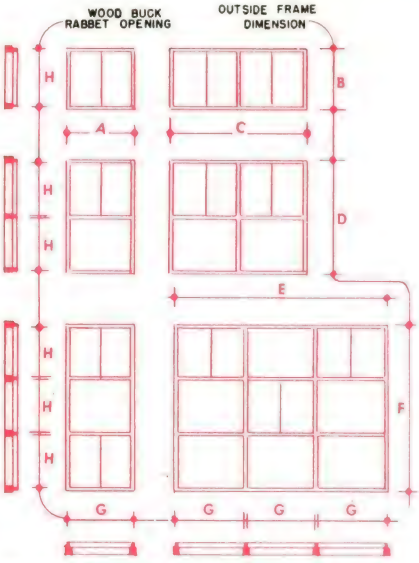
UNUSUAL ARCHITECTURAL TREATMENTS.



$9900 POPULAR PRICED RANCH HOME



FEATURED IN $30,000 LUXURY HOMES

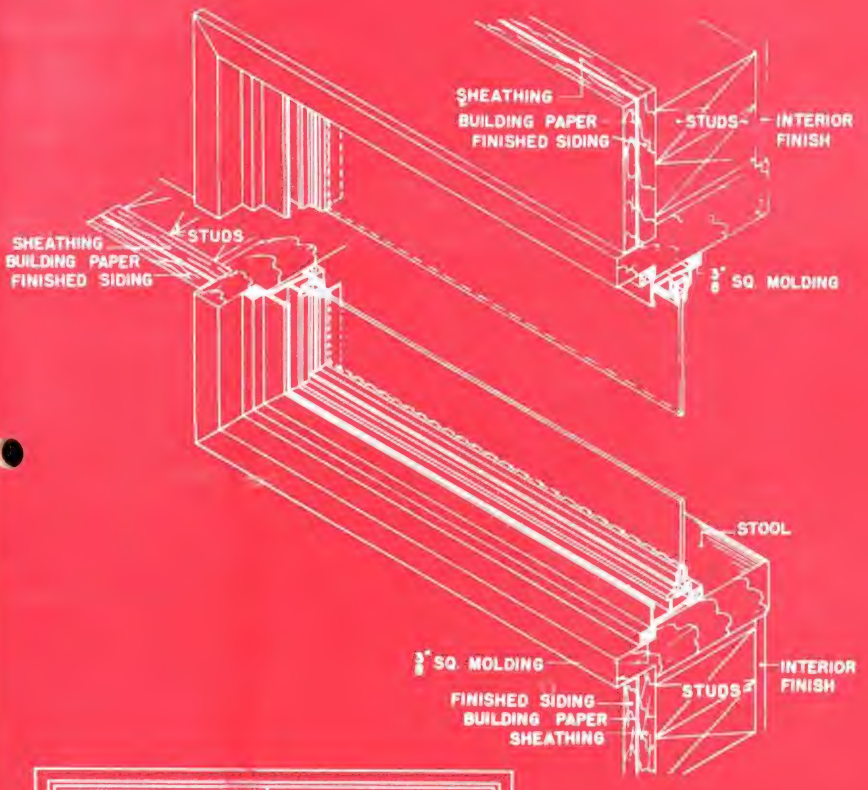


SUGGESTED ARRANGEMENTS AVAILABLE IN 15 POPULAR SIZES (SEE PAGE 10).



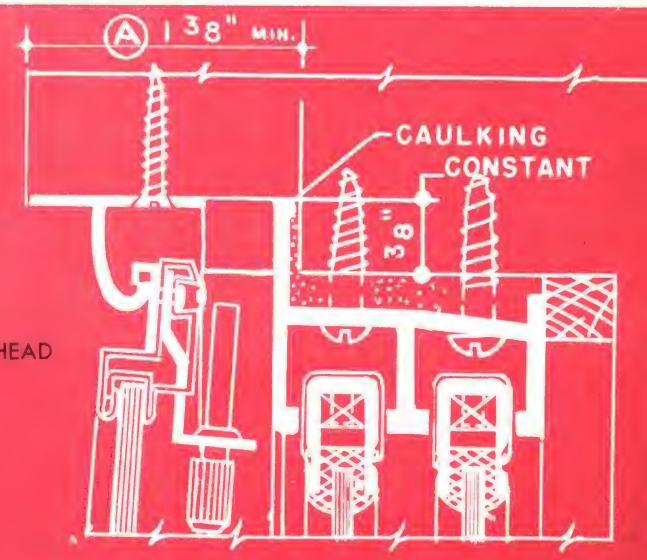
QUALITY CONSTRUCTION... BUILT-IN STAINLESS STEEL WEATHERSTRIP.

FULL SIZE DETAILS





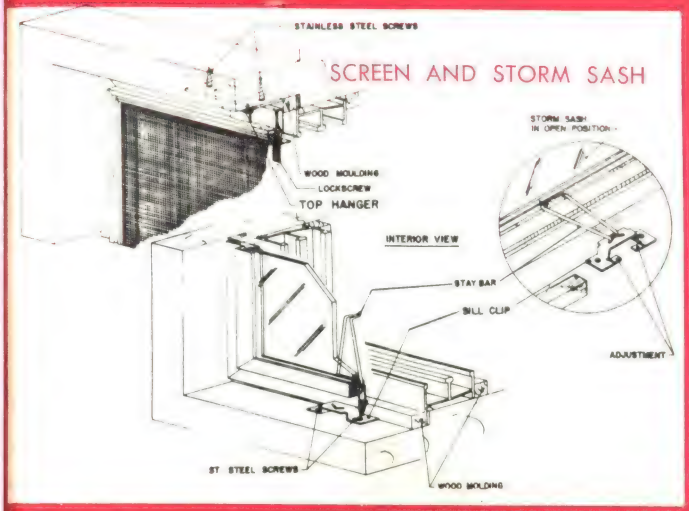
ELEVATION

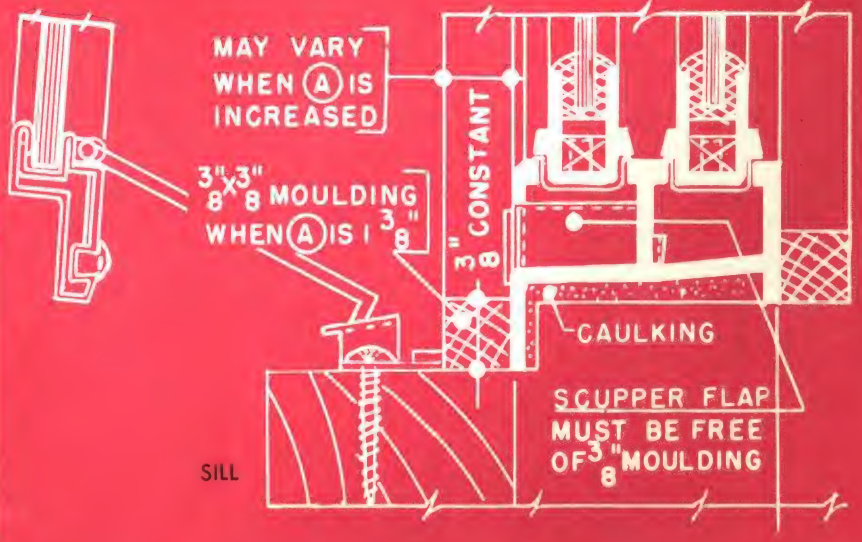


HEAD



JAMB



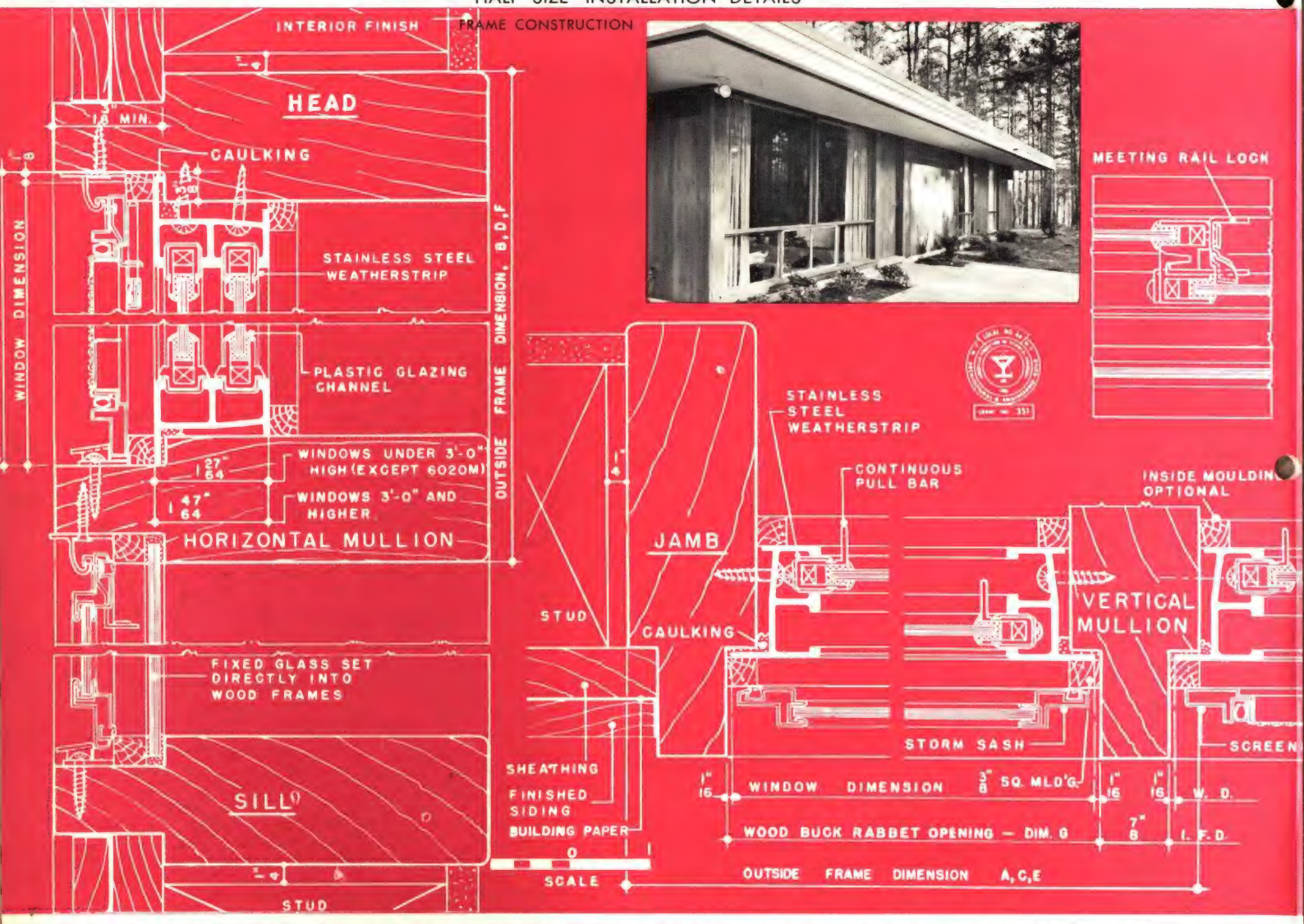


SILL

ALWINTITE

HORIZONTAL SLIDING WINDOWS
WOOD BUCK INSTALLATION

HALF SIZE INSTALLATION DETAILS



HORIZONTAL SLIDING WINDOW SIZE DATA FOR WOOD BUCK INSTALLATION

Nominal Size	Window Area*	Window Dimension		Outside Frame Dimension (Guide to dimension points on page 8)						Wood Buck Rabbet Opening		Window Glass Size		Storm Sash Glass Size	
	(Sq. ft.)	Width	Height	A	B	C	D	E	F	G	H	Width	Height	Width	Height
11117-S	2.42	1'-11"	1'- 7"	2'- 1⅝"	1'- 9⅝"	4'- 1⅝"	3'- 5⅝"	6'- 1⅝"	5'- 1⅝"	1'-11⅛"	1'- 7⅛"	10³⁄₁₆"	16⅜"	21⅝"	17½"
3020-S†	5.17	3'- 0⅛"	2'- 0⅛"	3'- 2¾"	2'- 2¾"	6'- 3⅞"	4'- 3⅞"	9'- 5"	6'- 5"	3'- 0¼"	2'- 0¼"	16¾"	21½"	34¾"	22⅝"
3921-S†	7.06	3'- 9⅝"	2'- 1⅝"	4'- 0¼"	2'- 4¼"	7'-10⅞"	4'- 6⅞"	11'- 9½"	6'- 9½"	3'- 9¾"	2'- 1¾"	21½"	23"	44¼"	24⅛"
2020-M	3.19	1'-11⅝"	1'-11⅝"	2'- 2¼"	2'- 2¼"	4'- 2⅞"	4'- 2⅞"	6'- 3½"	6'- 3½"	1'-11¾"	1'-11¾"	10½"	21"	22¼"	22⅛"
3020-M	4.97	2'-11⅝"	1'-11⅝"	3'- 2¼"	2'- 2¼"	6'- 2⅞"	4'- 2⅞"	9'- 3½"	6'- 3½"	2'-11¾"	1'-11¾"	16½"	21"	34¼"	22⅛"
3030-M	7.76	2'-11⅝"	2'-11⅝"	3'- 2⁵⁄₁₆"	3'- 2¼"	6'- 3"	6'- 2⅞"	9'- 3¹¹⁄₁₆"	—	2'-11¹³⁄₁₆"	2'-11¾"	16⁹⁄₁₆"	33"	34¼"	34⅛"
3034-M	8.69	2'-11⅝"	3'- 3⅝"	3'- 2⁵⁄₁₆"	3'- 6¼"	6'- 3"	6'-10⅞"	9'- 3¹¹⁄₁₆"	—	2'-11¹³⁄₁₆"	3'- 3¾"	16⁹⁄₁₆"	37"	34¼"	38⅛"
3420-M	.557	3'- 3⅝"	1'-11⅝"	3'- 6¼"	2'- 2¼"	6'-10⅞"	4'- 2⅞"	10'- 3½"	6'- 3½"	3'- 3¾"	1'-11¾"	18½"	21"	38¼"	22⅛"
3434-M	9.73	3'- 3⅝"	3'- 3⅝"	3'- 6⁵⁄₁₆"	3'- 6¼"	6'-11"	6'-10⅞"	10'- 3¹¹⁄₁₆"	—	3'- 3¹³⁄₁₆"	3'- 3¾"	18⁹⁄₁₆"	37"	38¼"	38⅛"
4020-M	6.76	3'-11⅝"	1'-11⅝"	4'- 2¼"	2'- 2¼"	8'- 2⅞"	4'- 2⅞"	12'- 3½"	6'- 3½"	3'-11¾"	1'-11¾"	22½"	21"	46¼"	22⅛"
4030-M	10.55	3'-11⅝"	2'-11⅝"	4'- 2⁵⁄₁₆"	3'- 2¼"	8'- 3"	6'- 2⅞"	12'- 3¹¹⁄₁₆"	—	3'-11¹³⁄₁₆"	2'-11¾"	22⁹⁄₁₆"	33"	46¼"	34⅛"
4034-M	11.81	3'-11⅝"	3'- 3⅝"	4'- 2⁵⁄₁₆"	3'- 6¼"	8'- 3"	6'-10⅞"	12'- 3¹¹⁄₁₆"	—	3'-11¹³⁄₁₆"	3'- 3¾"	22⁹⁄₁₆"	37"	46¼"	38⅛"
4838-M	15.37	4'- 7⅝"	3'- 7⅝"	4'-10⅝"	3'-10¼"	9'- 7"	7'- 6⅞"		—	4'- 7¹³⁄₁₆"	3'- 7¾"	26⁹⁄₁₆"	41"	54¼"	42⅛"
6020-M	10.33	5'-11⅝"	1'-11⅝"	6'- 2⁵⁄₁₆"	2'- 2¼"	12'- 3"	4'- 2⅞"	—	6'- 3½"	5'-11¹³⁄₁₆"	1'-11¾"	34⁹⁄₁₆"	21"	34¼"	22⅛" §
6030-M	16.12	5'-11⅝"	2'-11⅝"	6'- 2⁵⁄₁₆"	3'- 2¼"	12'- 3"	6'- 2⅞"	—	—	5'-11¹³⁄₁₆"	2'-11¾"	34⁹⁄₁₆"	33"	34¼"	34⅛"

S — Standard M — Modular *Area between stop beads †Also available for double glazing—see page 11

§Two 3020 Storm Sash ¶Two 3030 Storm Sash

Glass Tol. + 1/16" — 0"

Glass Tol. ± 1/32"

THERMOPANE or TWINDOW GLAZING

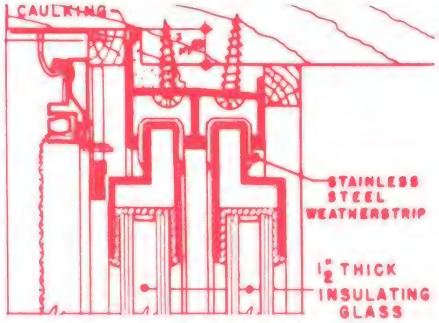
STANDARD SIZES

Type	Window Dimension	Rabbet Opening Width	Rabbet Opening Height	Window Area	Glass Sizes
T3020S	3'-0⅛"x2'-0⅛"	3'-0¼"	2'-0¼"	5.17 Sq. Ft.	16⅛"x20½"
T3921S	3'-9⅝"x2'-1⅝"	3'-9¾"	2'-1¾"	7.06 " "	20⅞"x22"

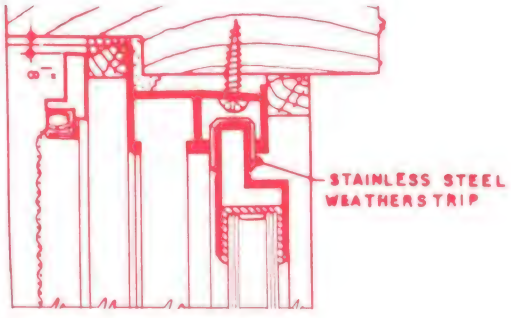
GLASS TOLERANCE ± 1/16"

HALF SIZE DETAILS

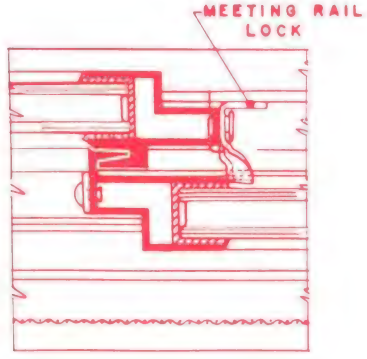
HEAD



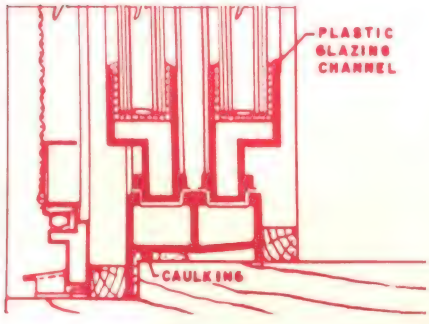
JAMB



MEETING RAIL



SILL



SPECIFICATIONS

General: Horizontal sliding windows on architect's drawings shall be "Alwintite" aluminum sliding windows manufactured by General Bronze Corporation (Alwintite Division), Garden City, New York.

Materials: Frame and sash shall be made from 63S-T5 extruded aluminum alloy having a minimum thickness of .062 inch. Weatherstripping shall be manufactured from stainless steel of .005 inch minimum thickness. The combination weatherstripping and anti-friction sliding contact at the sill shall be manufactured from zinc of .018 inch minimum thickness. Glass settings in the sash shall be manufactured from extruded vinylite.

Construction: Window frame shall be of one-piece construction, corners welded. The sill of the frame shall be designed to facilitate cleaning and be provided with weep holes for draining. Fittings shall be provided for securing frame to adjacent building construction.

Sash shall be designed to slide in guides at sill of frame on combination weatherstrip and anti-friction contact in a manner to prevent contact between aluminum. Sash are to be removable from the frame without the necessity of dismantling frame parts. When sash are closed and locked, it shall be impossible to remove them from frame.

Vertical meeting rails of sash shall be designed with interlocking contacts to insure weather resistance when closed and locked, and a suitable catch is to be provided on the meeting stiles for this purpose. jamb rails and top rails of sash shall be provided with stainless steel weatherstripping, and bottom rails of sash shall be provided with zinc combination weatherstripping and anti-friction sliding contact.

Sash members shall be designed to receive glass which is to be installed in extruded vinylite. Corners of sash are to be fitted to hair-line joints in a workmanlike manner and be secured by means of corner connections which can be conveniently disassembled to facilitate glazing.

Air Infiltration: Infiltration of air shall not exceed one-half cubic foot per minute per linear foot of sash perimeter during a wind of twenty-five miles per hour. Satisfactory evidence of compliance must be furnished to architect.

Finish: Natural aluminum. After fabrication, surface blemishes, scratches and tool marks are to be removed and exposed surfaces cleaned to a uniform color and texture. Protective coating of transparent lacquer is to be applied before shipment. Lacquer must be such as will withstand the action of lime mortar for a period of at least one month in an atmosphere of 100% relative humidity at room temperature.

Installation: Manufacturer is to furnish detail drawings for installation. Frames may be installed independently of the sash and the glazed sash installed in the frames after plastering has been completed, at option of contractor.

Installation contractor shall apply mastic or caulking compound, install the frames straight, plumb and level, and securely fasten in place. Care must be exercised to prevent twisting of frame or springing it to cause tracks to get out of alignment. After installation, adjustments are to be made, if necessary, to insure efficient operation.

Glazing: Sash will be shipped knocked-down for assembly at time of glazing. Glazing in vinylite settings and assembly of sash is to be done on the bench. (Specify whether single or double strength glass is desired.) Glazed sash are to be inserted in frames when so directed by the contractor.

OPTIONAL

FIN-TRIM

The foregoing specification describes the basic sliding windows for installation in wood bucks. If it should be desired to eliminate the wood bucks, the windows are to be furnished with a combination integral fin and trim of extruded aluminum of .050 inch minimum thickness at the jambs, head and sill.

SCREENS AND STORM SASH

The horizontal sliding windows shall be equipped with "ALWINTITE" aluminum screens and storm sash.

Large fixed glass plus ventilating sliding sash

aluminum PICTURE-SLIDING WINDOW



Panorama view with minimum amount of metal to hinder vision.

ideal for

- LIVING ROOMS
- BEDROOMS
- DINING ROOMS
- DENS or TV ROOMS
- KITCHENS

in low-cost or custom-built homes!

Sliding sash glide smoothly in front of picture window unit for full ventilation.



EASY INSTALLATION!

The ALWINTITE Picture Sliding Window units with integral Fin-Trim are easy to install. Just set in rough opening and nail home. Exterior siding comes right up to fin.



HALF SIZE DETAILS

SECTION THROUGH SLIDING SASH

SECTION THROUGH FIXED SASH



HEAD





MEETING RAIL

JAMB





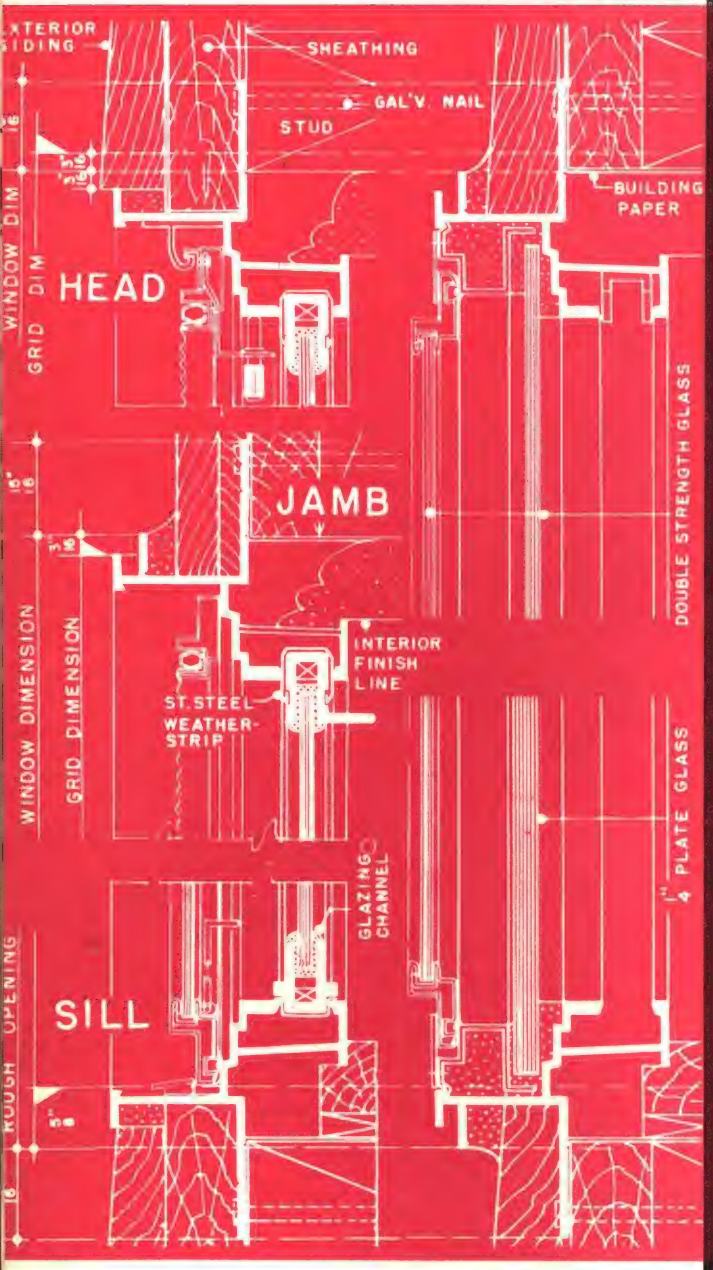
SILL



ALWINTITE

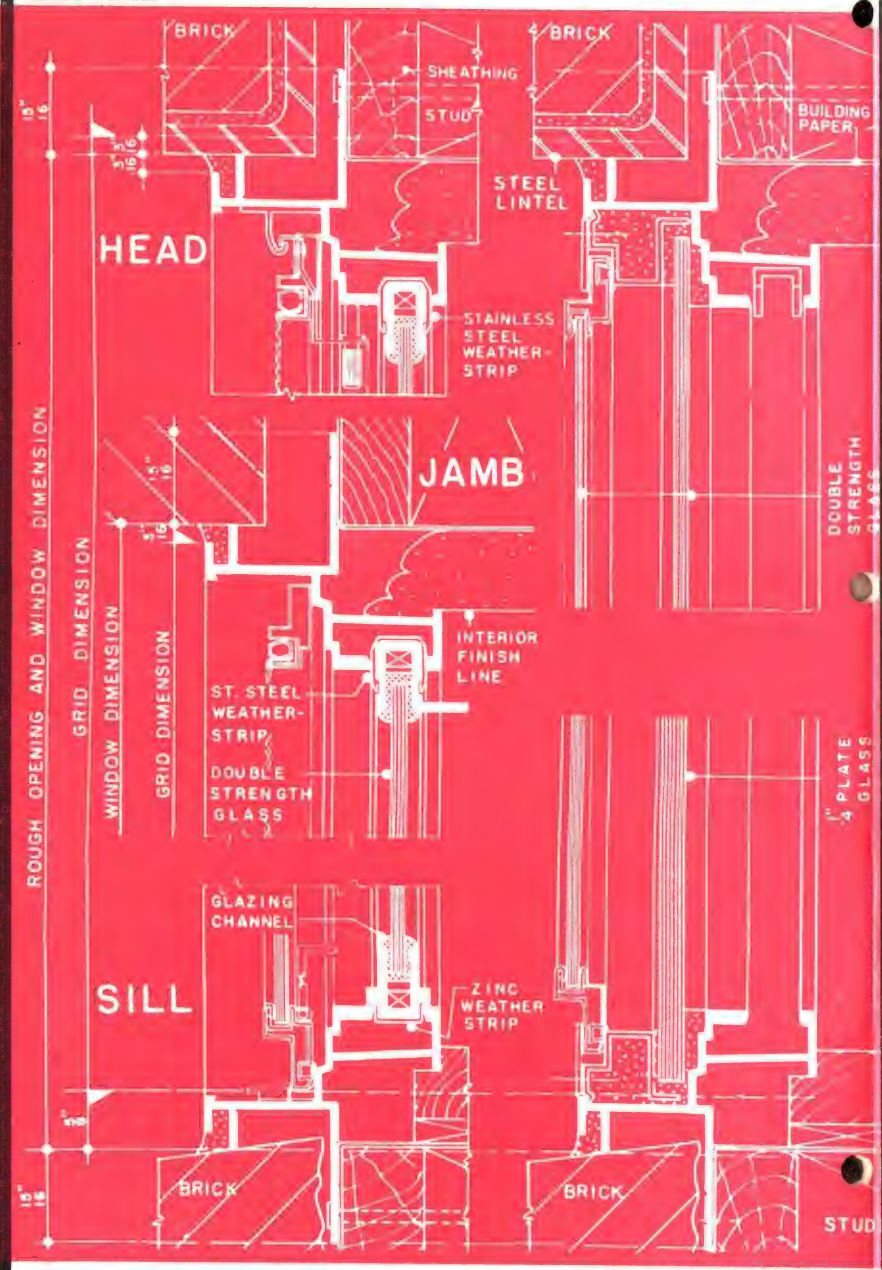
PICTURE SLIDING WINDOWS

WOOD FRAME CONSTRUCTION



BRICK VENEER

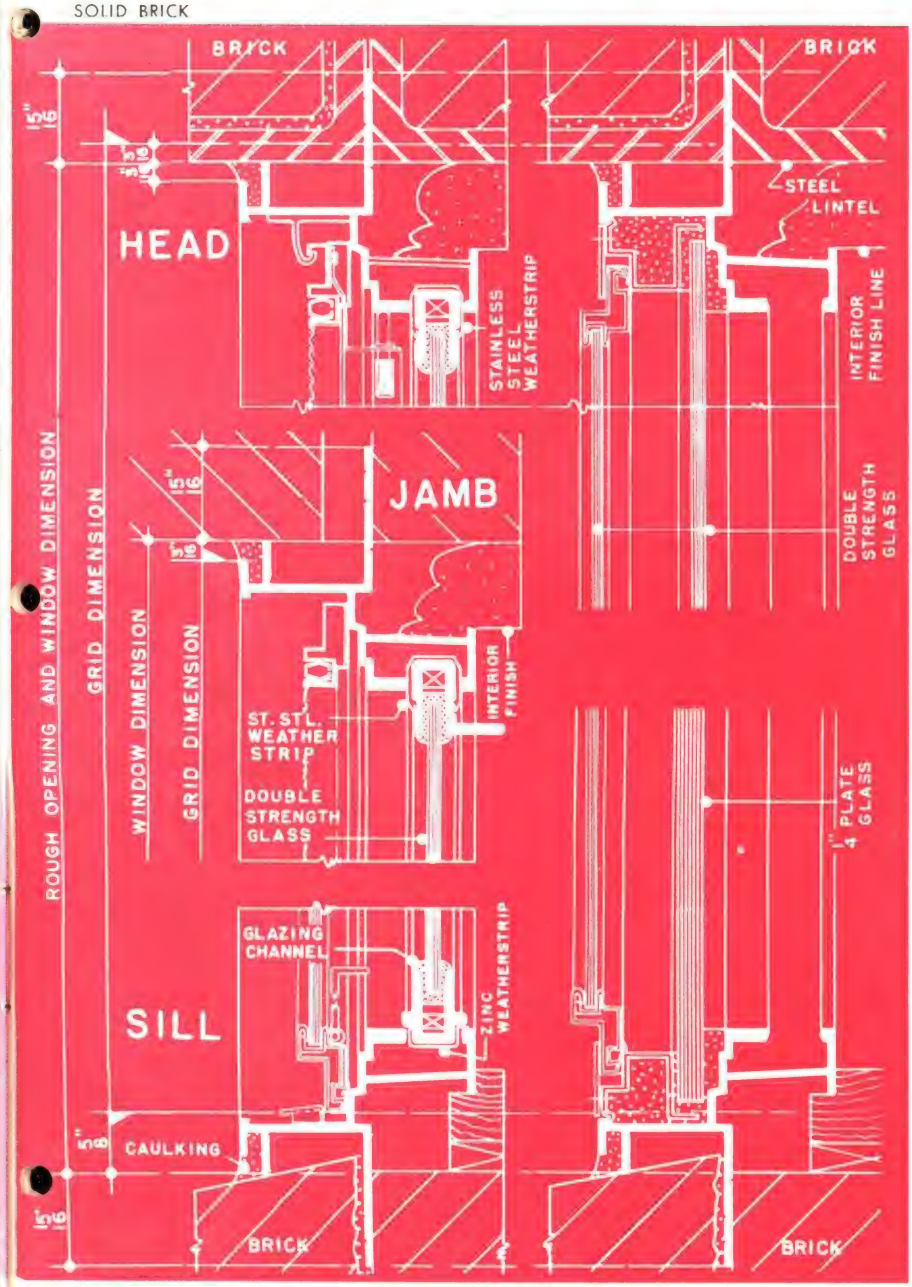
HALF SIZE INSTALLATION DETAILS



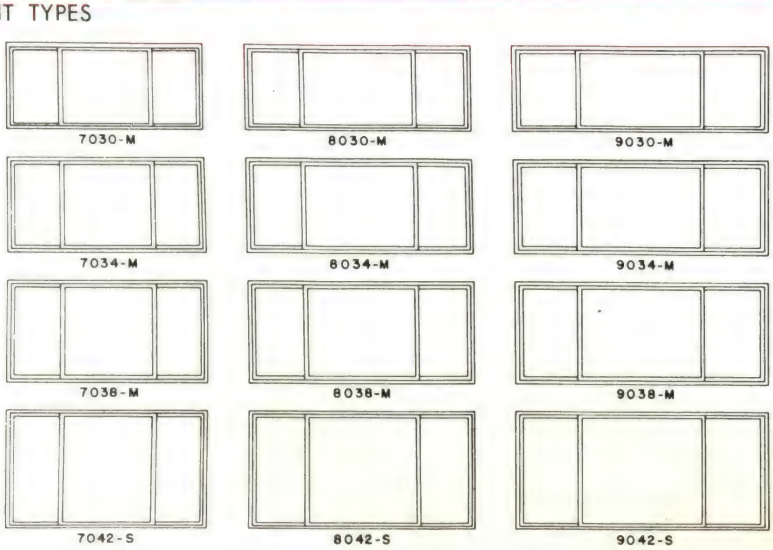
PICTURE SLIDE WINDOW & STORM SASH SIZE DATA

Unit No.	Window Area (Sq. Ft.)	Ventilating Area (Sq. Ft.)	Window Dim. & Rough Opening	Sash Glass Size	Fixed Glass Size	Storm Sash Glass Size Vent	Storm Sash Glass Size Fixed
7030-M	17.71	8.78	7'-0 3/8" x 3'-0 7/16"	20" x 33"	40" x 35"	19 3/4" x 33 3/4"	38 1/4" x 33 1/4"
7034-M	19.87	9.83	7'-0 3/8" x 3'-4 7/16"	20" x 37"	40" x 39"	19 3/4" x 37 3/4"	38 1/4" x 37 1/4"
7038-M	22.02	10.88	7'-0 3/8" x 3'-8 7/16"	20" x 41"	40" x 43"	19 3/4" x 41 3/4"	38 1/4" x 41 1/4"
7042-S	25.25	12.45	7'-0 3/8" x 4'-2 7/16"	20" x 47"	40" x 49"	19 3/4" x 47 3/4"	38 1/4" x 47 1/4"
8030-M	20.45	10.17	8'-0 3/8" x 3'-0 7/16"	23" x 33"	46" x 35"	22 3/4" x 33 3/4"	44 1/4" x 33 1/4"
8034-M	22.94	11.39	8'-0 3/8" x 3'-4 7/16"	23" x 37"	46" x 39"	22 3/4" x 37 3/4"	44 1/4" x 37 1/4"
8038-M	25.43	12.60	8'-0 3/8" x 3'-8 7/16"	23" x 41"	46" x 43"	22 3/4" x 41 3/4"	44 1/4" x 41 1/4"
8042-S	29.16	14.43	8'-0 3/8" x 4'-2 7/16"	23" x 47"	46" x 49"	22 3/4" x 47 3/4"	44 1/4" x 47 1/4"
9030-M	23.19	11.56	9'-0 3/8" x 3'-0 7/16"	26" x 33"	52" x 35"	25 3/4" x 33 3/4"	50 1/4" x 33 1/4"
9034-M	26.01	13.95	9'-0 3/8" x 3'-4 7/16"	26" x 37"	52" x 39"	25 3/4" x 37 3/4"	50 1/4" x 37 1/4"
9038-M	28.84	14.23	9'-0 3/8" x 3'-8 7/16"	26" x 41"	52" x 43"	25 3/4" x 41 3/4"	50 1/4" x 41 1/4"
9042-S	33.07	16.40	9'-0 3/8" x 4'-2 7/16"	26" x 47"	52" x 49"	25 3/4" x 47 3/4"	50 1/4" x 47 1/4"
				Tolerance +1/16" -0" Double Strength Glass	Tolerance +3/16" -1/16" 1/4" Plate Glass	Tolerance +1/32" -1/32" Double Strength Glass	

SOLID BRICK



UNIT TYPES



SPECIFICATIONS

General: Picture-sliding windows shall be as manufactured by the General Bronze Corporation (ALWINTITE Division) Garden City, New York. Windows shall consist of a fixed unit at center of opening with a horizontal sliding unit adjacent to it on each side. Sliding units when operated for ventilation are to move on inside of fixed unit.

Materials: Frame and sash, (excluding integral fin trim) shall be manufactured from 63S-T5 extruded aluminum alloy of .062 inch minimum thickness. Weatherstripping of sliding sash shall be of stainless steel of .005 inch minimum thickness. Combination weatherstripping and anti-friction sliding contact at sill of sliding sash shall be manufactured from zinc of 0.18 minimum thickness. Glass settings in the sliding sash shall be manufactured from extruded vinylite. Assembly or installation screws shall be of stainless steel.

Construction: Window frame and integral fin trim shall be of one piece construction. Mullions between sliding and fixed units shall also be of one piece construction. Frame corners and mullion engagements with head and sill of frame shall be made with mechanical joints secured with screws. Sill of frame shall be designed to facilitate cleaning. Weep holes to drain sash guides shall be provided at sliding units. Fittings shall be provided for securing frame to adjacent building construction.

Sash shall be designed to slide in guides at sill of frame on the combination weatherstrip and anti-friction contact in a manner that will prevent contact between aluminum. Sliding sash are to be removable from frame without necessity of dismantling parts of frame. When sliding sash are closed and locked, it shall be impossible to remove them from frame.

Mullions of fixed unit and adjacent meeting rails of sliding unit shall be designed with interlocking contacts to insure weather resistance when closed and locked. Suitable catch is to be provided for this purpose. Jamb rails and top rails of sliding sash shall be provided with stainless steel weatherstripping and bottom rails of sliding sash shall be provided with zinc combination weatherstripping and anti-friction sliding contact.

Sliding sash corners are to be fitted to hairline joints in a workmanlike manner and be secured by corner connections which can be conveniently disassembled to facilitate glazing.

Air Infiltration: Air infiltration shall not exceed one-half cubic foot per minute per linear foot of opening sash perimeter during a wind of twenty-five miles per hour velocity. Satisfactory evidence of compliance must be furnished to architect.

Finish: Windows are to be finished in natural aluminum color. After fabrication, surface blemishes, scratches and tool marks are to be removed. Exposed surfaces are to be cleaned to uniform color and texture. A protective coating of transparent lacquer is to be applied to windows before delivery. The lacquer must be such as will withstand action of lime mortar for a period of at least one month in an atmosphere of 100% relative humidity at room temperature.

Installation: Manufacturer is to furnish detail drawings for window installation. Frames of windows including fixed units may be installed independently of sliding units. Glazed sliding sash may be installed in frames after plastering has been completed, at contractor's option.

Contractor shall apply mastic or caulking compound, install frames straight, plumb and level, and securely fasten them in place. Care must be exercised to prevent twisting of frame or springing it in a manner that would cause misalignment of tracks. After installation, windows are to be adjusted if necessary to insure efficient operation.

Glazing: Sliding sash will be shipped knocked down for assembly at time of glazing. Sash are to be glazed on the bench with double strength glass in vinylite settings furnished by manufacturer. Fixed unit shall be glazed with double strength glass (or one quarter inch thick plate glass) installed with spring clips furnished by manufacturer and set in aluminum colored metal sash glazing compound.

OPTIONAL

PICTURE-SLIDING WINDOW WITHOUT FIN TRIM

Windows shall be furnished without integral fin-trim (reference to fin-trim should be deleted from specifications).

SNAP-ON GLAZING BEADS

Fixed light unit is to have extruded aluminum snap-on glazing beads to cover glazing compound.

SCREENS AND STORM SASH

Sliding units shall be equipped with ALWINTITE aluminum screens. Sliding and fixed units shall be equipped with ALWINTITE aluminum storm sash.

Double Hung

Universally Accepted!



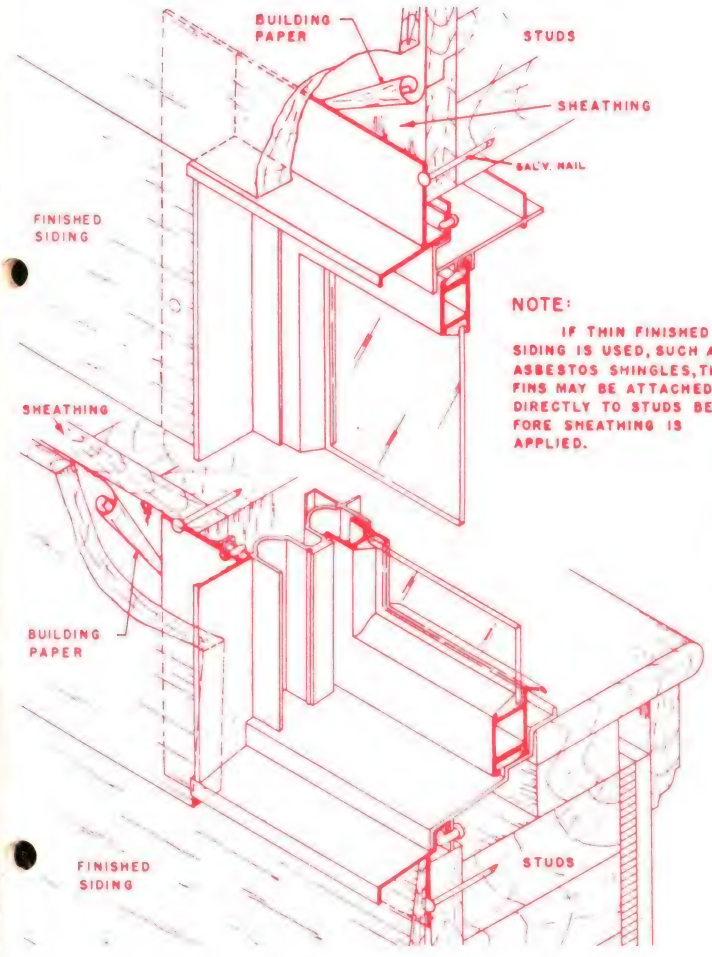
Luxury Homes
Apartments, Institutions
Low-Cost Homes



- *Conventional*
- *Traditional*
- *Thirty-five sizes*
- *Eight different types*



Windows ...with FIN-TRIM



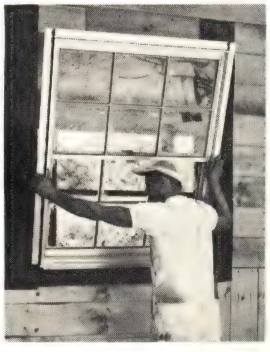
NOTE:
IF THIN FINISHED SIDING IS USED, SUCH AS ASBESTOS SHINGLES, THE FINS MAY BE ATTACHED DIRECTLY TO STUDS BEFORE SHEATHING IS APPLIED.

saves time and labor . . . makes installation a matter of seconds

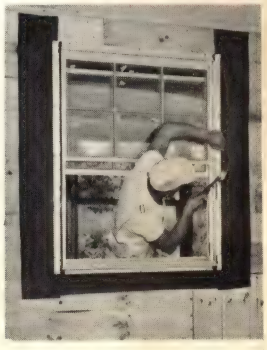
Ready!



Set!



Installed!



When you order ALWINTITE windows with the new FIN-TRIM combination there are no accessories to bother with, no special sills, no exterior wood trim or casing to buy or apply. You won't have to paint around the outside of the windows, no matter what kind of siding you use. You get a window that's flashed all-around, one that gives you 100% weathertight installation.

ALWINTITE windows are delivered on the job completely assembled and adjusted, ready for quick, easy installation. Hardware, balances and built-in stainless steel weatherstripping are all included. There's nothing extra to buy or install.

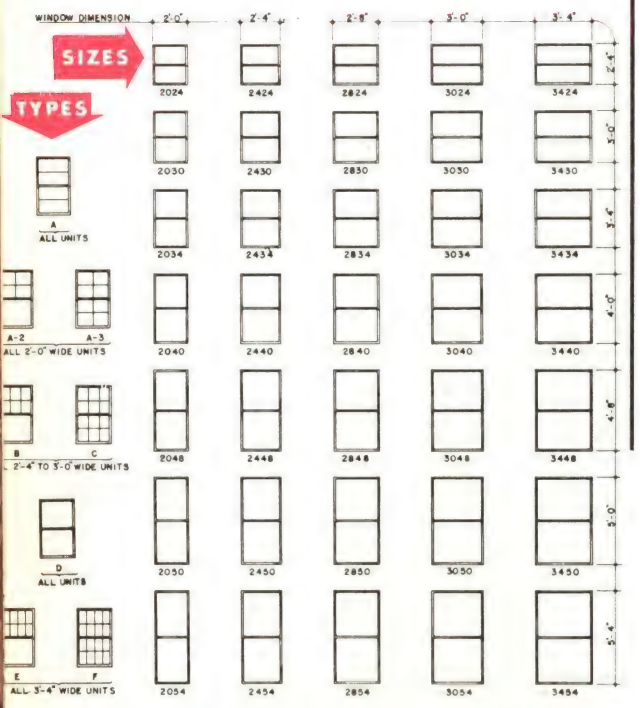
And, of course, with ALWINTITE you get a window that's long on economy, beauty and built-in quality—one that appeals to every prospective home buyer. They meet all F.H.A. requirements.

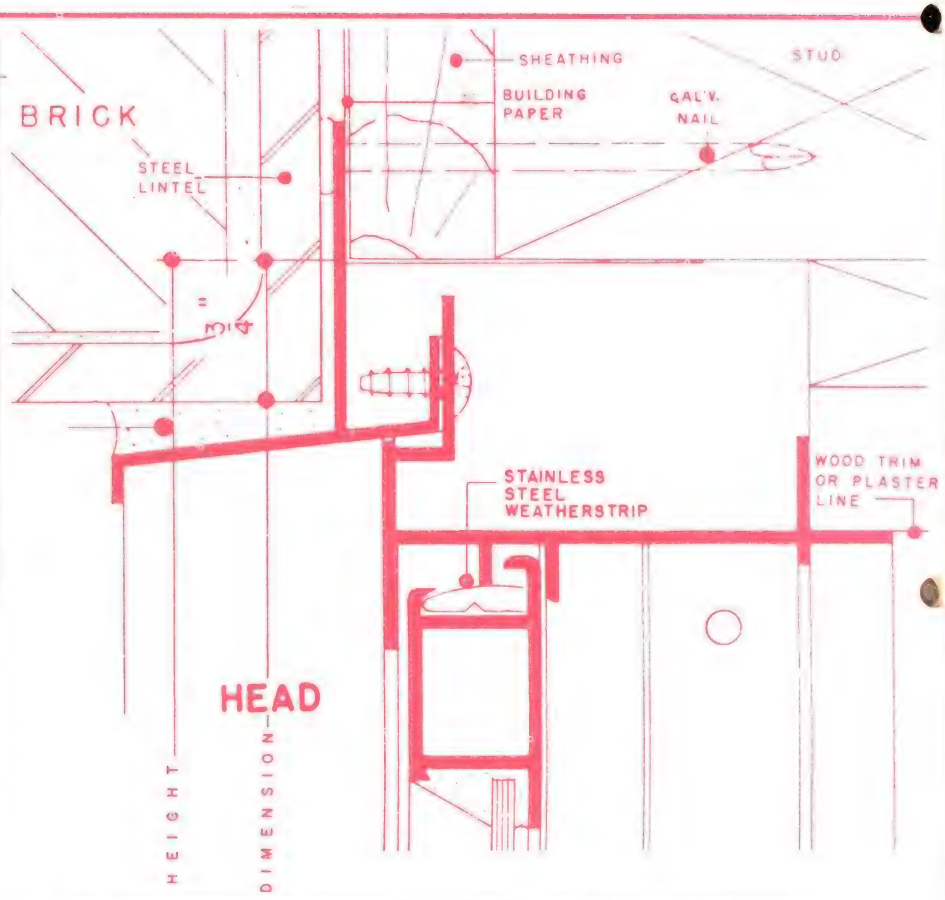
ALWINTITE

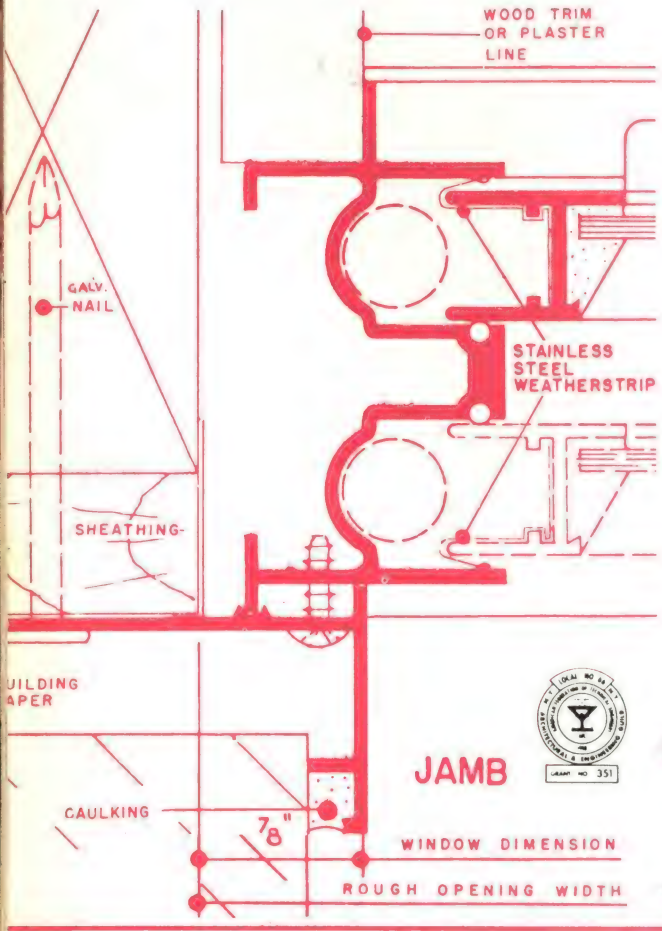
DOUBLE HUNG WINDOWS
WITH FIN-TRIM

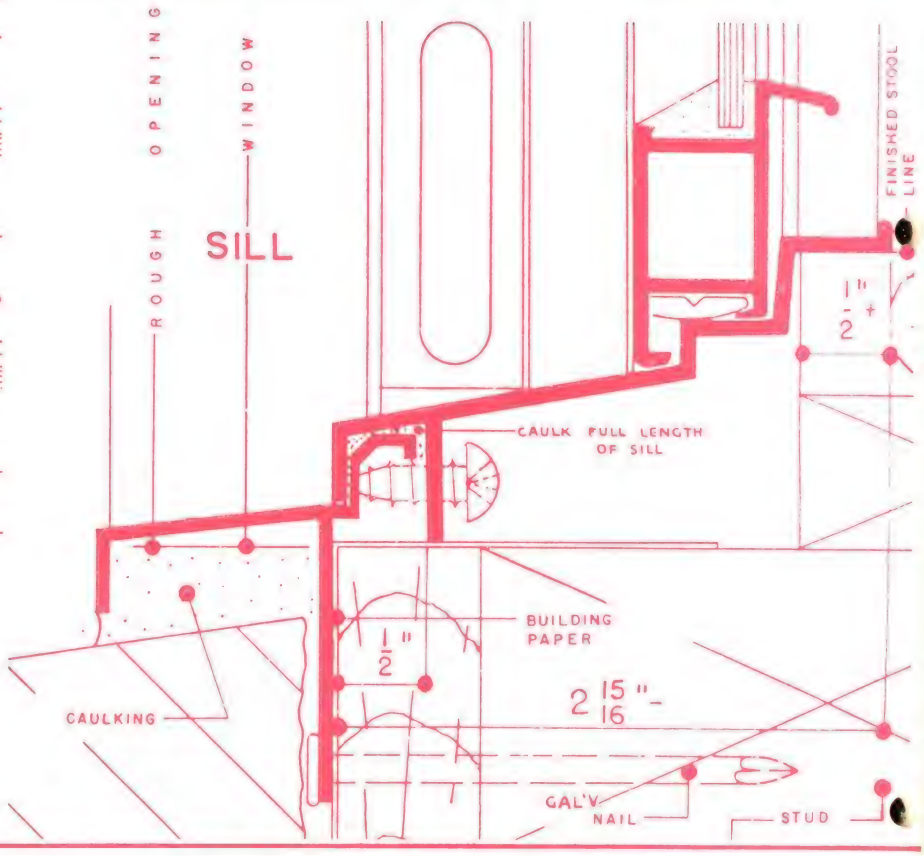
FULL SIZE DETAILS

WINDOW TYPES



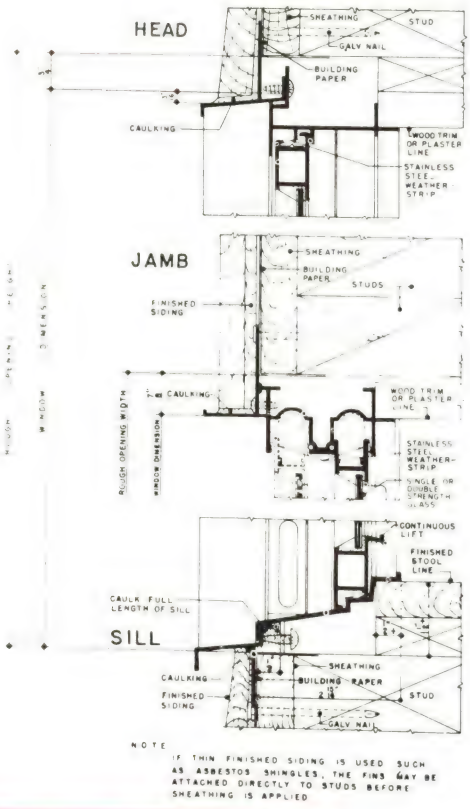






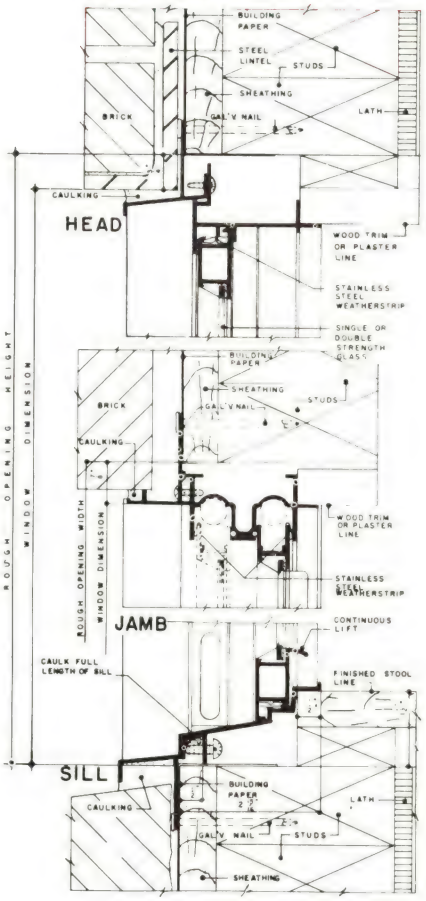
INSTALLATION DETAILS — SCALE 3"=1'0"

FRAME CONSTRUCTION

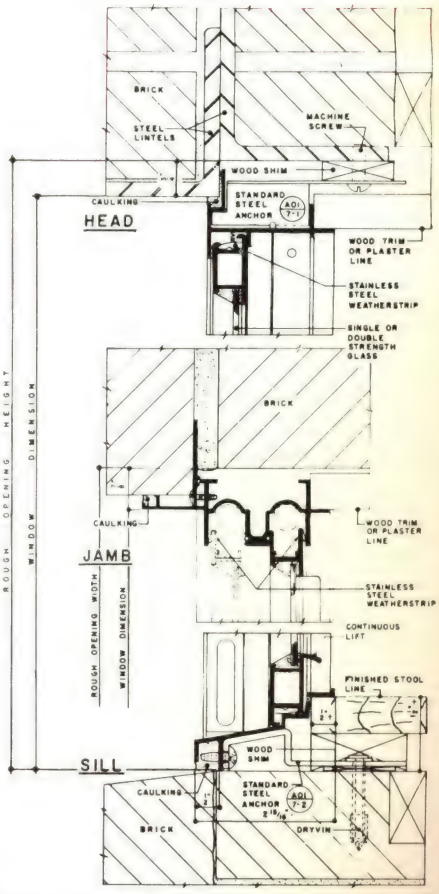


NOTE
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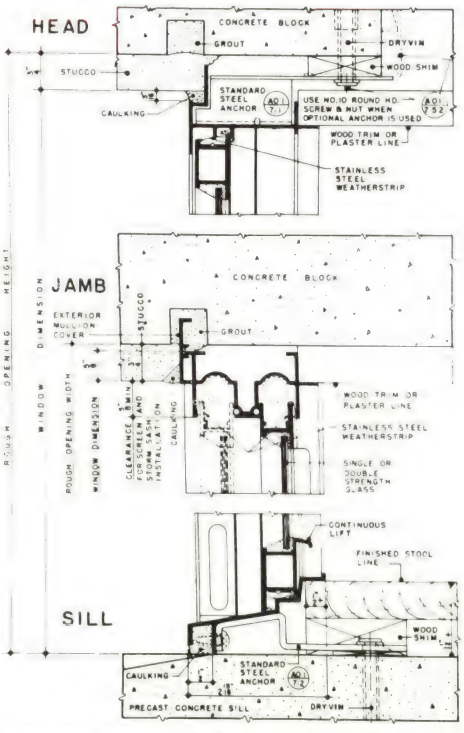
BRICK VENEER



SOLID BRICK



CONCRETE BLOCK



ROUGH OPENING DIMENSIONS

Height: Add ¾" to window dimension height.
Width: Add 1¾" to window dimension width.
For Mullions: Add 1¼" for width of each mullion.

ROUGH OPENING SIZES

IN FRAME, BRICK VENEER AND SOLID BRICK CONSTRUCTION

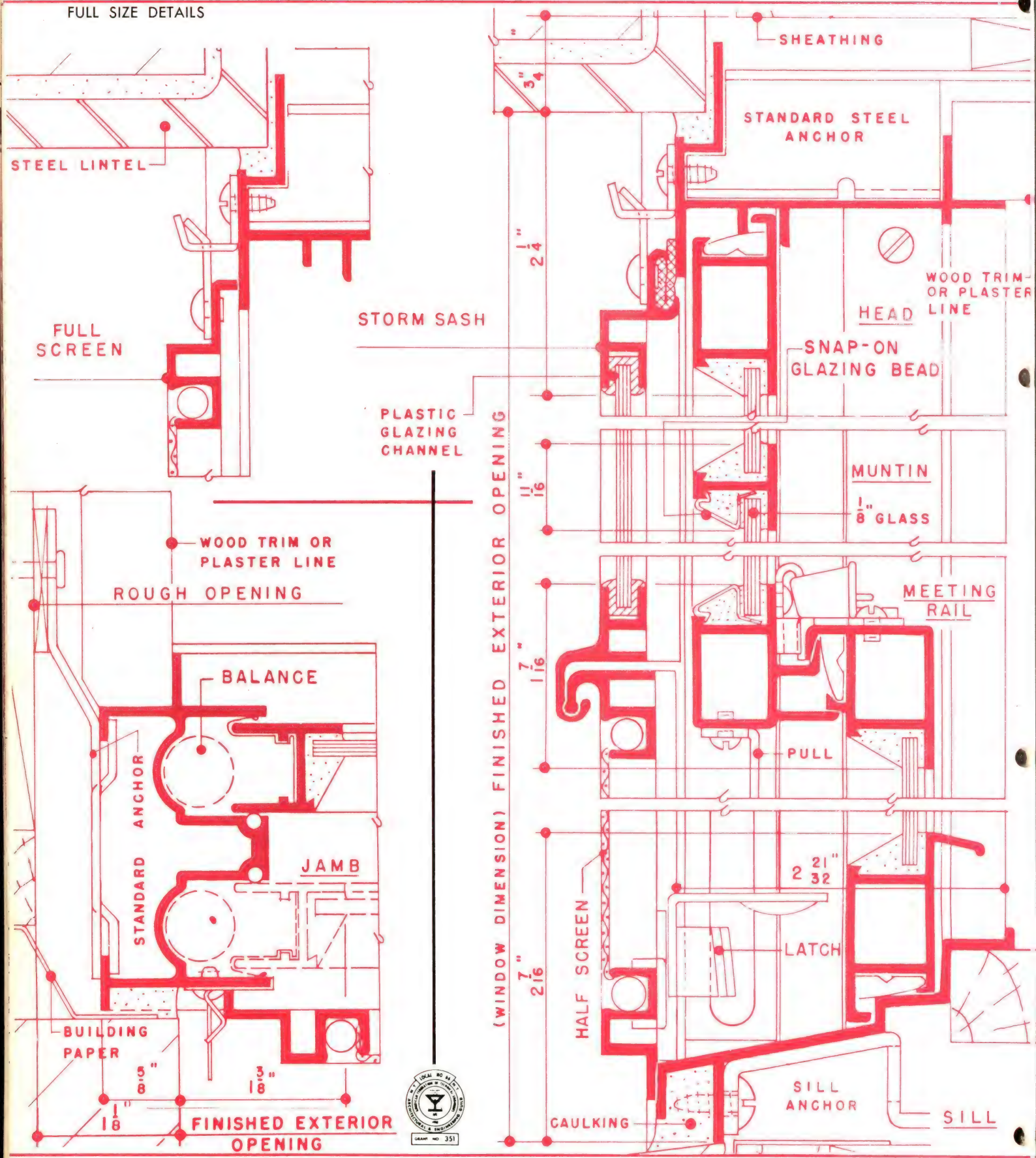
WINDOW NUMBER	SINGLE WIDTH	DOUBLE WIDTH	TRIPLE WIDTH	QUADRUPLE WIDTH	QUINTUPLE WIDTH	HEIGHT
2024	2'-1¾"	4'-3"	6'-4¼"	8'-5½"	10'-6¾"	2'-4¾"
2030						3'-0¾"
2034						3'-4¾"
2040						4'-0¾"
2048						4'-8¾"
2050						5'-0¾"
2054						5'-4¾"
2424	2'-5¾"	4'-11"	7'-4¼"	9'-9½"	12'-2¾"	2'-4¾"
2430						3'-0¾"
2434						3'-4¾"
2440						4'-0¾"
2448						4'-8¾"
2450						5'-0¾"
2454						5'-4¾"
2824	2'-9¾"	5'-7"	8'-4¼"	11'-1½"	13'-10¾"	2'-4¾"
2830						3'-0¾"
2834						3'-4¾"
2840						4'-0¾"
2848						4'-8¾"
2850						5'-0¾"
2854						5'-4¾"
3024	3'-1¾"	6'-3"	9'-4½"	12'-5½"	15'-6¾"	2'-4¾"
3030						3'-0¾"
3034						3'-4¾"
3040						4'-0¾"
3048						4'-8¾"
3050						5'-0¾"
3054						5'-4¾"
3424	3'-5¾"	6'-11"	10'-4¼"	13'-9½"	17'-2¾"	2'-4¾"
3430						3'-0¾"
3434						3'-4¾"
3440						4'-0¾"
3448						4'-8¾"
3450						5'-0¾"
3454						5'-4¾"

LOCAL NO 44 INTERNATIONAL ASSOCIATION OF ARCHITECTURAL & ORNAMENTAL IRON WORKERS
GRANT NO 351

ALWINTITE

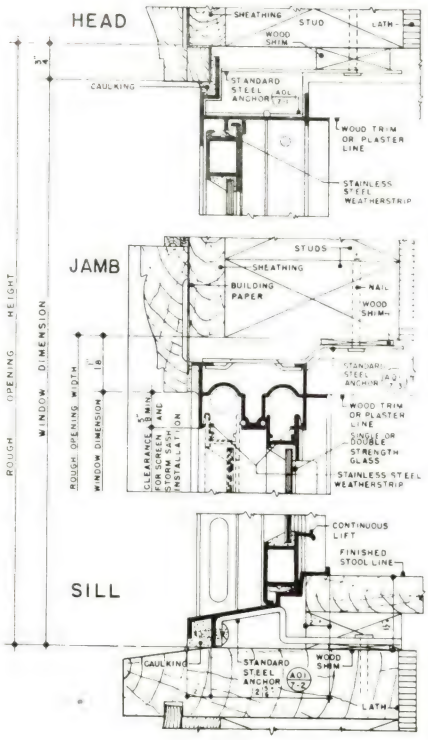
DOUBLE HUNG WINDOWS
WITHOUT FIN-TRIM

FULL SIZE DETAILS

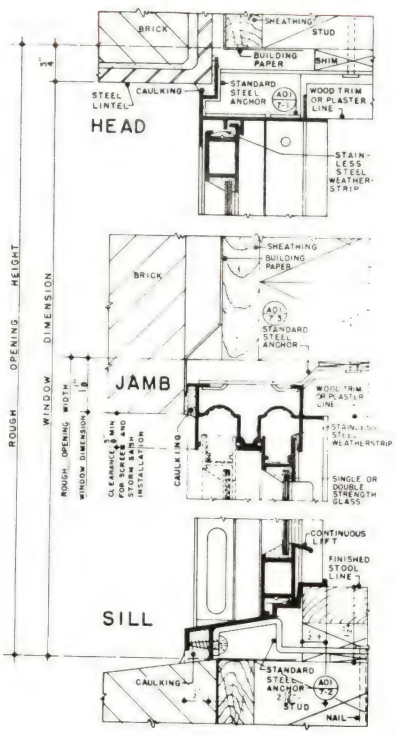


INSTALLATION DETAILS — SCALE 3" = 1'0"

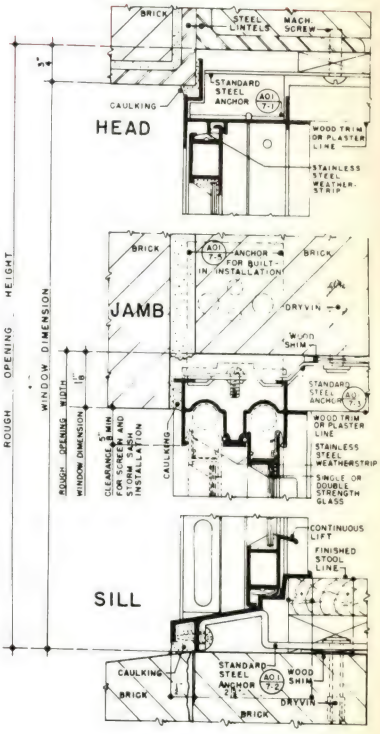
FRAME CONSTRUCTION



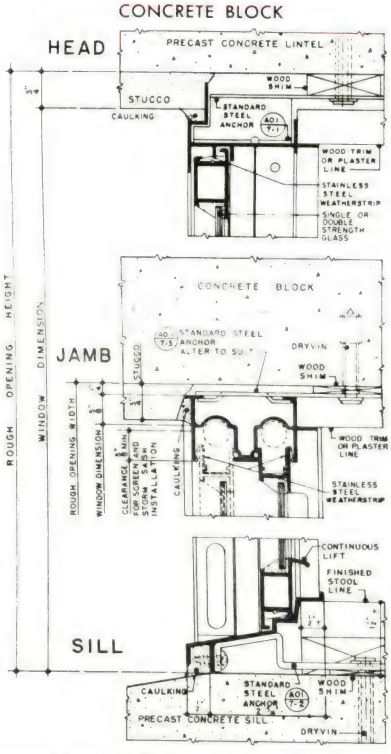
BRICK VENEER



SOLID BRICK



CONCRETE BLOCK



ROUGH OPENING DIMENSIONS

Height: Add ¾" to window dimension height.
Width: Add 1½" to window dimension width.
For Mullions: Add 1¼" for width of each mullion.

ROUGH OPENING SIZES

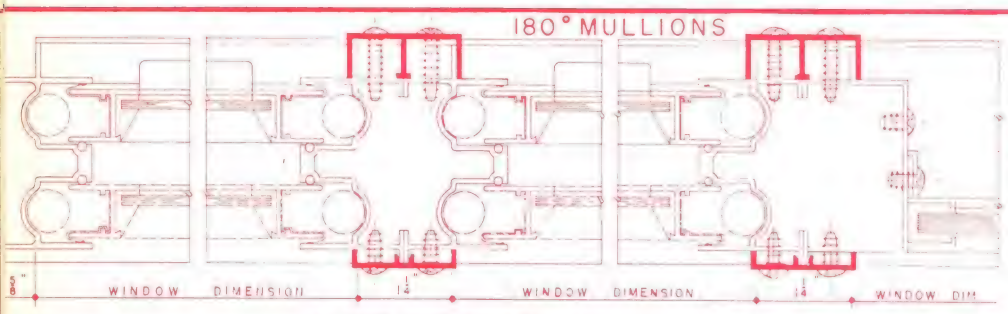
IN FRAME, BRICK VENEER AND SOLID BRICK CONSTRUCTION

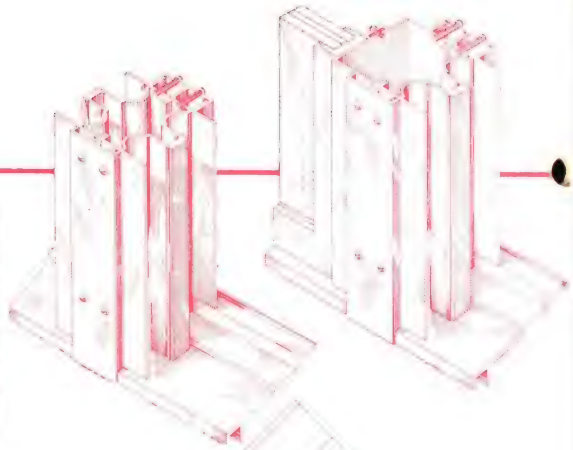
WINDOW NUMBER	SINGLE WIDTH	DOUBLE WIDTH	TRIPLE WIDTH	QUADRUPLE WIDTH	QUINTUPLE WIDTH	HEIGHT
2024	2'-2¼"	4'-3½"	6'-4¾"	8'-6"	10'-7¼"	2'-4¾"
2030						3'-0¾"
2034						3'-4¾"
2040						4'-0¾"
2048						4'-8¾"
2050						5'-0¾"
2054						5'-4¾"
2424	2'-6¼"	4'-11½"	7'-4¾"	9'-10"	12'-3¼"	2'-4¾"
2430						3'-0¾"
2434						3'-4¾"
2440						4'-0¾"
2448						4'-8¾"
2450						5'-0¾"
2454						5'-4¾"
2824	2'-10¼"	5'-7½"	8'-4¾"	11'-2"	13'-11¼"	2'-4¾"
2830						3'-0¾"
2834						3'-4¾"
2840						4'-0¾"
2848						4'-8¾"
2850						5'-0¾"
2854						5'-4¾"
3024	3'-2¼"	6'-3½"	9'-4¾"	12'-6"	15'-7¼"	2'-4¾"
3030						3'-0¾"
3034						3'-4¾"
3040						4'-0¾"
3048						4'-8¾"
3050						5'-0¾"
3054						5'-4¾"
3424	3'-6¼"	6'-11½"	10'-4¾"	13'-10"	17'-3¼"	2'-4¾"
3430						3'-0¾"
3434						3'-4¾"
3440						4'-0¾"
3448						4'-8¾"
3450						5'-0¾"
3454						5'-4¾"

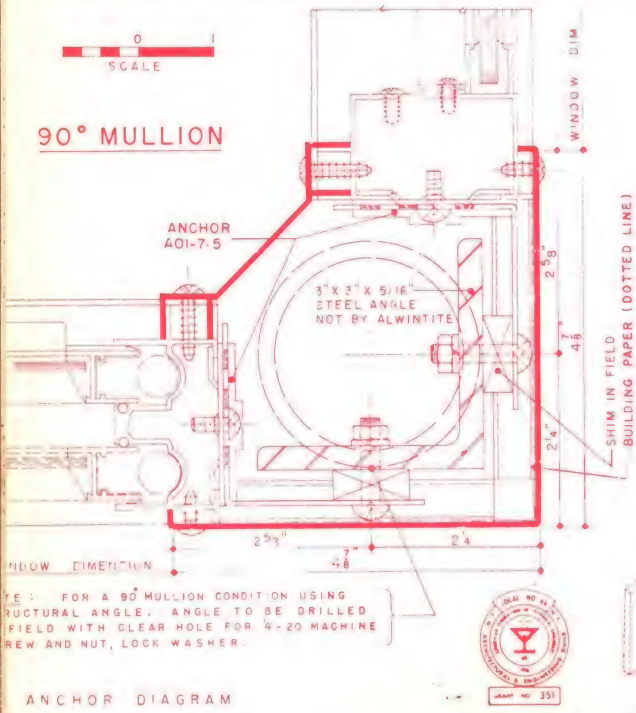
ALWINTITE

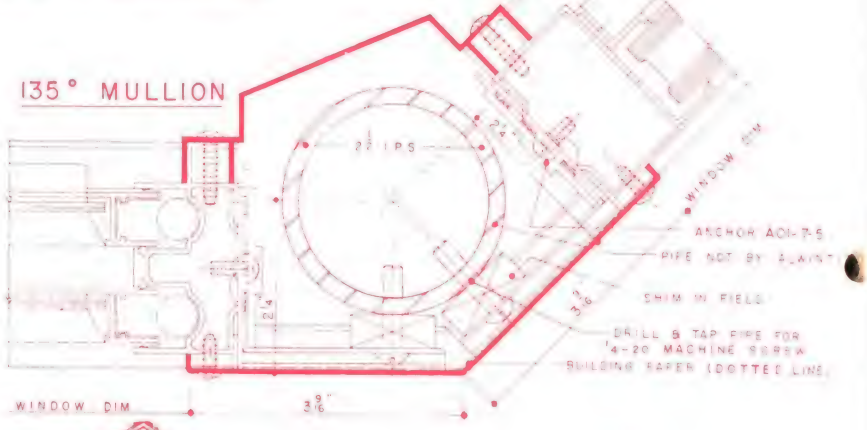
DOUBLE HUNG WINDOWS

MULLION DETAILS





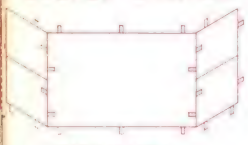




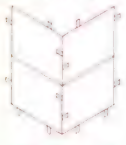




ANCHOR DIAGRAM



135° MULLION



90° MULLION

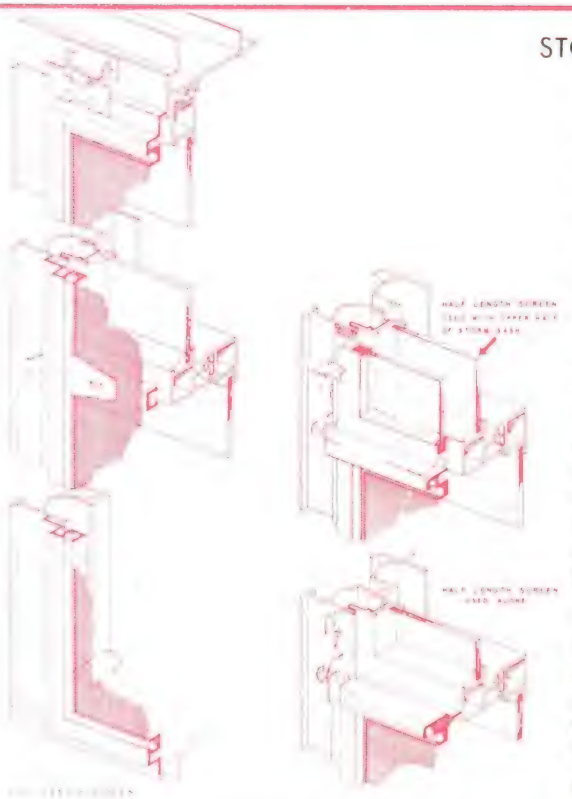
WINDOW AREAS and GLASS SIZES for ALWINTITE DOUBLE-HUNG WINDOWS and STORM SASH

NOTE: Upper and lower sash of double-hung windows have same glass sizes • Upper and lower sash of storm sash have different glass sizes

Sizes	Window Area*	1 Light Sash	2 Light Sash	4 Light Sash	6 Light Sash	8 Light Sash	Upper Storm Sash	Lower Storm Sash
2024	3.91 sq. ft.	11 5/16"	5 1/2"	5 1/2"	—	—	24 1/4"	(One Piece Sash)
2030	5.17 " "	15 5/16"	7 1/2"	7 1/2"	—	—	15 5/16"	16"
2034	5.79 " "	17 5/16"	8 1/2"	8 1/2"	—	—	17 5/16"	18"
2040	7.05 " "	21 5/8" x 21 5/16"	21 5/8" x 10 1/2"	10 5/8" x 10 1/2"	—	—	21 1/2" x 21 5/16"	21 1/2" x 22"
2048	8.31 " "	25 5/16"	12 1/2"	12 1/2"	—	—	25 5/16"	26"
2050	8.93 " "	27 5/16"	13 1/2"	13 1/2"	—	—	27 5/16"	28"
2054	9.55 " "	29 5/16"	14 1/2"	14 1/2"	—	—	29 5/16"	30"
2424	4.61 " "	11 5/16"	5 1/2"	—	5 1/2"	—	24 1/4"	(One Piece Sash)
2430	6.08 " "	15 5/16"	7 1/2"	—	7 1/2"	—	15 5/16"	16"
2434	6.81 " "	17 5/16"	8 1/2"	—	8 1/2"	—	17 5/16"	18"
2440	8.29 " "	25 5/8" x 21 5/16"	25 5/8" x 10 1/2"	—	8 5/16" x 10 1/2"	—	25 1/2" x 21 5/16"	25 1/2" x 22"
2448	9.77 " "	25 5/16"	12 1/2"	—	12 1/2"	—	25 5/16"	26"
2450	10.50 " "	27 5/16"	13 1/2"	—	13 1/2"	—	27 5/16"	28"
2454	11.23 " "	29 5/16"	14 1/2"	—	14 1/2"	—	29 5/16"	30"
2824	5.31 " "	11 5/16"	5 1/2"	—	5 1/2"	—	24 1/4"	(One Piece Sash)
2830	7.00 " "	15 5/16"	7 1/2"	—	7 1/2"	—	15 5/16"	16"
2834	7.82 " "	17 5/16"	8 1/2"	—	8 1/2"	—	17 5/16"	18"
2840	9.52 " "	29 5/8" x 21 5/16"	29 5/8" x 10 1/2"	—	9 5/8" x 10 1/2"	—	29 1/2" x 21 5/16"	29 1/2" x 22"
2848	11.23 " "	25 5/16"	12 1/2"	—	12 1/2"	—	25 5/16"	26"
2850	12.06 " "	27 5/16"	13 1/2"	—	13 1/2"	—	27 5/16"	28"
2854	12.90 " "	29 5/16"	14 1/2"	—	14 1/2"	—	29 5/16"	30"
3024	6.01 " "	11 5/16"	5 1/2"	—	5 1/2"	—	24 1/4"	(One Piece Sash)
3030	7.92 " "	15 5/16"	7 1/2"	—	7 1/2"	—	15 5/16"	16"
3034	8.87 " "	17 5/16"	8 1/2"	—	8 1/2"	—	17 5/16"	18"
3040	10.80 " "	33 5/8" x 21 5/16"	33 5/8" x 10 1/2"	—	11" x 10 1/2"	—	33 1/2" x 21 5/16"	33 1/2" x 22"
3048	12.73 " "	25 5/16"	12 1/2"	—	12 1/2"	—	25 5/16"	26"
3050	13.68 " "	27 5/16"	13 1/2"	—	13 1/2"	—	27 5/16"	28"
3054	14.63 " "	29 5/16"	14 1/2"	—	14 1/2"	—	29 5/16"	30"
3424	6.70 " "	11 5/16"	5 1/2"	—	—	5 1/2"	24 1/4"	(One Piece Sash)
3430	8.84 " "	15 5/16"	7 1/2"	—	—	7 1/2"	15 5/16"	16"
3434	9.89 " "	17 5/16"	8 1/2"	—	—	8 1/2"	17 5/16"	18"
3440	12.04 " "	37 5/8" x 21 5/16"	37 5/8" x 10 1/2"	—	—	9 3/16" x 10 1/2"	37 1/2" x 21 5/16"	37 1/2" x 22"
3448	14.19 " "	25 5/16"	12 1/2"	—	—	12 1/2"	25 5/16"	26"
3450	15.25 " "	27 5/16"	13 1/2"	—	—	13 1/2"	27 5/16"	28"
3454	16.31 " "	29 5/16"	14 1/2"	—	—	14 1/2"	29 5/16"	30"

*Area between stop beads

Glass Tolerance + 1/16" – 0



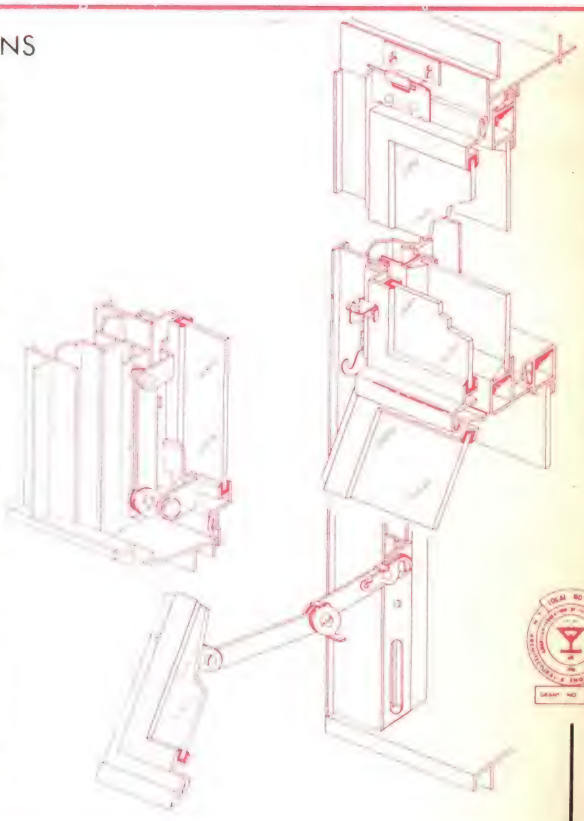
STORM SASH AND SCREENS

ALWINTITE Double-Hung Windows are supplied with all the necessary hardware for attaching screen and storm sash and fittings

Storm Sash are available in two sections (upper and lower units) to fit all sizes of ALWINTITE Double-Hung Windows. Stay bars enable easy adjustment for ventilation.

ALWINTITE Screens with ALCLAD aluminum wire mesh are available in full length, and half length sections for all sizes of ALWINTITE Double-Hung Windows.

The half screen is interchangeable with the lower section of the storm sash so that the home owner may use these as a combination unit. This arrangement permits complete air circulation under all weather conditions.



SPECIFICATIONS

General: The double-hung windows shall be "Alwintite" aluminum series DHA-O, as manufactured by General Bronze Corporation (Alwintite Division), Garden City, N. Y. Windows are to be fitted and assembled with weatherstripping and hardware, ready for installation and glazing as hereinafter specified.

Materials: Windows shall be of 63S-T5 extruded aluminum alloy having a minimum thickness of .062 inch; except the sill which is to be of .080 inch minimum thickness. Window members shall conform to the strength requirements of the Aluminum Window Manufacturers Association.

Construction: Frame and sash member joints shall be neatly fitted to a hairline, securely connected, and absolutely weathertight. Muntin bars if required shall be firmly secured at intersections and to abutting sash members. Sash to be designed for outside glazing. Keyways to receive and retain glazing clips and glazing compound are to be extruded integral with sash members and muntins. Mullions to be furnished as required.

Hardware: Window shall have four adjustable sash balances; continuous lift extruded integral with bottom rail of lower sash; pull down handle on underside of upper sash; stainless steel locking device; bumpers as required for upper and lower sash; glazing clips, and steel anchors coated with insulating paint.

Weatherstripping: Each sash to have stainless steel weatherstripping around its entire perimeter. Weatherstripping to be retained in keyways extruded integral with window members to permit convenient replacement.

Air Infiltration: Infiltration of air shall not exceed one-half cubic foot per minute per linear foot of sash perimeter during wind of twenty-five miles per hour velocity. Satisfactory evidence of compliance must be furnished.

Finish: Natural aluminum color. After fabrication, surface blemishes, scratches and tool marks are to be removed and exposed surfaces are to be cleaned to a uniform color and texture. A protective coating of transparent lacquer is to be applied to windows before factory shipment. Lacquer must be such as will withstand action of lime mortar for a period of at least one month in atmosphere of 100% relative humidity at room temperature.

Installation: Window manufacturer is to furnish detail drawings for installation. Contractor shall install windows straight, plumb and level and securely anchor them in place. After windows are installed and glazed, they are to be adjusted, if necessary, to insure efficient operation.

Caulking: Caulking contractor shall apply an approved compound in the caulking rebate between window frame and adjacent construction materials. Compound is to be applied with pressure from a suitable caulking gun.

Glazing: Glazing contractor shall furnish a glazing compound approved for the glazing of aluminum windows. Contractor shall, before commencing glazing, remove from the glazing surfaces any material to which compound will not adhere. (Specify glass to be used which should not exceed one eighth inch nominal thickness.)

OPTIONAL

FIN-TRIM

The jambs, head and sill of windows are to be equipped with an extruded aluminum Fin-Trim of .062 inch minimum thickness. Fin-Trim is to be securely attached to exterior of frame. Head and sill trim for solid masonry construction.

GLAZING BEADS

Aluminum glazing beads of the screwless interlocking type rolled aluminum .020 inch minimum thickness are to be furnished with windows and installed in accordance with manufacturer's instructions.

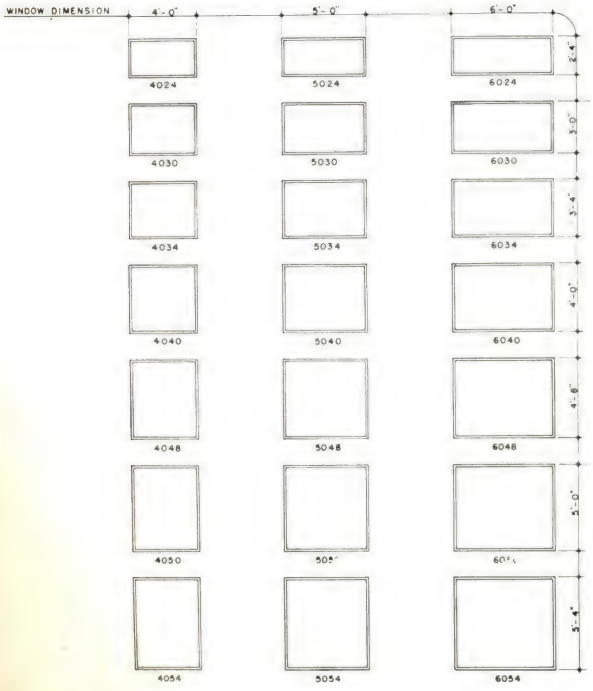
SCREENS AND STORM SASH

The double-hung windows shall be equipped with "ALWINTITE" aluminum 2-piece storm sash. The window shall be equipped with "ALWINTITE" aluminum full length (or half length) screens—or half length screens interchangeable with lower half of the storm sash.

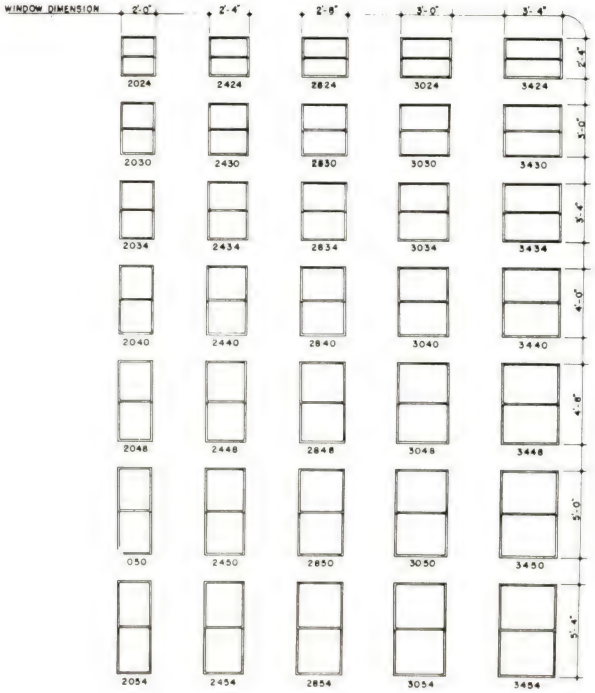
DOUBLE HUNG PICTURE WINDOWS

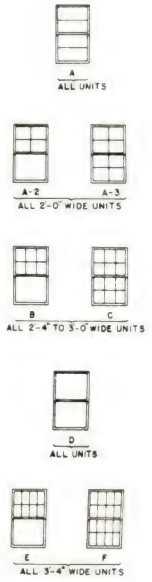


WINDOW TYPES — FIXED GLASS SECTIONS

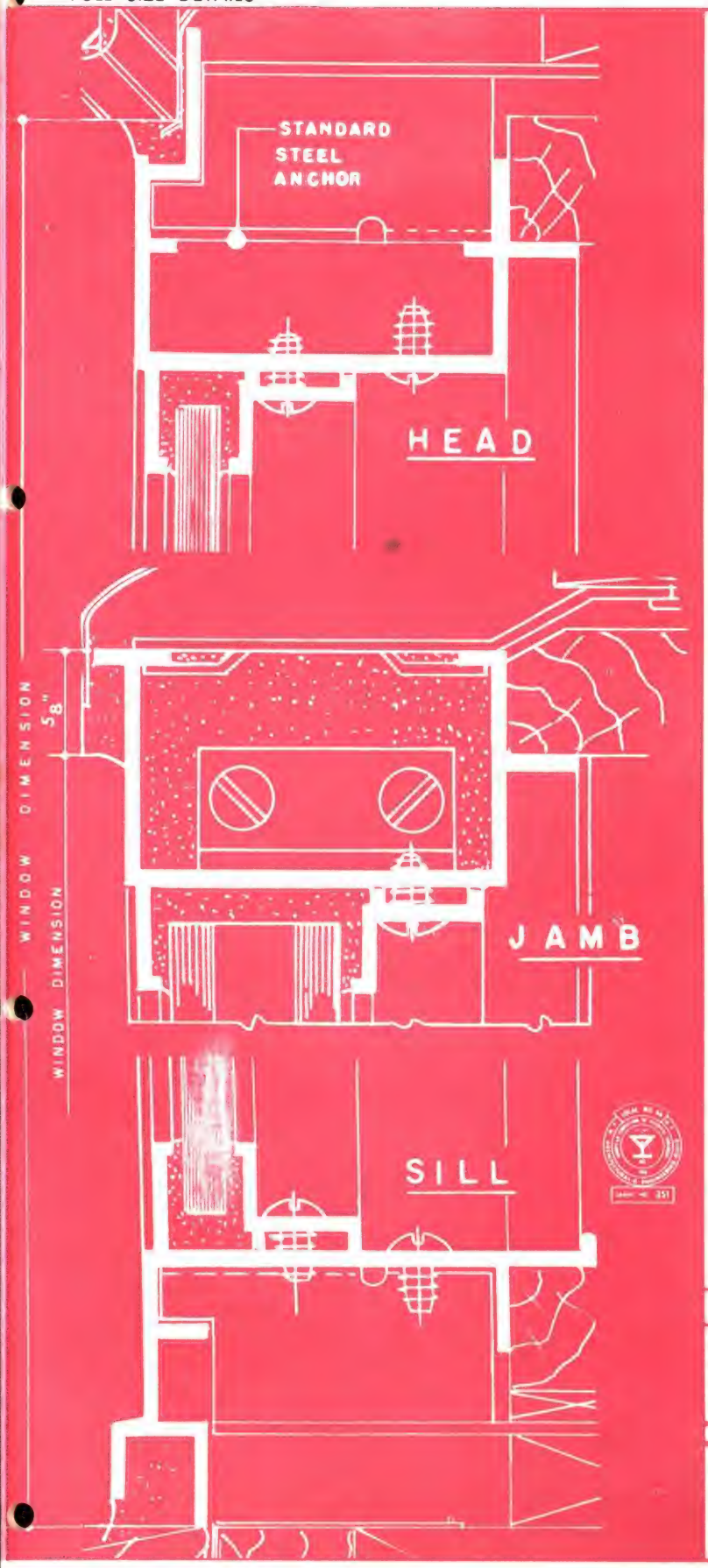


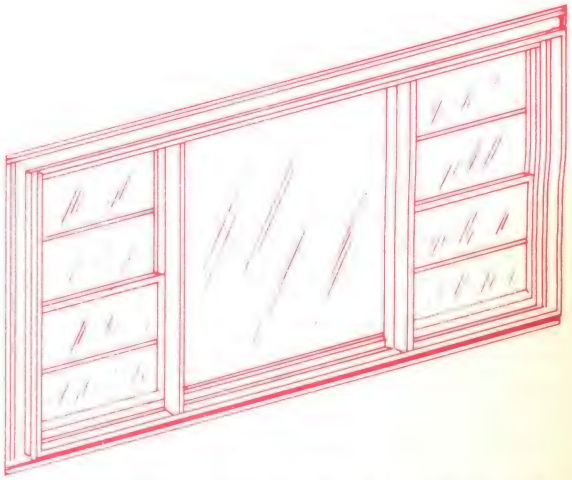
DOUBLE HUNG WINDOW UNITS





FULL SIZE DETAILS





FOR USE IN LOW COST AS WELL AS LUXURY HOMES . . . APARTMENT HOUSES . . . HOTELS . . . INSTITUTIONS.



A variety of interesting architectural arrangements can be achieved by combining fixed glass sections with corresponding double-hung types.

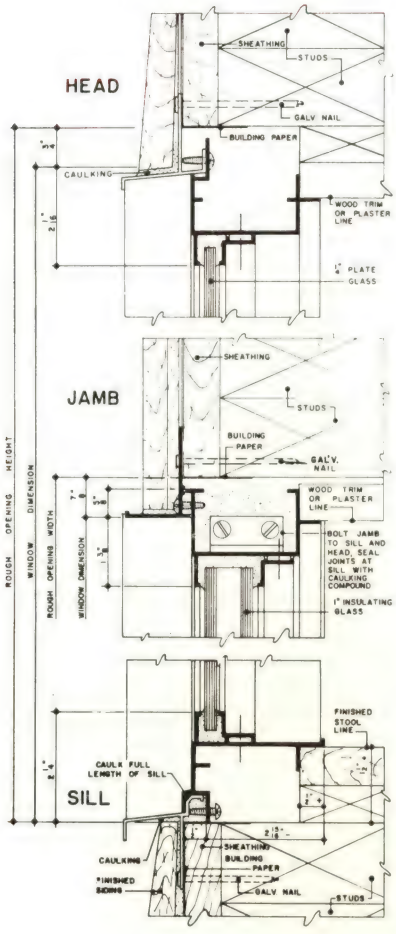
SCHEDULE OF GLASS SIZES — Tolerance + 3/16" — 1/16"

4024 . . . 46 1/8" x 24 1/2"	5024 . . . 58 1/8" x 24 1/2"	6024 . . . 70 1/8" x 24 1/2"
4030 . . . 46 1/8" x 32 1/2"	5030 . . . 58 1/8" x 32 1/2"	6030 . . . 70 1/8" x 32 1/2"
4034 . . . 46 1/8" x 36 1/2"	5034 . . . 58 1/8" x 36 1/2"	6034 . . . 70 1/8" x 36 1/2"
4040 . . . 46 1/8" x 44 1/2"	5040 . . . 58 1/8" x 44 1/2"	6040 . . . 70 1/8" x 44 1/2"
•4048 . . . 46 1/8" x 52 1/2"	•5048 . . . 58 1/8" x 52 1/2"	•6048 . . . 70 1/8" x 52 1/2"
•4050 . . . 46 1/8" x 56 1/2"	•5050 . . . 58 1/8" x 56 1/2"	•6050 . . . 70 1/8" x 56 1/2"
4054 . . . 46 1/8" x 60 1/2"	5054 . . . 58 1/8" x 60 1/2"	6054 . . . 70 1/8" x 60 1/2"

• Stock size of 1" Thermopane or Twindow

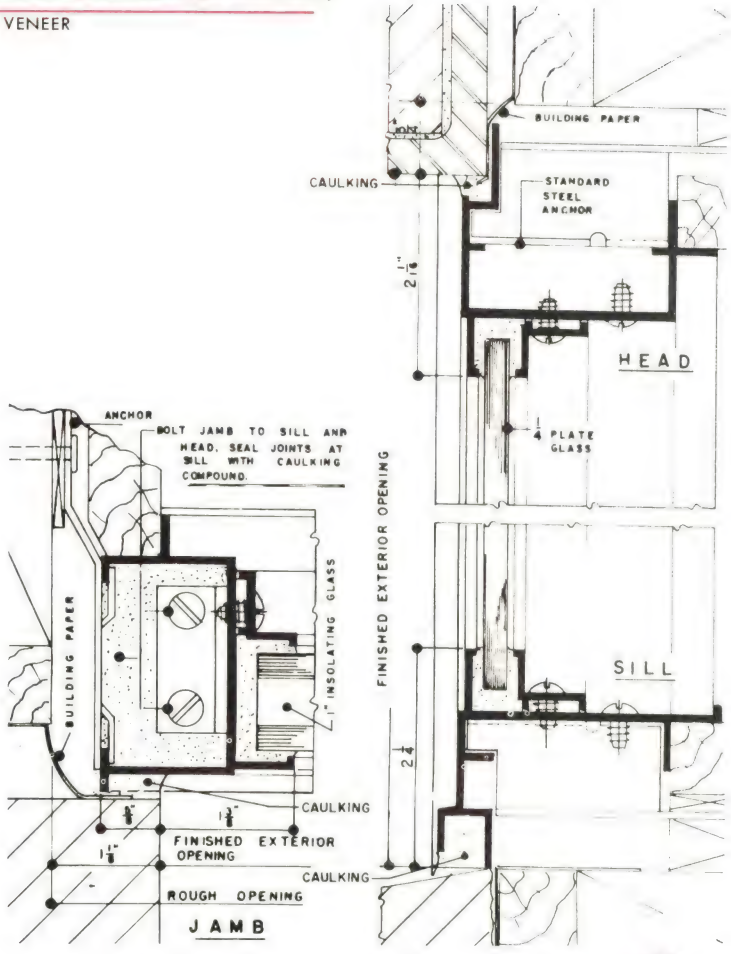
INSTALLATION DETAILS — SCALE 3"=1'0"

FRAME CONSTRUCTION



HALF SIZE INSTALLATION DETAILS

BRICK VENEER



ROUGH OPENING SIZES FOR PICTURE WINDOWS

IN FRAME, BRICK VENEER AND SOLID BRICK CONSTRUCTION

WITH FIN-TRIM

WINDOW NUMBER	SINGLE WIDTH	WIDTH INCLUDING ONE DOUBLE-HUNG WINDOW EACH SIDE				HEIGHT
		2'-0" Side Wds.	2'-4" Side Wds.	2'-8" Side Wds.	3'-0" Side Wds.	
4024	4'-1¾"	8'-4¼"	9'-0¼"	9'-8¼"	10'-4¼"	2'-4¾"
4030						3'-0¾"
4034						3'-4¾"
4040						4'-0¾"
4048						4'-8¾"
4050						5'-0¾"
4054						5'-4¾"
5024	5'-1¾"	9'-4¼"	10'-0¼"	10'-8¼"	11'-4¼"	2'-4¾"
5030						3'-0¾"
5034						3'-4¾"
5040						4'-0¾"
5048						4'-8¾"
5050						5'-0¾"
5054						5'-4¾"
6024	6'-1¾"	10'-4¼"	11'-0¼"	11'-8¼"	12'-4¼"	2'-4¾"
6030						3'-0¾"
6034						3'-4¾"
6040						4'-0¾"
6048						4'-8¾"
6050						5'-0¾"
6054						5'-4¾"

WITHOUT FIN-TRIM

WINDOW NUMBER	SINGLE WIDTH	WIDTH INCLUDING ONE DOUBLE-HUNG WINDOW EACH SIDE				HEIGHT
		2'-0" Side Wds.	2'-4" Side Wds.	2'-8" Side Wds.	3'-0" Side Wds.	
4024	4'-2¼"	8'-4¾"	9'-0¾"	9'-8¾"	10'-4¾"	2'-4¾"
4030						3'-0¾"
4034						3'-4¾"
4040						4'-0¾"
4048						4'-8¾"
4050						5'-0¾"
4054						5'-4¾"
5024	5'-2¼"	9'-4¾"	10'-0¾"	10'-8¾"	11'-4¾"	2'-4¾"
5030						3'-0¾"
5034						3'-4¾"
5040						4'-0¾"
5048						4'-8¾"
5050						5'-0¾"
5054						5'-4¾"
6024	6'-2¼"	10'-4¾"	11'-0¾"	11'-8¾"	12'-4¾"	2'-4¾"
6030						3'-0¾"
6034						3'-4¾"
6040						4'-0¾"
6048						4'-8¾"
6050						5'-0¾"
6054						5'-4¾"

GENERAL BRONZE CORPORATION

ALWINTITE



RESIDENTIAL . . .



. . . COMMERCIAL

INSTITUTIONAL . . .



Aluminum

AWNING WINDOWS

For any type of installation—residential, commercial or institutional—the ALWINTITE Awning Window will fill the most exacting engineering requirements of architects and builders. Available with either rotary operator or control bar operator, this window is designed for functional beauty and durability second to none in the field.

Superiority in ...Design / Function / Durability /

BALANCED POWER!



New "Roto-Flex" gear assembly transfers precision power simultaneously to right and left jambs. Operator and cable encased with lifetime lubricant in weatherproof housing.

BUILT-IN AUTOMATIC LOCKING!



Superior hardware automatically locks all sash in closed position ... Ideal protection against prowlers. Maintains rigidity in open positions... no manual lock necessary on bottom vent.

WEATHER-TIGHT!



Extruded elastromeric vinyl weatherstripping maintains everlasting tight seal against rain, wind and dust. Stripping is not exposed when window is closed.



ARCHITECTURALLY ATTRACTIVE!

Sturdy construction for maximum strength yet expertly designed with narrow sight lines. Smooth inside facing to enhance interior decor.

SUPER-SMOOTH OPERATION!



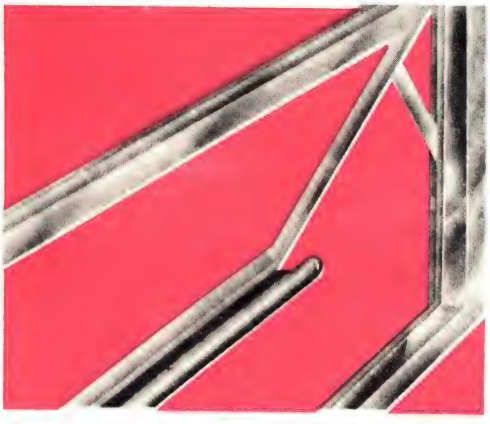
Tilted, center-sill "Roto-Flex" operator built by General Bronze. Grasps conveniently . . . opens and closes windows with utmost ease. No tension on operator after closing.

ROTARY OPERATOR



Offset rotary operated handle located at center of sill provides for ease of operation with Balanced Power. This advanced engineering operating principle provides for an air-tight window that exceeds all approved air infiltration standards.

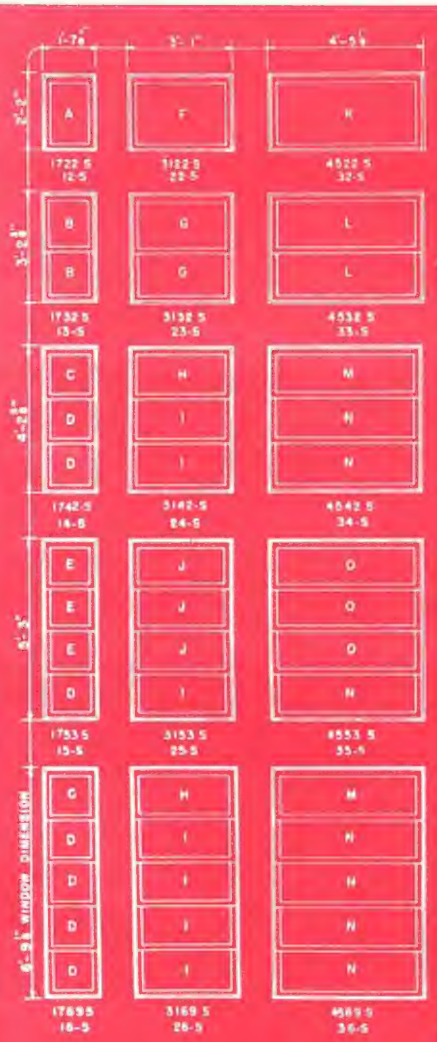
BAR OPERATOR

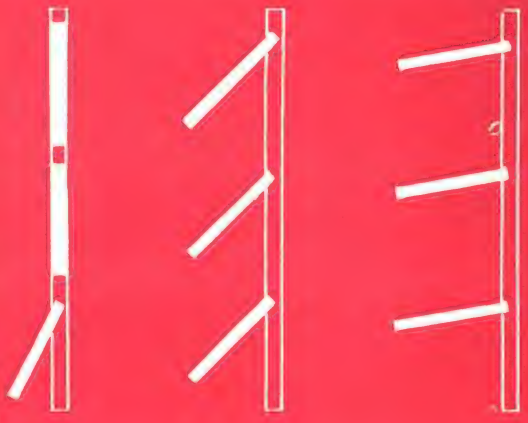


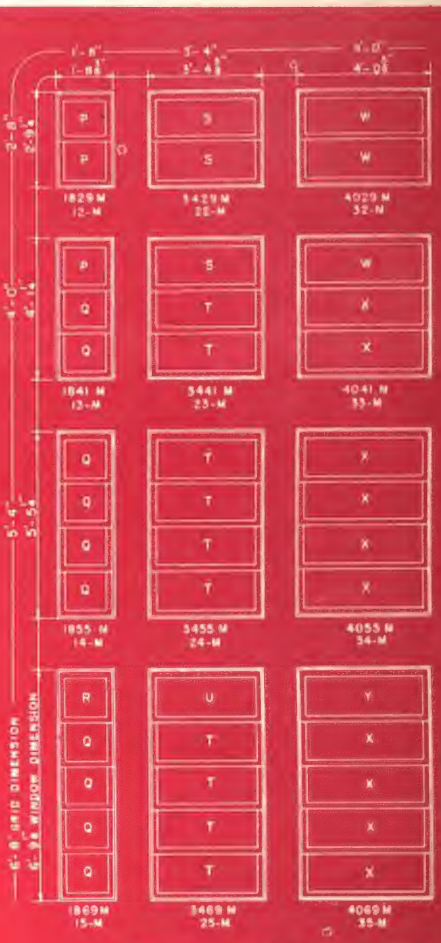
For operational ease, the bar-type operator makes windows so simple to open and close, that any child can manage them. Just push out, or pull in. All vents can be opened fully or closed tight with one motion. Ideal for use in schools.

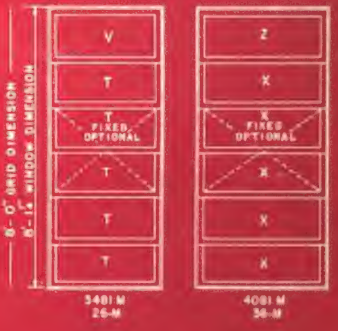
ACCESSORIES!

Continuous installation fins, mullions, glazing beads and picture windows. Storm Sash and Screens available for all sizes.











VENTILATING POSITIONS

NIGHT PARTIAL MAXIMUM

AWNING WINDOW SIZE DATA

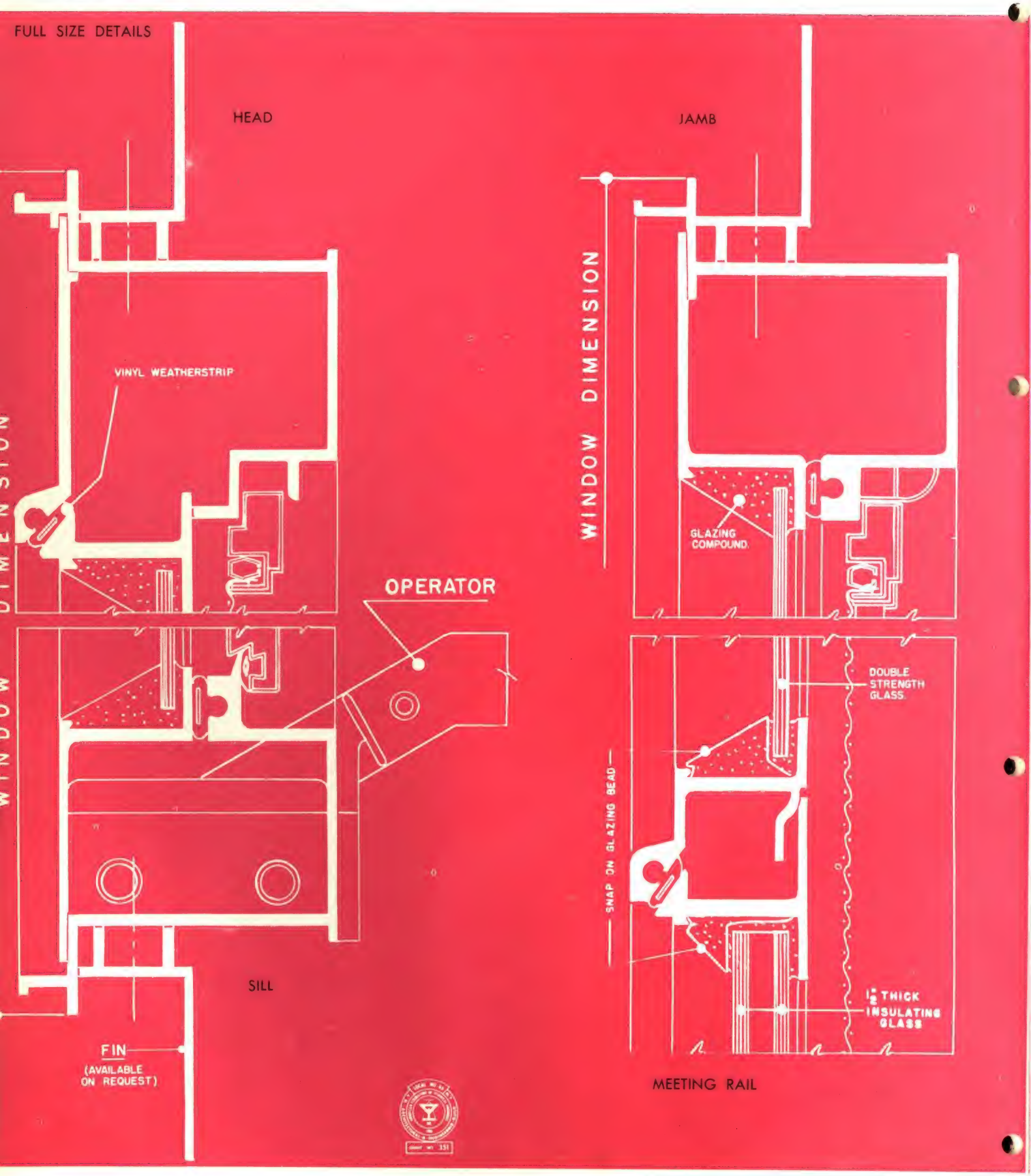
Type	Window Dimension Width	Height	Window Area	Ventilating Area	½" TWINDOW ½" THERMOPANE DOUBLE STRENGTH GLASS Glass Sizes Letter	Width	Height
1722-S	1'-7⅛"	x 2'-2"	1.84 Sq. Ft.	1.84 Sq. Ft.			
1732-S	1'-7⅛"	x 3'-2⅜"	2.80 " "	2.90 " "	A	14⅛"	x 20¼"
1742-S	1'-7⅛"	x 4'-2⅝"	3.75 " "	3.96 " "	B	14⅛"	x 15⁹⁄₁₆"
1753-S	1'-7⅛"	x 5'-3"	4.71 " "	5.01 " "	C	14⅛"	x 14⅜"
1769-S	1'-7⅛"	x 6'-9⅛"	6.21 " "	6.62 " "	D	14⅛"	x 13¾"
3122-S	3'-1"	x 2'-2"	4.28 " "	4.25 " "	E	14⅛"	x 13"
3132-S	3'-1"	x 3'-2⅜"	6.50 " "	6.69 " "	F	32"	x 20¼"
3142-S	3'-1"	x 4'-2⅝"	8.72 " "	9.11 " "	G	32"	x 15⁹⁄₁₆"
3153-S	3'-1"	x 5'-3"	10.96 " "	11.57 " "	H	32"	x 14⅜"
3169-S	3'-1"	x 6'-9⅛"	14.44 " "	15.27 " "	I	32"	x 13¾"
4522-S	4'-5⅛"	x 2'-2"	6.47 " "	6.41 " "	J	32"	x 13"
4532-S	4'-5⅛"	x 3'-2⅜"	9.86 " "	10.12 " "	K	48⅛"	x 20¼"
4542-S	4'-5⅛"	x 4'-2⅝"	13.20 " "	13.77 " "	L	48⅛"	x 15⁹⁄₁₆"
4553-S	4'-5⅛"	x 5'-3"	16.57 " "	17.47 " "	M	48⅛"	x 14⅜"
4569-S	4'-5⅛"	x 6'-9⅛"	21.86 " "	23.08 " "	N	48⅛"	x 13¾"
1829-M	1'-8⅜"	x 2'-9¼"	2.54 " "	2.64 " "	O	48⅛"	x 13"
1841-M	1'-8⅜"	x 4'-1¼"	3.95 " "	4.17 " "	P	15⅜"	x 13"
1855-M	1'-8⅜"	x 5'-5¼"	5.36 " "	5.70 " "	Q	15⅜"	x 13¾"
1869-M	1'-8⅜"	x 6'-9⅛"	6.77 " "	7.23 " "	R	15⅜"	x 14⅜"
3429-M	3'-4⅜"	x 2'-9¼"	5.98 " "	6.17 " "	S	35⅜"	x 13"
3441-M	3'-4⅜"	x 4'-1¼"	9.33 " "	9.76 " "	T	35⅜"	x 13¾"
3455-M	3'-4⅜"	x 5'-5¼"	12.68 " "	13.35 " "	U	35⅜"	x 14⅜"
3469-M	3'-4⅜"	x 6'-9⅛"	16.00 " "	16.90 " "	V	35⅜"	x 15¼"
3481-M	3'-4⅜"	x 8'-1¼"	19.38 " "	20.53 " "	W	43⅜"	x 13"
4029-M	4'-0⅜"	x 2'-9¼"	7.34 " "	7.58 " "	X	43⅜"	x 13¾"
4041-M	4'-0⅜"	x 4'-1¼"	11.47 " "	11.99 " "	Y	43⅜"	x 14⅜"
4055-M	4'-0⅜"	x 5'-5¼"	15.60 " "	16.40 " "	Z	43⅜"	x 15¼"
4069-M	4'-0⅜"	x 6'-9⅛"	19.68 " "	20.78 " "	AA	43⅜"	x 16⅝"
4081-M	4'-0⅜"	x 8'-1¼"	23.84 " "	25.24 " "	BB	43⅜"	x 34¹³⁄₁₆"
4095-M	4'-0⅜"	x 9'-5⁹⁄₁₆"	29.19 " "	19.81 " "			

HOPPER VENT



GLASS TOLERANCES

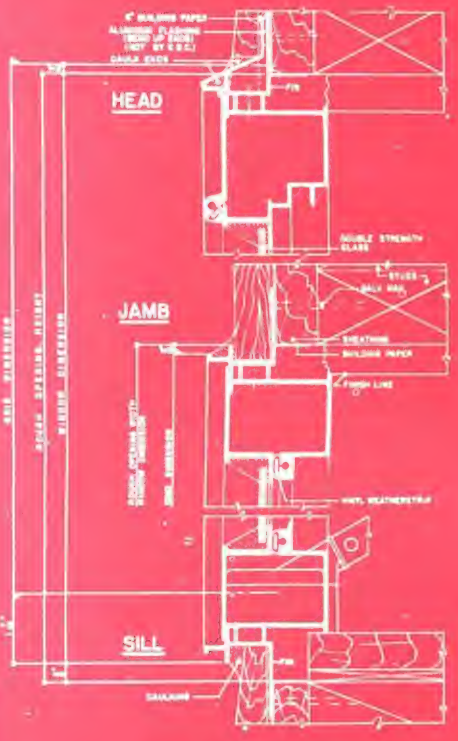
Twindow & Thermopane	±1⁄16"
Double Strength Glass	+1⁄16" −0"


FULL SIZE DETAILS
HEAD
JAMB
VINYL WEATHERSTRIP
WINDOW DIMENSION
OPERATOR
GLAZING COMPOUND
DOUBLE STRENGTH GLASS
SNAP ON GLAZING BEAD
SILL
FIN
(AVAILABLE ON REQUEST)
THICK INSULATING GLASS
MEETING RAIL

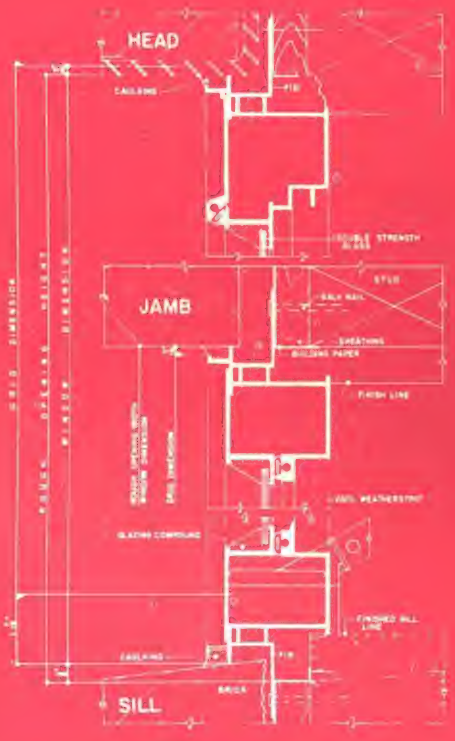
INSTALLATION DETAILS — SCALE 3"=1'0"

NOTE: Details shown with fin, can also be installed with Steel Anchors.

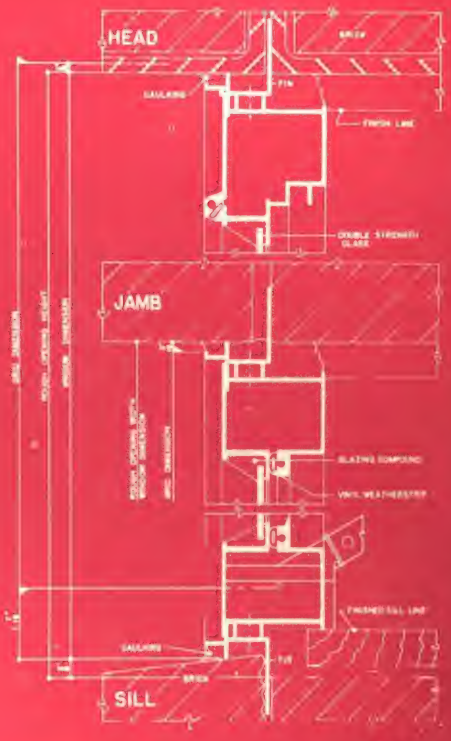
FRAME CONSTRUCTION



BRICK VENEER

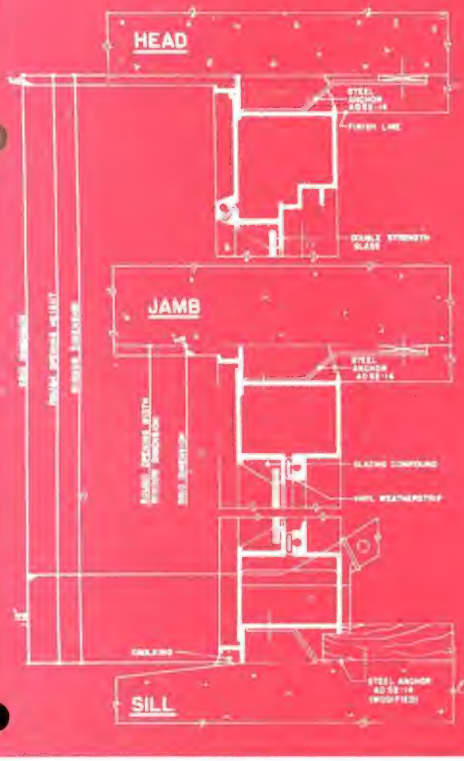


SOLID BRICK

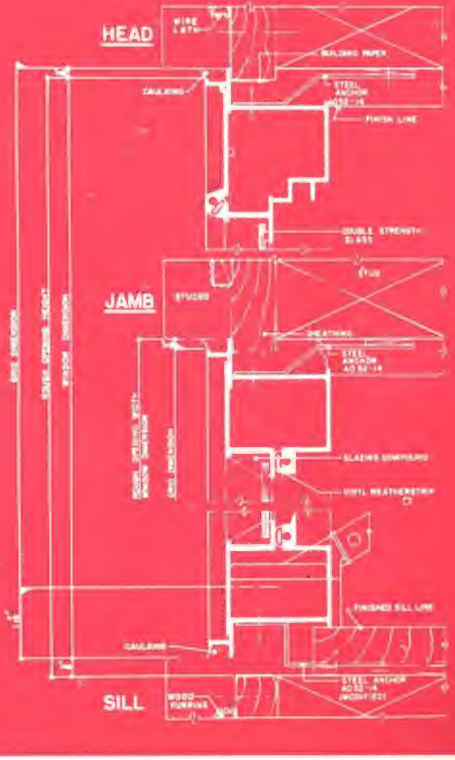


NOTE: Details shown with Steel Anchors, can also be installed with fin.

CONCRETE BLOCK



STUCCO

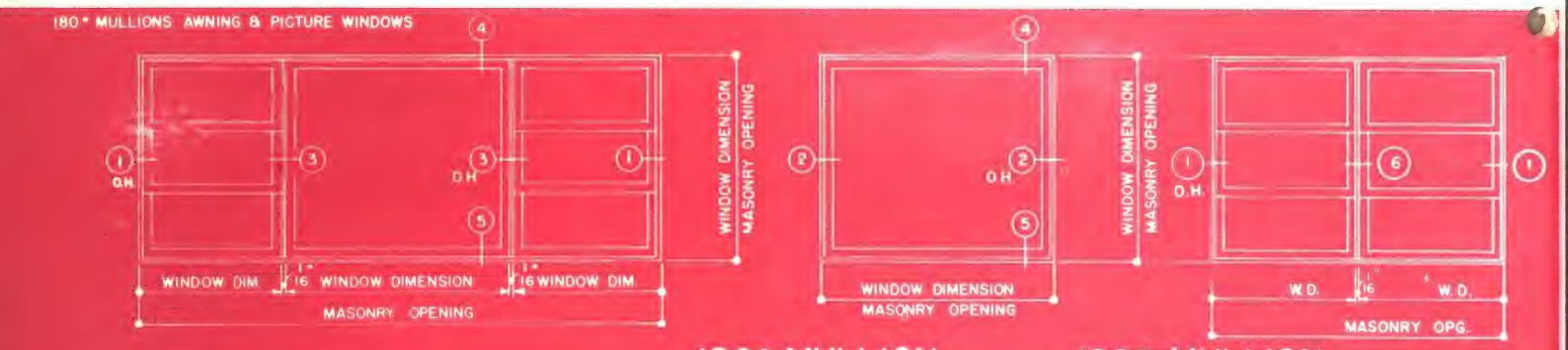


ASBESTOS SHINGLE

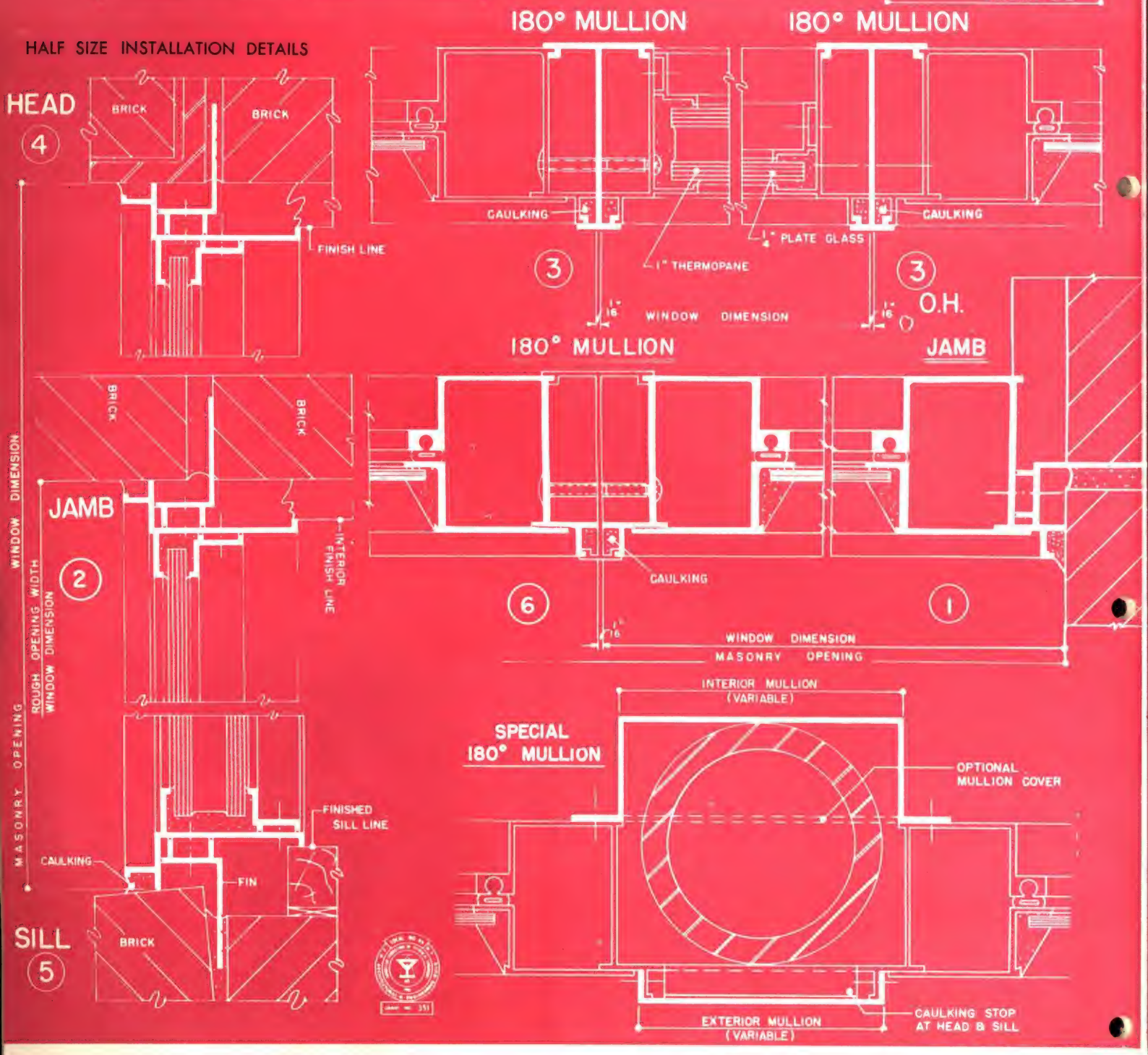


180° MULLIONS AWNING & PICTURE WINDOWS

180° MULLIONS AWNING & PICTURE WINDOWS



HALF SIZE INSTALLATION DETAILS



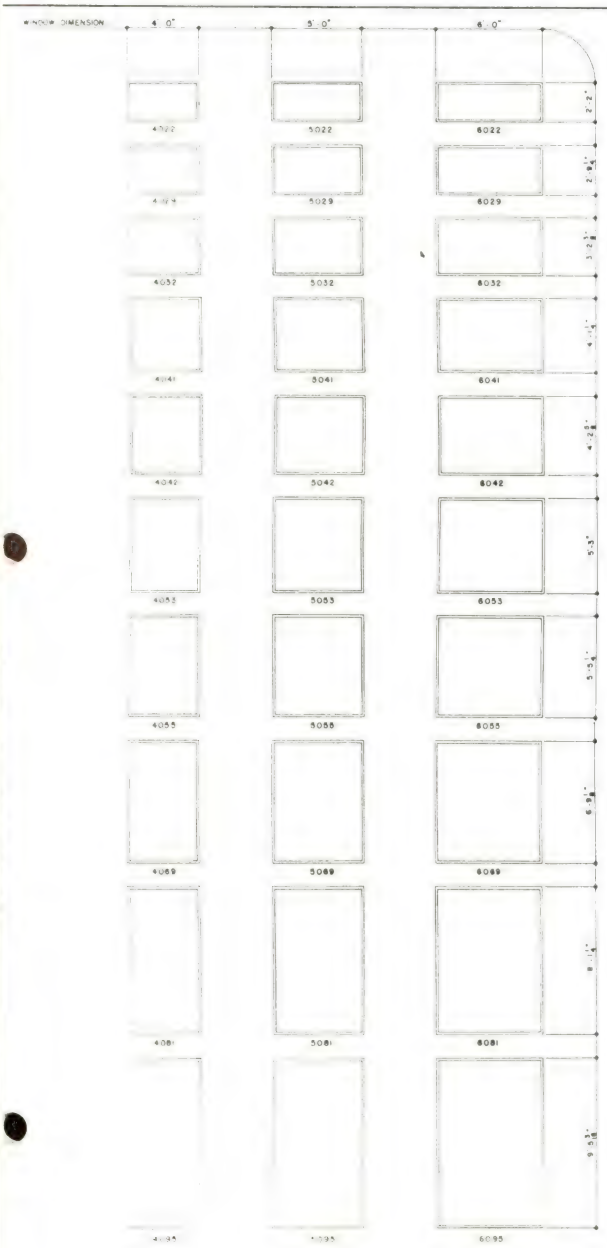
SPECIFICATIONS

General: The awning windows shown on the architect's drawings shall be the "Alwintite" aluminum awning windows as manufactured by the General Bronze Corporation (Alwintite Division) Garden City, New York.

Materials: Frame and ventilator members shall be manufactured from 63 S-T5 extruded aluminum alloy having a minimum thickness of .062". Frame members shall have a minimum depth of 2-9/16". Ventilator members shall have a minimum depth of 1". Operating hardware shall be suitable aluminum alloy of sufficient hardness to perform its required function or of stainless steel. Weatherstripping shall be of an elastomeric vinyl or equal.

Construction: Frame and ventilator members shall be mitered and neatly fitted to a hairline, securely connected and absolutely weathertight. Ventilators shall have double weathering contacts, one of which shall be weatherstripped, around their entire perimeter when window is in closed position. Weatherstripping shall be securely retained in keyways extruded integral with the window members and shall not be exposed to view when vents are closed.

Operation: Outside opening ventilators shall open to a maximum of 80° with the top vent dropping a minimum of 5" to permit inside cleaning. Rigidity shall be maintained on vents in any open position. When vents are closed, they shall be automatically locked and no manual locking shall be required.



For partial ventilation, bottom vent shall open 2", while upper vents remain closed and locked. Operating mechanism shall be free of twist or torque, and balanced power shall be transferred simultaneously to right and left jambs from a center-sill operator, as manufactured by General Bronze Corporation, through a "Roto-Flex" gear assembly which shall be encased with lifetime lubricant in weatherproof housing. Operator shall not require excessive pressure to lock vents and shall be relieved of all tension after locking. Or, if so specified, a bar-type operator for opening fully or closing tight shall be furnished. No ventilator adjustments shall be necessary. Operator shall be located at center of sill and tilted for convenient grasp, to clear any stool, drapes, blinds or screens.

Hardware: Window shall be furnished with complete operating hardware of aluminum, stainless steel, or other non-corrosive material, where exposed, of sufficient hardness to suitably perform its required function. Hardware shall be attached at point of manufacture, except operator handle, which can easily be assembled after window installation.

Air Infiltration: The infiltration of air through the window shall not exceed the standards specified by the Aluminum Window Manufacturers' Association.

Finish: The windows are to be finished in the natural aluminum color. After fabrication, surface blemishes, scratches and tool marks are to be removed and the exposed surfaces are to be cleaned to a uniform color and texture. A protective coating of transparent lacquer is to be applied to the windows before shipment from the factory. The lacquer must be such as will withstand the action of lime mortar for a period of at least one month in an atmosphere of 100% relative humidity at room temperature.

Installation: The window manufacturer is to furnish detail drawings for the installation of the windows. The installation contractor shall install the windows straight, plumb and level and securely anchor them in place. After the windows are installed and glazed, no adjustment for proper operation of ventilating units shall be necessary.

Caulking: The caulking contractor shall apply an approved caulking compound in the caulking rebate between the window frame and the adjacent construction materials. The caulking compound is to be applied with pressure from a suitable caulking gun to insure a thoroughly weathertight installation.

Glazing: The glazing contractor shall furnish a glazing compound approved for the glazing of aluminum windows and shall install double-strength glass (or one-half inch double glazing) with spring clips furnished by the window manufacturer. The glazing contractor shall, before commencing glazing, remove from the glazing surfaces any material to which the glazing compound will not adhere.

OPTIONAL

FIN-TRIM

The jambs, head and sill of the windows are to be equipped with an extruded aluminum fin trim of .050 inch minimum thickness. The fin trim is to be securely attached to the exterior of the window frame.

GLAZING BEADS

Aluminum snap-on glazing beads to cover the glazing compound are to be furnished with the windows. The glazing beads are to be rolled aluminum of .02 inch minimum thickness, and shall be installed in accordance with the manufacturer's instructions.

SCREENS AND STORM SASH

The windows shall be equipped with "ALWINTITE" Aluminum Screens or with "ALWINTITE" Aluminum Storm Sash.

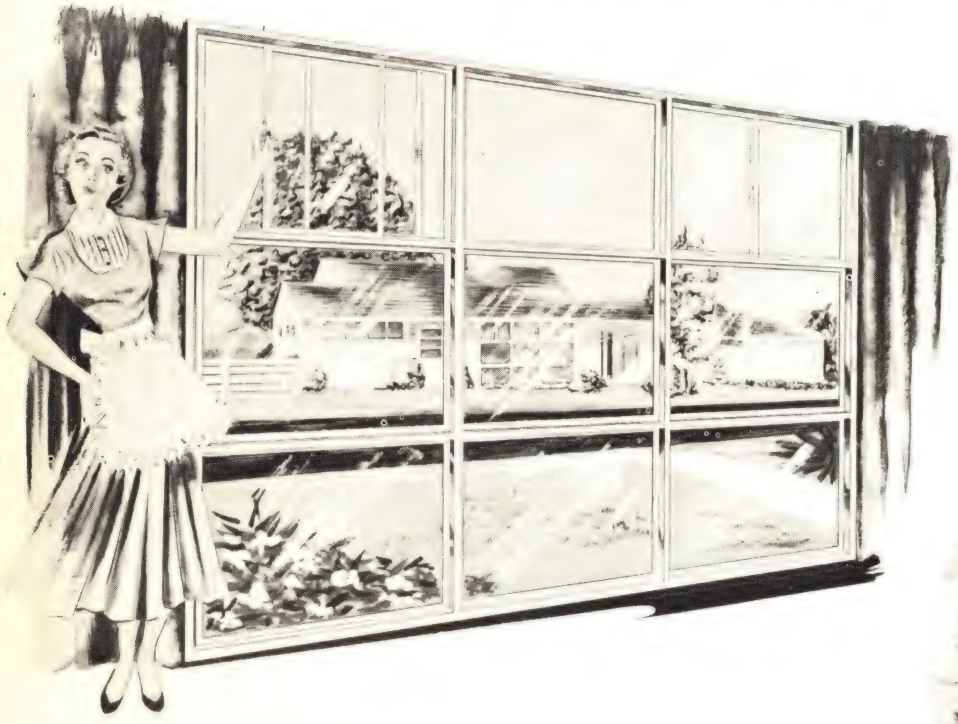
SCHEDULE OF GLASS SIZES FOR PICTURE WINDOW

¼" PLATE GLASS, *1" THERMOPANE OR TWINDOW

4022	46"x 24"	5022	58"x 24"	6022	70"x 24"
4029	46"x 31¼"	5029	58"x 31¼"	6029	70"x 31¼"
4032	46"x 36⅜"	5032	58"x 36⅜"	6032	70"x 36⅜"
4041	46"x 47¼"	5041	58"x 47¼"	6041	70"x 47¼"
4042	46"x 48⅝"	5042	58"x 48⅝"	6042	70"x 48⅝"
4053	46"x 61"	5053	58"x 61"	6053	70"x 61"
4055	46"x 63¼"	5055	58"x 63¼"	6055	70"x 63¼"
4069	46"x 79⅛"	5069	58"x 79⅛"	6069	70"x 79⅛"
4081	46"x 95¼"	5081	58"x 95¼"	6081	70"x 95¼"
4095	46"x111 3/16"	5095	58"x111 3/16"	6095	70"x111 3/16"

GLASS TOLERANCE +3/16" −1/16" *Check Maximum Size

VIEWall WINDOWS



Bring Outdoor Beauty Indoors!



SIX LITE VIEWALL

These large new ALWINTITE VIEWall Windows, with sliding vents, are ideal for ranch-type and modern homes. They can be used in living rooms, dining rooms—or wherever a window wall would enhance home beauty! Specify VIEWall Windows for unusual treatment in hotels, institutions or commercial buildings.



MULTIPLE VIEWALL ARRANGEMENTS

These sliding window vents may be located in any arrangement you choose, and the sliding sash units may be removed for full ventilation or cleaning. Fixed lights can be glazed with standard size units of "Thermopane" or "Twindow" or with double strength glass. Storm sash and screens are available.

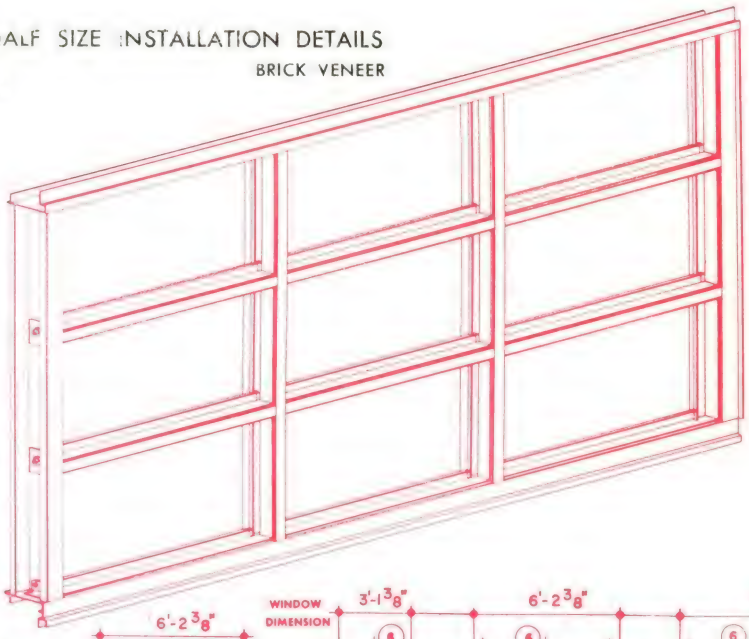
So to design or build a house with extra luxury, use an ALWINTITE VIEWall Window. You'll make the freshness and color of out-of-doors a real and wonderful part of the house!

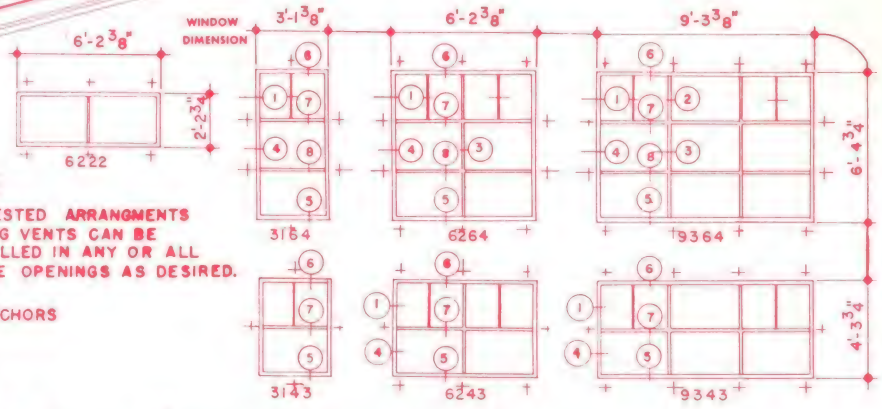


NINE LITE VIEWALL

HALF SIZE INSTALLATION DETAILS

BRICK VENEER

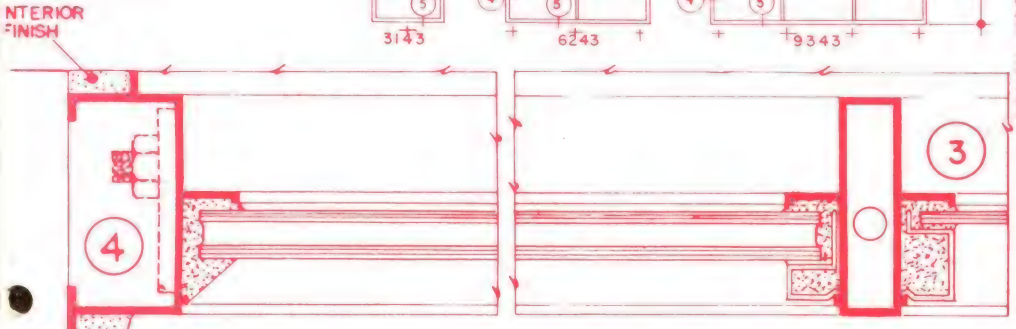




NOTE:

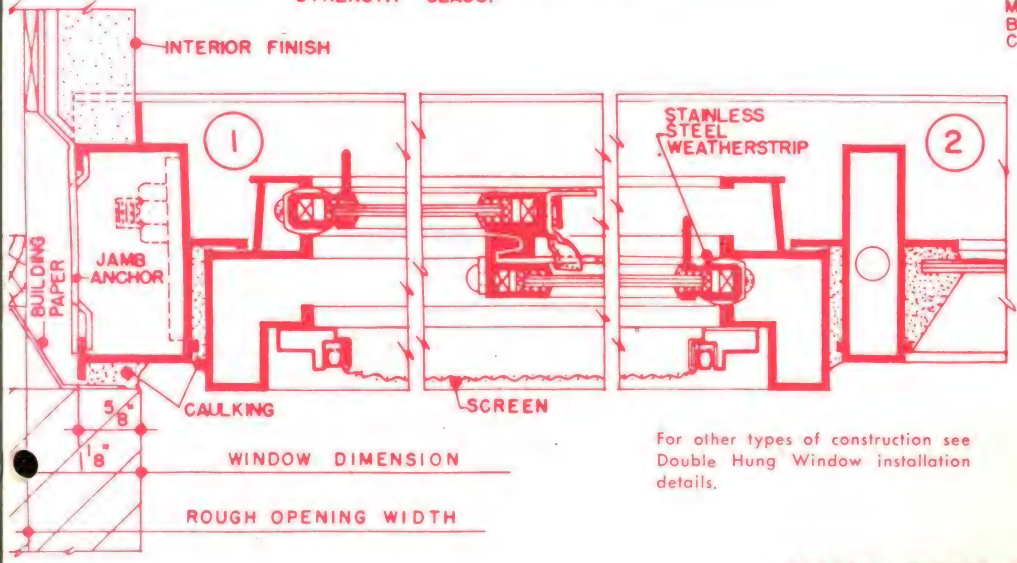
SUGGESTED ARRANGMENTS SLIDING VENTS CAN BE INSTALLED IN ANY OR ALL FRAME OPENINGS AS DESIRED.

+ = ANCHORS

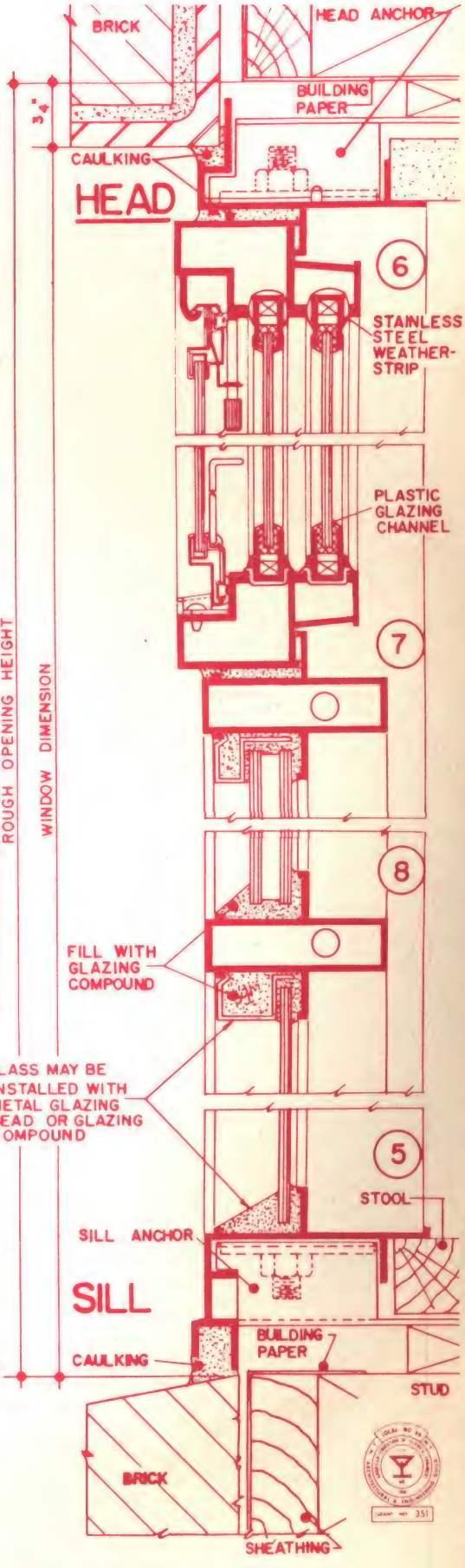


FIXED LIGHTS CAN BE GLAZED WITH STANDARD SIZE 1/2" THERMOPANE OR WITH 1/8" DOUBLE STRENGTH GLASS.

JAMB



For other types of construction see Double Hung Window installation details.



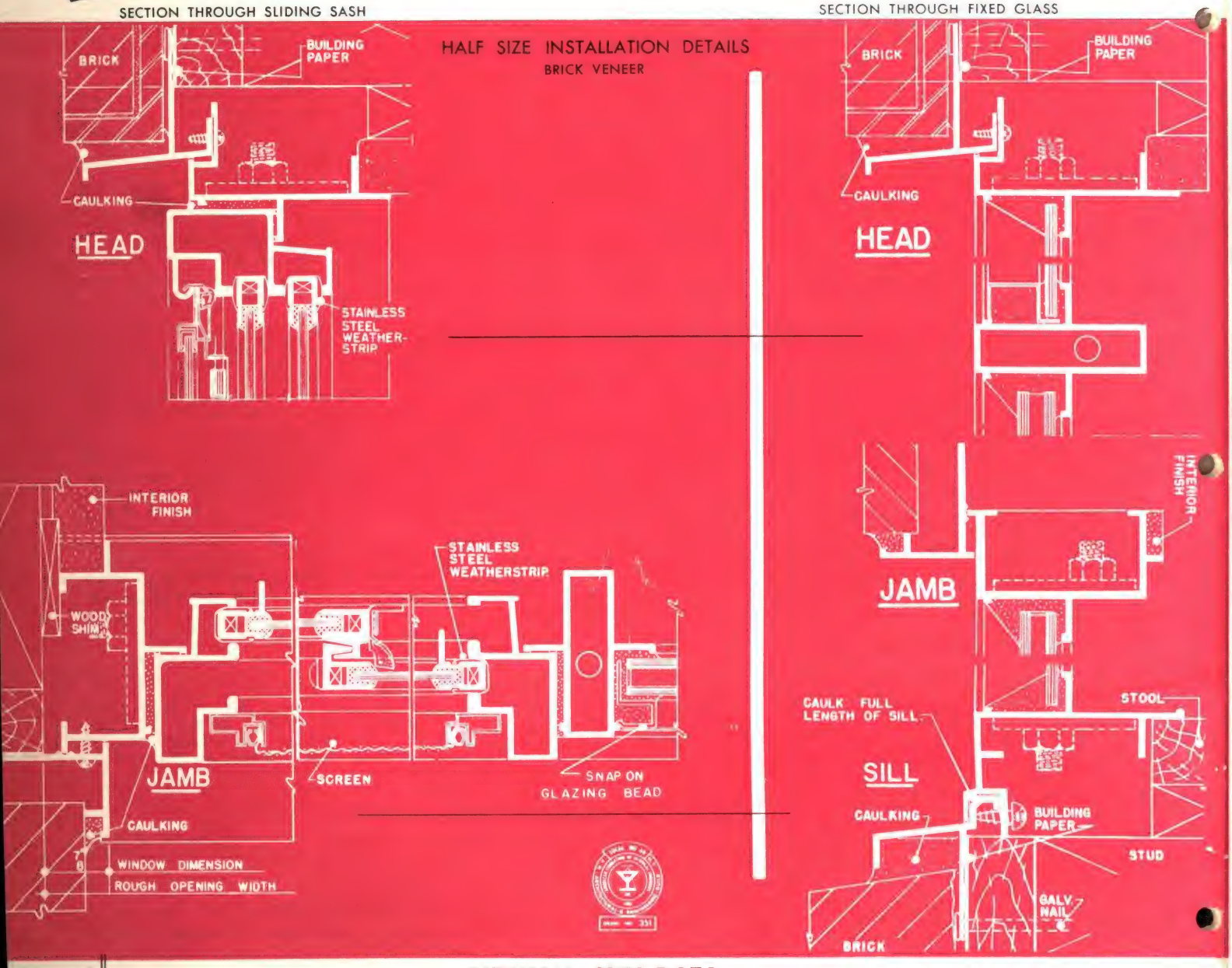
ALWINTITE

VIEWALL WINDOW WALLS
WITH FIN-TRIM

SECTION THROUGH SLIDING SASH

SECTION THROUGH FIXED GLASS

HALF SIZE INSTALLATION DETAILS
BRICK VENEER



VIEWALL SIZE DATA

Size	Window Area (a) All Fixed Lights (Sq. ft.)	Window Dimensions Width	Window Dimensions Height	Rough Opening Dimensions (Except Concrete Block) Without Fin-Trim Width	Without Fin-Trim Height	With Fin-Trim Width	With Fin-Trim Height
3143	11.38	3'1 3/8"	4'3 3/4"	3'3 5/8"	4'4 1/2"	3'3 1/8"	4'4 1/2"
3164	17.07	3'1 3/8"	6'4 3/4"	3'3 5/8"	6'5 1/2"	3'3 1/8"	6'5 1/2"
6222	11.38	6'2 3/8"	2'2 3/4"	6'4 5/8"	2'3 1/2"	6'4 1/8"	2'3 1/2"
6243	22.76	6'2 3/8"	4'3 3/4"	6'4 5/8"	4'4 1/2"	6'4 1/8"	4'4 1/2"
6264	34.14	6'2 3/8"	6'4 3/4"	6'4 5/8"	6'5 1/2"	6'4 1/8"	6'5 1/2"
9343	34.14	9'3 3/8"	4'3 3/4"	9'5 5/8"	4'4 1/2"	9'5 1/8"	4'4 1/2"
9364	51.21	9'3 3/8"	6'4 3/4"	9'5 5/8"	6'5 1/2"	9'5 1/8"	6'5 1/2"

CONCRETE BLOCK ROUGH OPENING DIMENSIONS

Without Fin-Trim

Add 1 3/4" to window dimension width
Add 3/4" to window dimension height

With Exterior Mullion Cover At Jamb

Add 1 1/2" to window dimension width
Add 3/4" to window dimension height

(a) For each sliding window vent inserted, deduct .52 sq. ft. from window area.

VENTILATING AREA

One sliding window vent	2.41 sq. ft.
Two sliding window vents	4.82 sq. ft.
Three sliding window vents	7.23 sq. ft.
Add 2.41 sq. ft. for each additional sliding window vent	

SASH GLASS SIZES

	Single Glazing	1/2" Thermopane or Twindow (Stock Sizes)	Storm Sash Glass Sizes
Sliding Window Vent	16 3/4" x 21 1/2"	16 1/8" x 20 1/2"	33 1/2" x 21 1/4"
1 Fixed Light	36" x 24"	36" x 24"	35 1/2" x 23 1/2"
2 Vertical Fixed Lights	—	—	35 1/2" x 48 1/2"
Glass tolerance	+ 1/16" – 0"	± 1/16"	± 1/32"

SPECIFICATIONS

General: The Viewall windows shown on the architects drawings shall be of the "Alwintite" type as manufactured by the General Bronze Corporation (Alwintite Division), Garden City, New York. The windows shall consist of a series of panels divided by vertical and horizontal mullions and enclosed in a frame. The panels shall be filled with either fixed lights of glass or with horizontal sliding window units as indicated.

Materials: The frame, mullions and sliding windows shall be manufactured from 63S-T5 extruded aluminum alloy having a minimum thickness of .062 inch. The weatherstripping shall be manufactured from stainless steel having a minimum thickness of .005 inch. The combination weatherstripping and anti-friction sliding contact at the sill of the sliding sash shall be manufactured from zinc having a minimum thickness of .018 inch. The glass settings in the sliding sash shall be manufactured from extruded vinylite. The tie rods in the mullions shall be of solid extruded aluminum with aluminum fittings. Screws used for the assembly or installation of the windows shall be of aluminum or stainless steel. Anchors shall be of steel coated with an insulating paint.

Construction: The corners of the window frame, the intersections of the mullions and the engagement of the mullions with the frame shall be made with mechanical joints secured with screws. Tie rods are to be installed in the vertical and horizontal mullions, extending through the jambs, head and sill of the frame and secured at the back of same with bearing plates and nuts.

The horizontal sliding windows shall be complete and independent units for installation in the panels where required. The frame of the sliding window shall be of one piece construction welded at the corners. The sill of the frame shall be designed to facilitate cleaning and be provided with weep holes to drain the guides. The frame is to be secured to the panel with screws.

The sash shall be designed to slide in the guides at the sill of the frame on the combination weatherstrip and anti-friction contact in a manner that will prevent contact between aluminum. The sash are to be removable from the frame without the necessity of dismantling parts of the frame. When the sash are closed and locked, it shall be impossible to remove them from the frame.

The vertical meeting rails of the sliding sash shall be designed with interlocking contacts to insure weather resistance when closed and locked and a suitable catch is to be provided on the meeting rails for this purpose. The jamb rails and top rails of the sliding sash shall be provided with stainless steel weatherstripping, and the bottom rails of sliding sash shall be provided with zinc combination weatherstripping and anti-friction sliding contact.

The corners of the sliding sash are to be fitted to hairline joints in a workmanlike manner and be secured by means of corner connections which can be conveniently disassembled to facilitate glazing.

Air Infiltration: The infiltration of air through the window shall not exceed one-half cubic foot per minute per linear foot of operating sash perimeter during a wind of twenty-five miles per hour velocity. Satisfactory evidence of compliance must be furnished to the architect.

Finish: The windows are to be finished in the natural aluminum color. After fabrication, surface blemishes, scratches and tool marks are to be removed and the exposed surfaces are to be cleaned to a uniform color and texture. A protective coating of transparent lacquer is to be applied to the windows before shipment from the factory. The lacquer must be such as will withstand the action of lime mortar for a period of at least one month in an atmosphere of 100% relative humidity at room temperature.

Installation: The window manufacturer is to furnish detail drawings for the installation of the windows. The panel units may be installed independently of the sliding units. The sliding units may be installed after the plastering has been completed, at the option of the contractor.

The installation contractor shall apply mastic or caulking compound, install the windows straight, plumb and level and securely fasten them in place. Care must be exercised to prevent twisting or springing of the windows in a manner that would cause the tracks of the sliding sash frames to get out of alignment. After the windows are installed, they are to be adjusted if necessary, to insure their efficient operation.

Glazing: The sliding sash will be shipped knocked down for assembly at the time of glazing. The sash are to be glazed on the bench with double strength glass in vinylite settings furnished by the manufacturer (or one-half inch thick double glazing). The panels which are not to receive sliding window units shall be glazed with double strength glass (or one-quarter inch thick plate glass or one-half inch thick double glazing) installed with spring clips furnished by the window manufacturer and set in aluminum colored metal sash glazing compound.

OPTIONAL

FIN-TRIM

The jambs, head and sill of the windows are to be equipped with an extruded aluminum Fin-Trim of .062 inch minimum thickness. The Fin-Trim is to be securely attached to the exterior of the window frame. The head and sill trim are to be omitted for solid masonry construction.

GLAZING BEADS

The panels which are not to receive sliding window units, are to have extruded aluminum snap-on glazing beads to cover the glazing compound.

DOUBLE GLAZED SLIDING SASH

The sliding sash shall be designed to receive one-half inch thick double glazing.

SCREENS AND STORM SASH

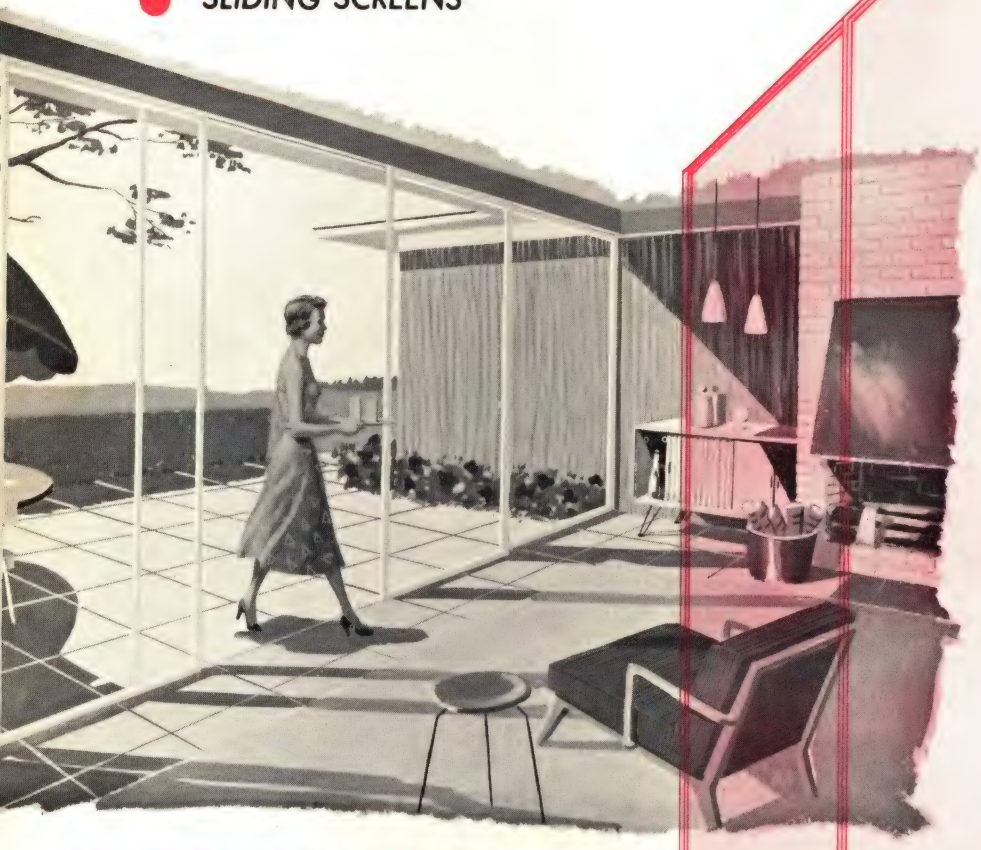
The sliding units of the windows shall be equipped with "ALWINTITE" aluminum screens. The sliding units (and panels not equipped with sliding units) shall be equipped with "ALWINTITE" storm sash.



ALWINTITE

Aluminum PAN-O-RAMA SLIDING WALLS

- ADDS DISTINCTION TO ANY HOME
- COMPLETELY WEATHERSTRIPPED
- EASY GLIDE BALL BEARING ROLLERS
- SLOPING SILL DRAINS TO EXTERIOR
- ACCOMMODATES INSULATING GLASS
- SLIDING SCREENS

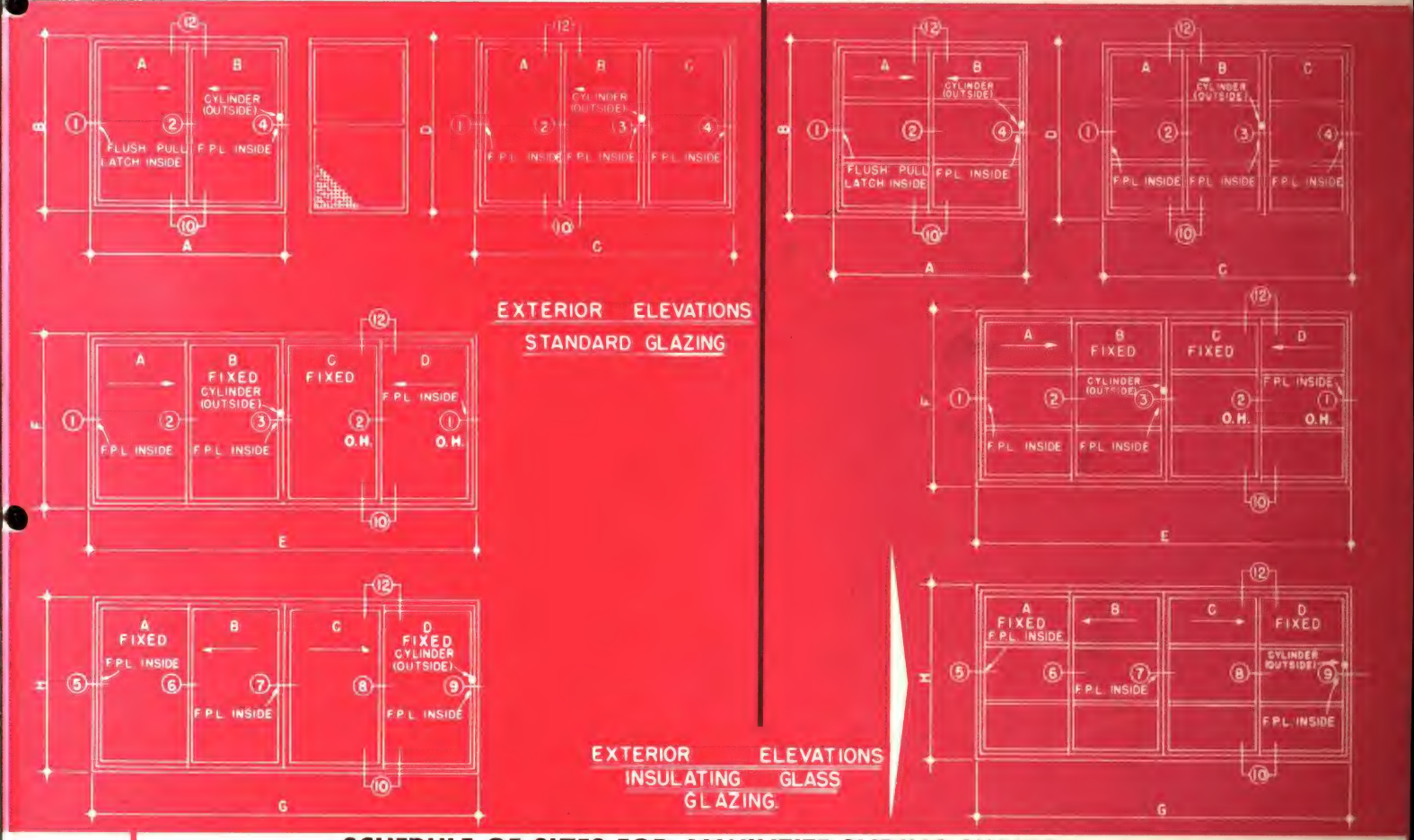


PAN-O-RAMA SLIDING WALLS

. . . are wonderful for living rooms, dining rooms, or recreation rooms . . . especially those which lead out to a terrace, patio or porch.

Constructed from heavy gauge aluminum extrusions that cannot rust, these sturdy doors glide smoothly and easily, yet are completely weatherstripped to keep out cold drafts and rain. Full height sliding screens are provided for summer comfort. ALWINTITE SLIDING WALLS are equipped with a strong, sturdy lock with outside key, for maximum protection.

ALWINTITE SLIDING WALLS enable unusual treatment for commercial store fronts; also ideal for interior use in apartments, offices, hospitals and other institutions.



EXTERIOR ELEVATIONS
STANDARD GLAZING

EXTERIOR ELEVATIONS
INSULATING GLASS
GLAZING

SCHEDULE OF SIZES FOR ALWINTITE SLIDING WALLS

Type	Overall Frame Size Width	Overall Frame Size Height	No. of Panels	Individual Panel Size Width	Individual Panel Size Height	½" Insulating Glass Size Special	½" Insulating Glass Size Muntins	¼" Plate Glass Size	Wall Area ⊗	Ventilating Area
67	6'-0⅝" A	6'-11⅜" B	2	3'-0⅝"	6'-9⅞"	33⅜" x 38½"	1	33⅜" x 77⅞"	39.48 Sq. Ft.	18.94 Sq. Ft.
77	7'-0⅝" A	6'-11⅜" B	2	3'-6⅝"	6'-9⅞"	39⅜" x 25⅜"	2	39⅜" x 77⅞"	46.19 " "	22.29 " "
87	8'-0⅝" A	6'-11⅜" B	2	4'-0⅝"	6'-9⅞"	*45½" x 25½"	2	45½" x 78"	52.90 " "	25.65 " "
88	8'-0⅝" A	7'-11⅜" B	2	4'-0⅝"	7'-9⅞"	45⅜" x 29⅜"	2	45⅜" x 89⅞"	60.78 " "	29.47 " "
97	9'-0⅝" A	6'-11⅜" B	2	4'-6⅝"	6'-9⅞"	51⅜" x 25⅜"	2	51⅜" x 77⅞"	59.61 " "	29.00 " "
98	9'-0⅝" A	7'-11⅜" B	2	4'-6⅝"	7'-9⅞"	51⅜" x 29⅜"	2	51⅜" x 89⅞"	68.49 " "	33.32 " "
107	10'-0⅝" A	6'-11⅜" B	2	5'-0⅝"	6'-9⅞"	57⅜" x 25⅜"	2	57⅜" x 77⅞"	66.31 " "	32.35 " "
108	10'-0⅝" A	7'-11⅜" B	2	5'-0⅝"	7'-9⅞"	57⅜" x 29⅜"	2	57⅜" x 89⅞"	76.20 " "	37.18 " "
127	12'-2⅜" A	6'-11⅜" B	2	6'-1½"	6'-9⅞"	70¼" x 18¹³⁄₁₆"	3	70¼" x 77⅞"	80.71 " "	39.55 " "
128	12'-2⅜" A	7'-11⅜" B	2	6'-1½"	7'-9⅞"	70¼" x 21¹³⁄₁₆"	3	70¼" x 89⅞"	92.74 " "	45.45 " "
127AC	12'-2⅜" C	6'-11⅜" D	3	2=4'-0⅝" 1=4'-1¼"	6'-9⅞"	*45½" x 25½"	2	45½" x 78"	80.71 " "	24.88 " "
128AC	12'-2⅜" C	7'-11⅜" D	3	2=4'-0⅝" 1=4'-1¼"	7'-9⅞"	45⅜" x 29⅜"	2	45⅜" x 89⅞"	92.74 " "	28.59 " "
147BC	14'-0¾" E	6'-11⅜" F	4	3'-6⅝"	6'-9⅞"	39⅜" x 25⅜"	2	39⅜" x 77⅞"	93.22 " "	44.93 " "
148BC	14'-0¾" E	7'-11⅜" F	4	3'-6⅝"	7'-9⅞"	39⅜" x 29⅜"	2	39⅜" x 89⅞"	107.11 " "	51.63 " "
167BC	16'-0¾" E	6'-11⅜" F	4	4'-0⅝"	6'-9⅞"	*45½" x 25½"	2	45½" x 78"	106.63 " "	51.65 " "
168BC	16'-0¾" E	7'-11⅜" F	4	4'-0⅝"	7'-9⅞"	45⅜" x 29⅜"	2	45⅜" x 89⅞"	122.53 " "	59.33 " "
187BC	18'-0¾" E	6'-11⅜" F	4	4'-6⅝"	6'-9⅞"	51⅜" x 25⅜"	2	51⅜" x 77⅞"	120.05 " "	58.35 " "
188BC	18'-0¾" E	7'-11⅜" F	4	4'-6⅝"	7'-9⅞"	51⅜" x 29⅜"	2	51⅜" x 89⅞"	137.95 " "	67.05 " "
207BC	20'-0¾" E	6'-11⅜" F	4	5'-0⅝"	6'-9⅞"	57⅜" x 25⅜"	2	57⅜" x 77⅞"	133.48 " "	65.06 " "
208BC	20'-0¾" E	7'-11⅜" F	4	5'-0⅝"	7'-9⅞"	57⅜" x 29⅜"	2	57⅜" x 89⅞"	153.36 " "	74.75 " "
247BC	24'-4¼" E	6'-11⅜" F	4	6'-1½"	6'-9⅞"	70¼" x 18¹³⁄₁₆"	3	70¼" x 77⅞"	162.26 " "	79.70 " "
248BC	24'-4¼" E	7'-11⅜" F	4	6'-1½"	7'-9⅞"	70¼" x 21¹³⁄₁₆"	3	70¼" x 89⅞"	186.45 " "	91.60 " "
147AD	14'-0¾" G	6'-11⅜" H	4	3'-6⅝"	6'-9⅞"	39⅜" x 25⅜"	2	39⅜" x 77⅞"	93.22 " "	44.23 " "
148AD	14'-0¾" G	7'-11⅜" H	4	3'-6⅝"	7'-9⅞"	39⅜" x 29⅜"	2	39⅜" x 89⅞"	107.11 " "	50.83 " "
167AD	16'-0¾" G	6'-11⅜" H	4	4'-0⅝"	6'-9⅞"	*45½" x 25½"	2	45½" x 78"	106.63 " "	50.94 " "
168AD	16'-0¾" G	7'-11⅜" H	4	4'-0⅝"	7'-9⅞"	45⅜" x 29⅜"	2	45⅜" x 89⅞"	122.53 " "	58.54 " "
187AD	18'-0¾" G	6'-11⅜" H	4	4'-6⅝"	6'-9⅞"	51⅜" x 25⅜"	2	51⅜" x 77⅞"	120.05 " "	57.65 " "
188AD	18'-0¾" G	7'-11⅜" H	4	4'-6⅝"	7'-9⅞"	51⅜" x 29⅜"	2	51⅜" x 89⅞"	137.95 " "	66.17 " "
207AD	20'-0¾" G	6'-11⅜" H	4	5'-0⅝"	6'-9⅞"	57⅜" x 25⅜"	2	57⅜" x 77⅞"	133.48 " "	64.36 " "
208AD	20'-0¾" G	7'-11⅜" H	4	5'-0⅝"	7'-9⅞"	57⅜" x 29⅜"	2	57⅜" x 89⅞"	153.36 " "	73.95 " "
247AD	24'-4¼" G	6'-11⅜" H	4	6'-1½"	6'-9⅞"	70¼" x 18¹³⁄₁₆"	3	70¼" x 77⅞"	162.26 " "	78.96 " "
248AD	24'-4¼" G	7'-11⅜" H	4	6'-1½"	7'-9⅞"	70¼" x 21¹³⁄₁₆"	3	70¼" x 89⅞"	186.45 " "	90.73 " "

GLASS TOLERANCES:

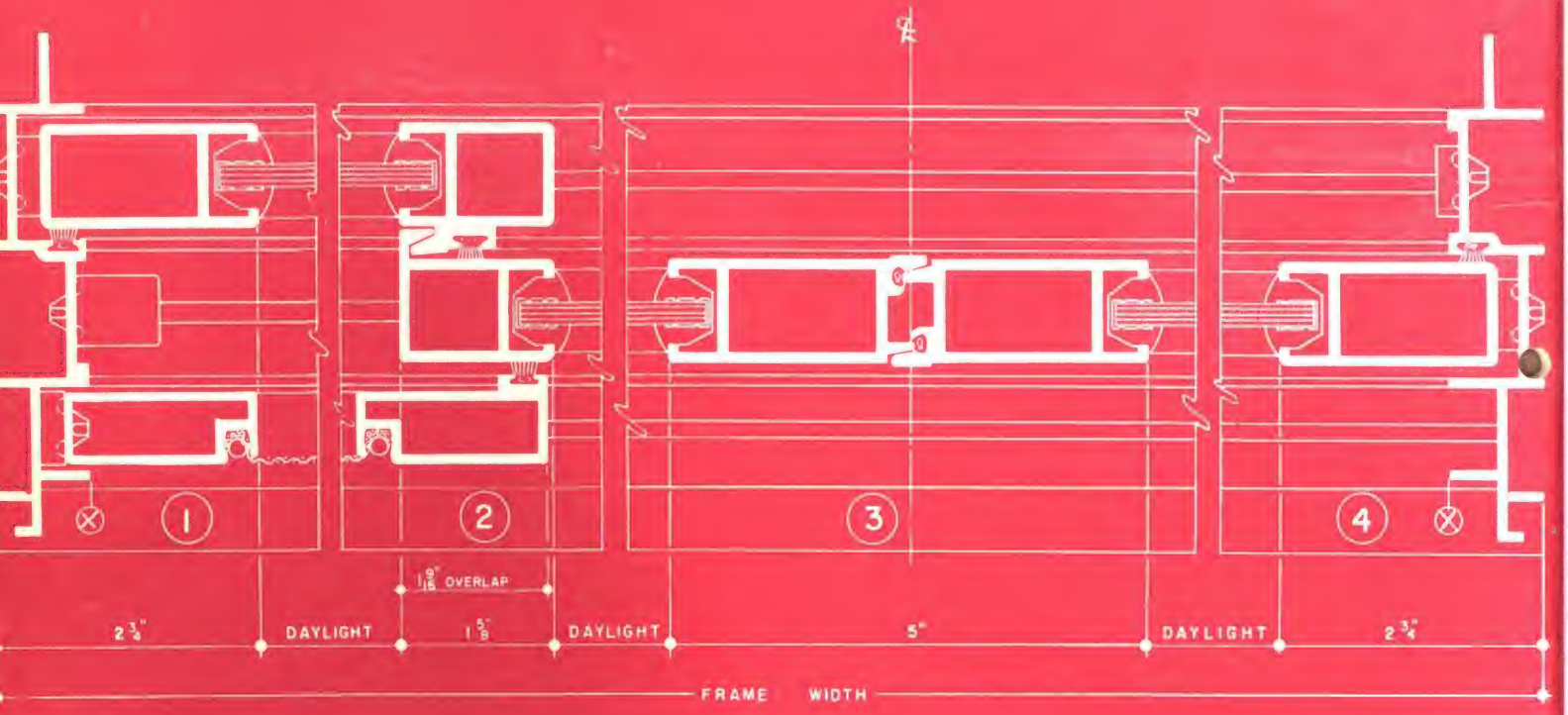
¼" PLATE GLASS +1/16" −0"

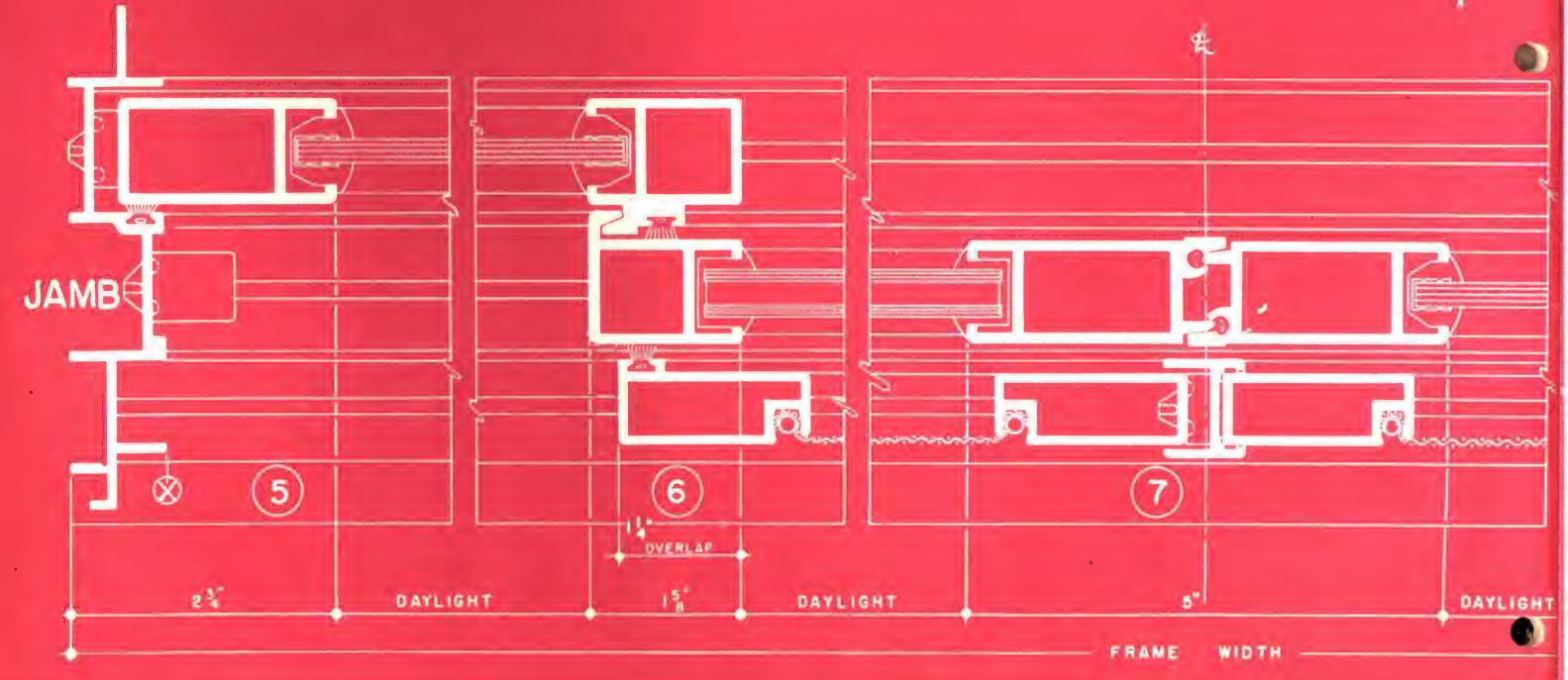
½" INSULATING GLASS ±1/16"

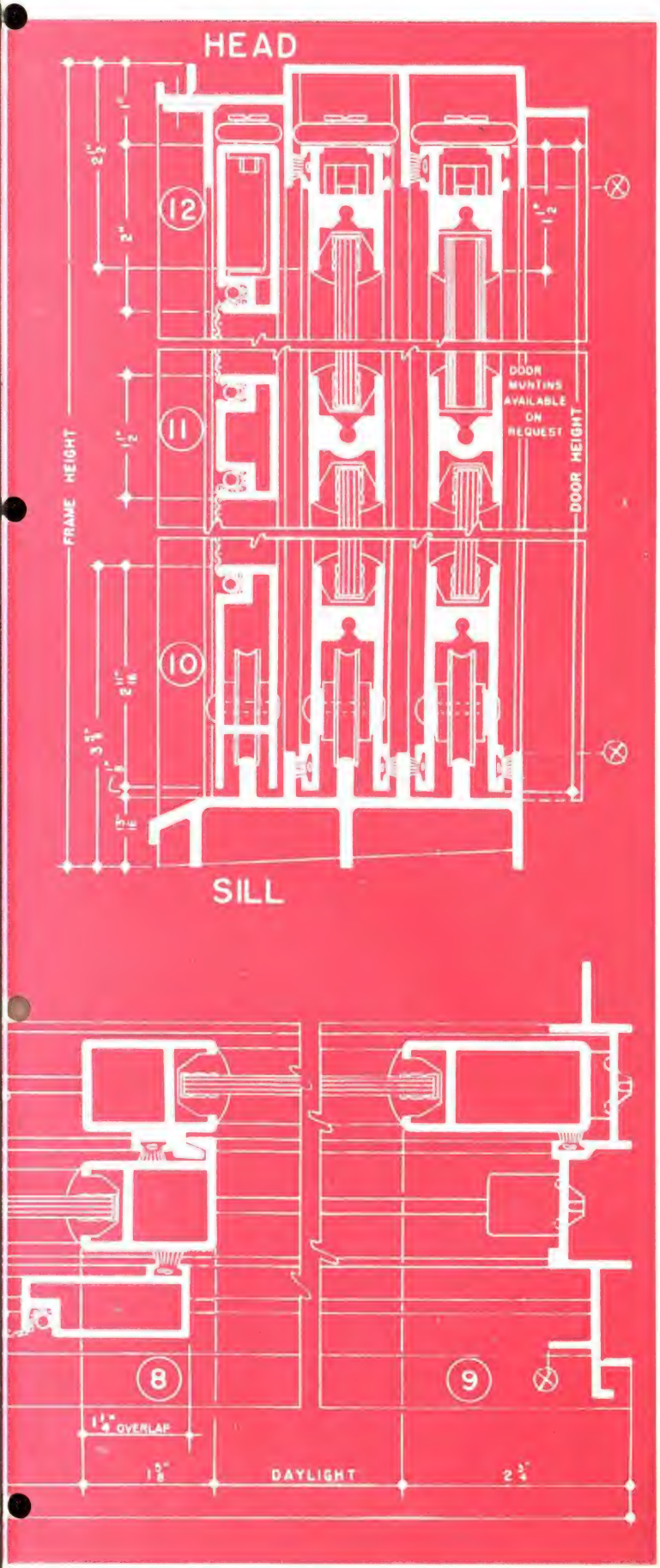
*Denotes stock size insulating glass

• PAN-O-RAMA SLIDING WALLS

HALF SIZE DETAILS

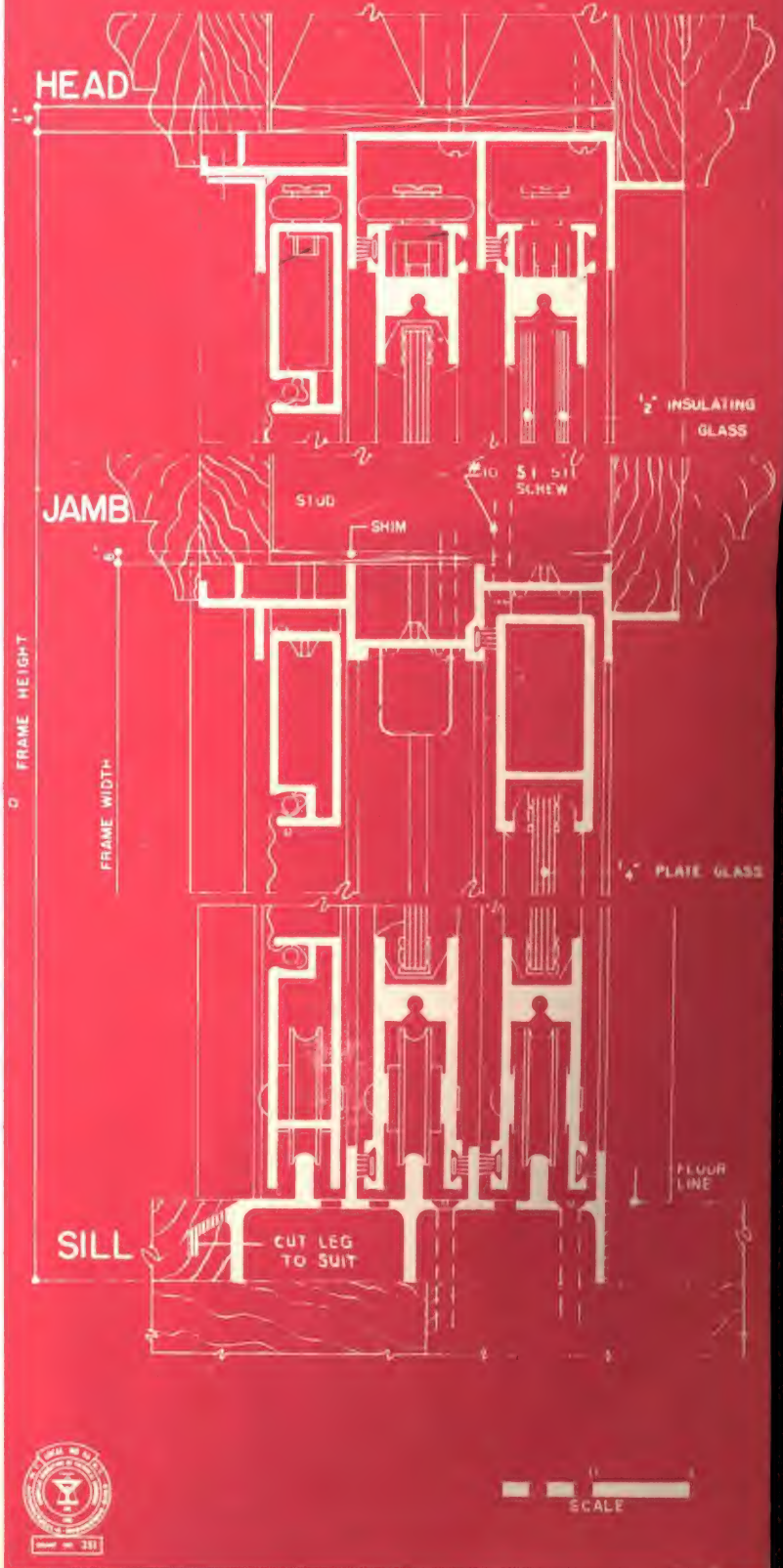






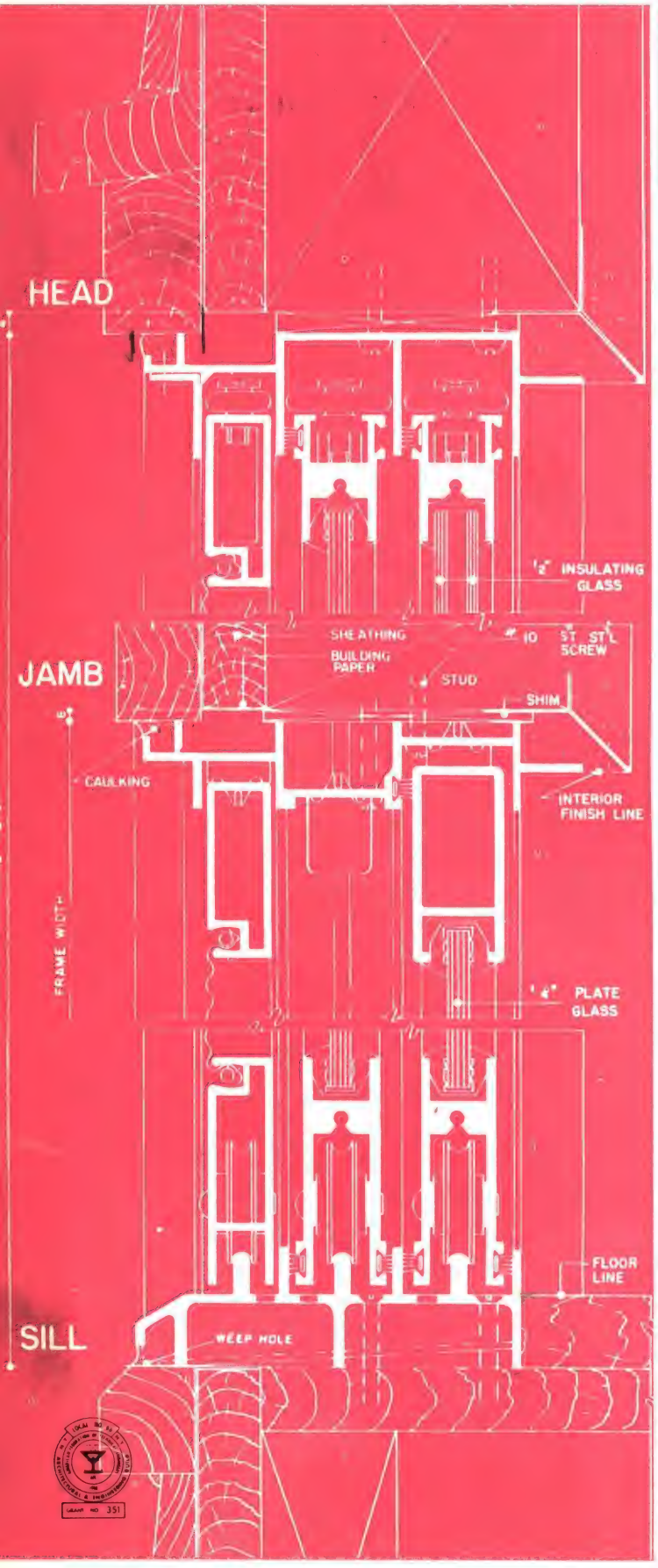
HALF SIZE INSTALLATION DETAILS

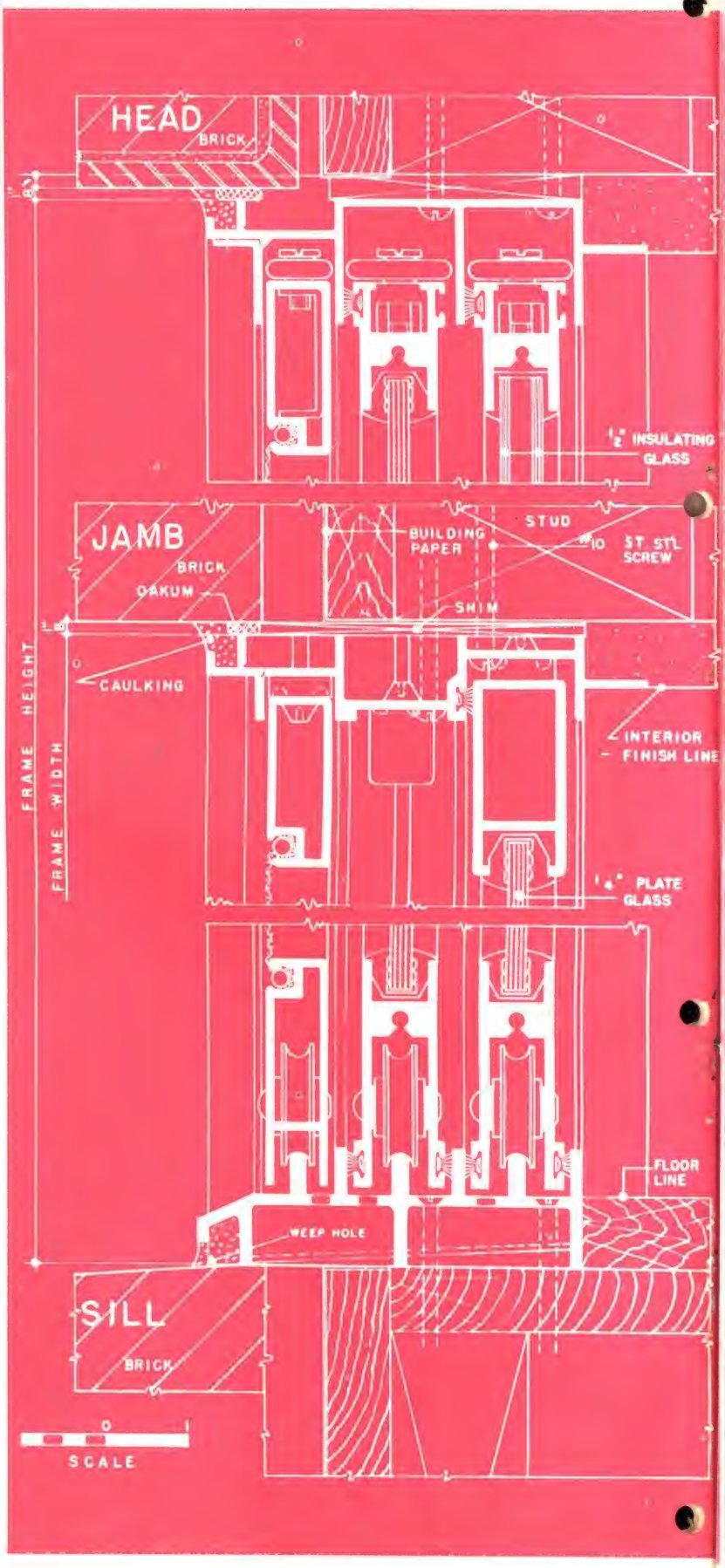
Interior Partition



HALF SIZE INSTALLATION DETAILS

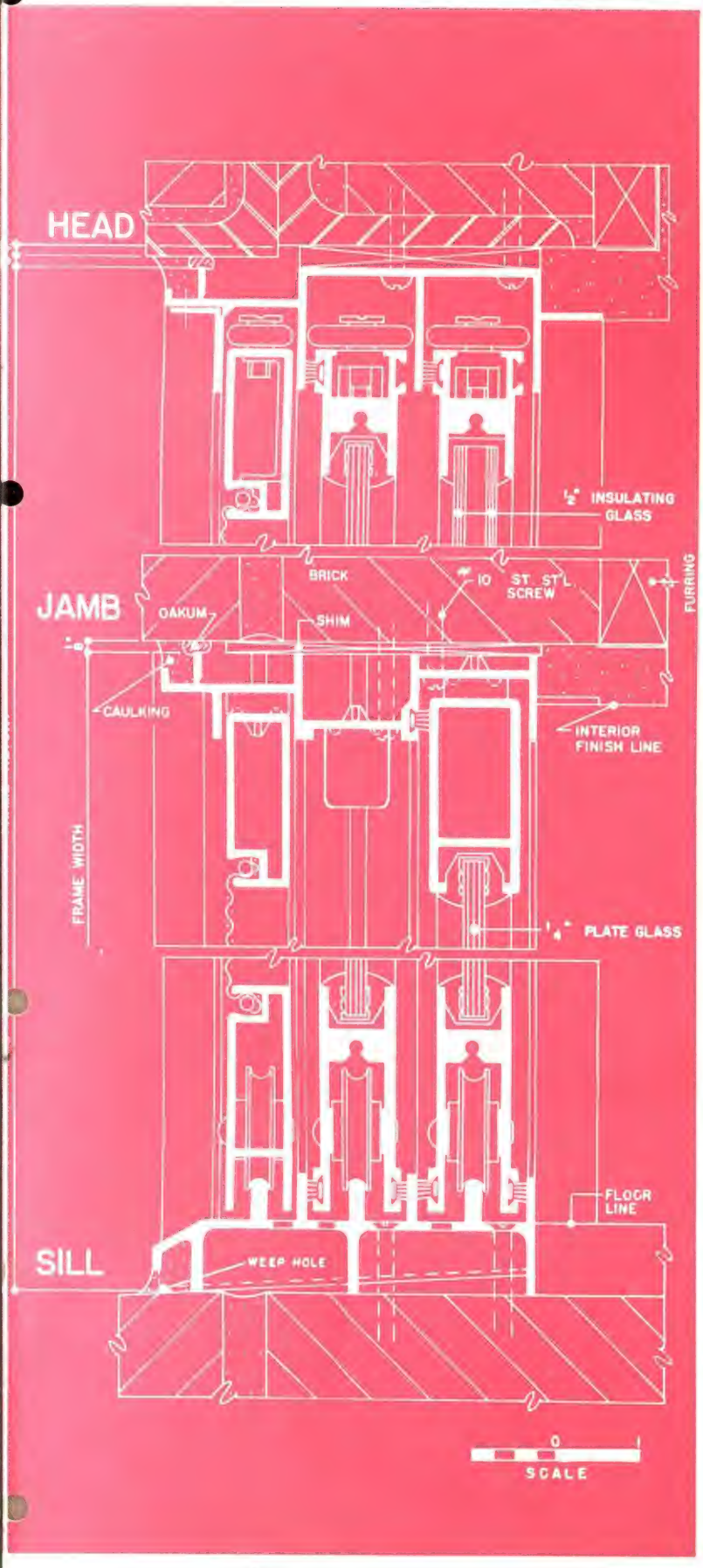
FRAME CONSTRUCTION — BRICK VENEER

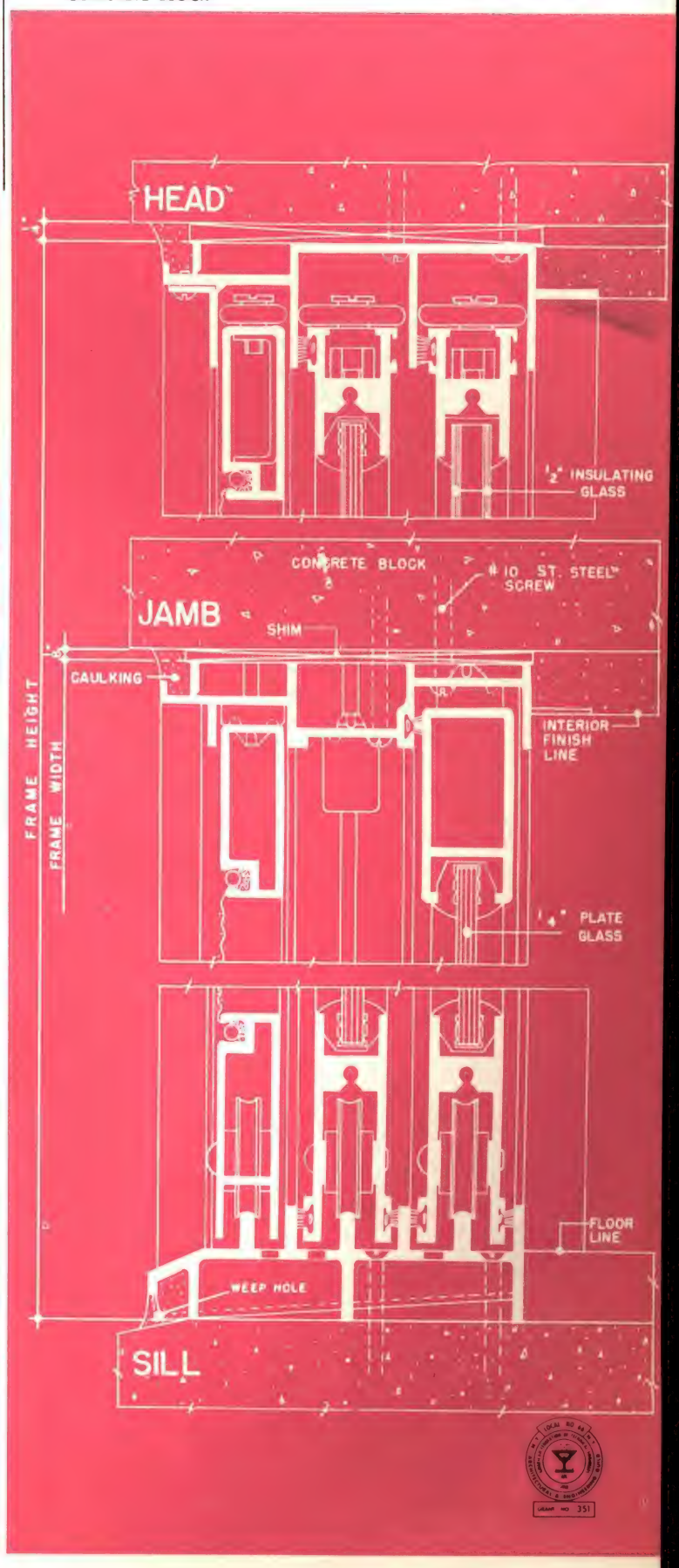




HALF SIZE INSTALLATION DETAILS

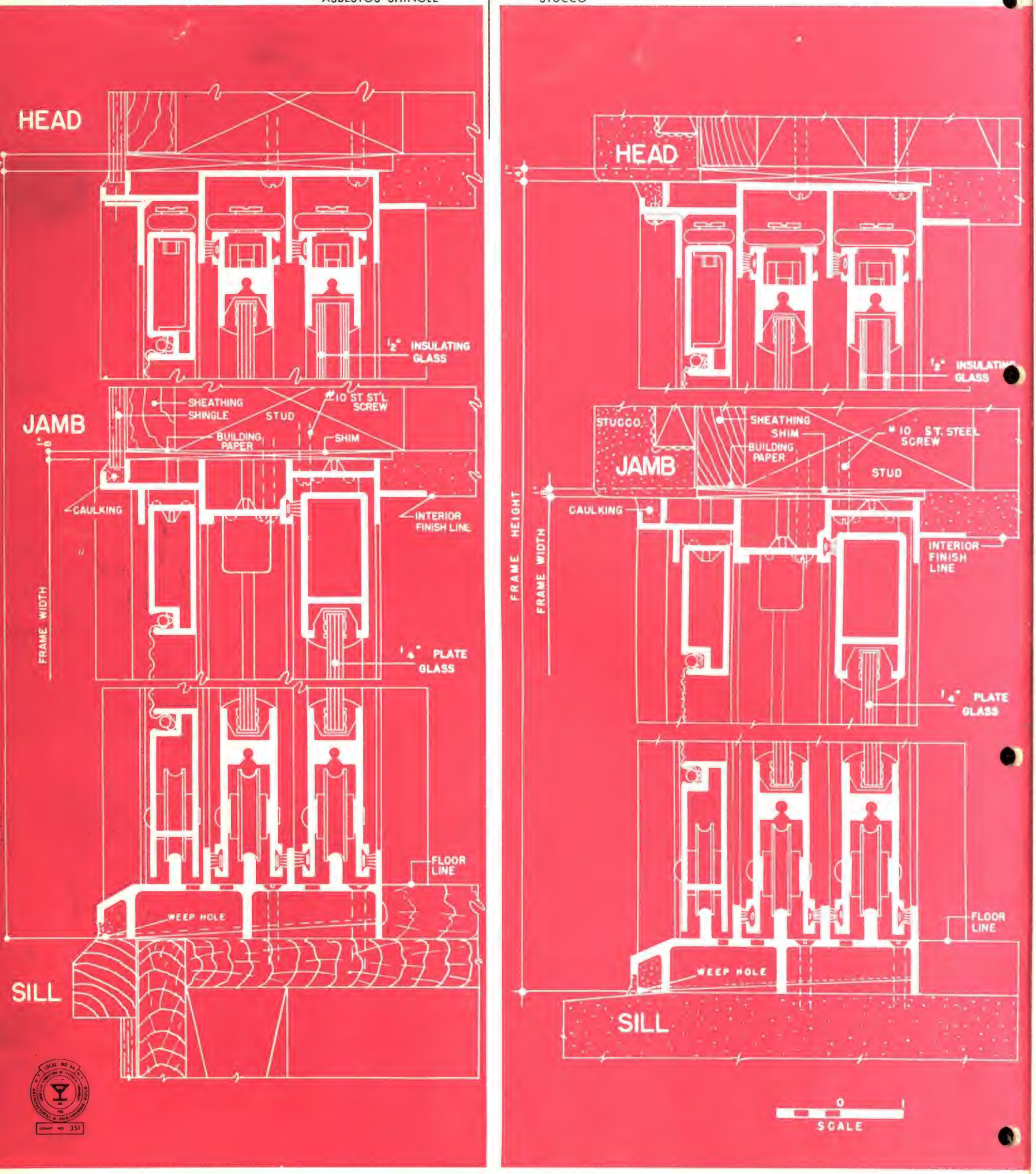
SOLID BRICK — CONCRETE BLOCK





HALF SIZE INSTALLATION DETAILS

ASBESTOS SHINGLE — STUCCO



SPECIFICATIONS

General: The Aluminum Sliding Walls shown on the architect's drawings shall be PAN-O-RAMA type as manufactured by the General Bronze Corporation ("ALWINTITE" Division), Garden City, New York.

Materials and Construction: PAN-O-RAMA Walls shall be constructed from heavy gauge extruded aluminum of 63S-T5 alloy. Frame members shall consist of sill track, head channel track, and jamb sections. Jamb sections shall be coped to interlock with sill and head members for maximum twist resistance; and when sections are secured within exterior wall opening, the joints shall be weatherproof.

Sash stiles shall be constructed of tubular extruded sections milled at ends to receive bottom and top rails, overlapping them for the complete height of rails, and shall be secured to rails with a stainless steel Phillips head self-tapping screw.

Weatherstripping: Weatherstripping shall be Schlegel pile lining of the highest quality throughout and shall form a continuous weather seal.

Hardware: Sliding panel shall be manually operated flush cup-type interior slide latch which can be dead-bolted by cylinder operated with key from exterior side, and which will not interfere with sash by-passing each other in operation. Rubber bumpers shall be attached to jambs and stiles of sliding panels. Each sliding panel shall be equipped with 2 steel cadmium-plated ball bearing rollers at bottom, and two Spauldite rollers at top.

Finish: Panels are to be finished in natural aluminum color. After fabrication, surface blemishes, scratches and tool marks are to be removed and exposed surfaces are to be cleaned to a uniform color and texture. A protective coat of transparent lacquer is to be applied to the panels before shipment from the factory. The lacquer must be such as will withstand the action of lime water for a period of at least one month in an atmosphere of 100% relative humidity at room temperature.

Installation (by others): The Sliding Wall manufacturer is to furnish detailed installation drawings. Frames may be installed independently of the sliding units. Glazed sliding panels may be installed in the frames after the plastering has been completed, at option of the contractor.

The installation contractor shall apply mastic or caulking compound, install the frames straight, plumb and level, and securely fasten them in place. Care must be exercised to prevent twisting of the frame or springing it in a manner that would cause the tracks to get out of alignment. Sliding doors shall retain proper weathering contact to the frames, and after they are installed they are to be adjusted if necessary to insure their efficient operation.

Glazing: The sliding and fixed panels will be shipped knocked down for assembly at the time of glazing, and are to be glazed with ¼ inch plate glass or ½ inch thick insulating glass set in vinyl chloride glazing bead furnished by the manufacturer.

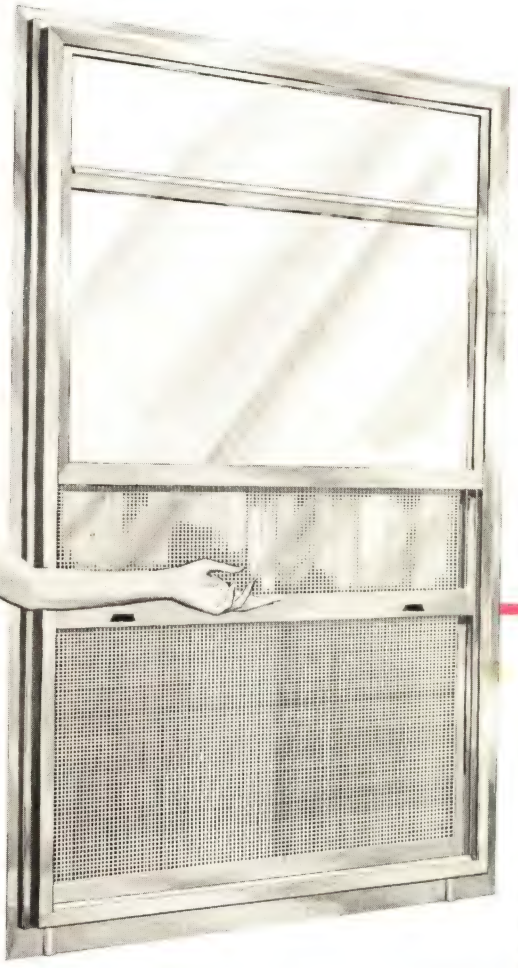
Screens: The sliding panels shall be equipped with "ALWINTITE" aluminum screens similar in construction to the door panels with rollers, bumpers and vertically operated dead-bolt lock. They shall be fitted with Alclad insect screen cloth, No. 18 x 14 mesh.



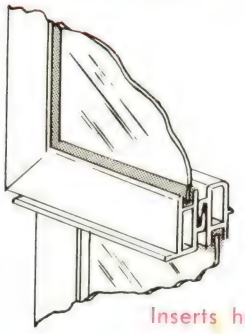
GB GENERAL BRONZE CORPORATION
ALWINTITE

Combination SCREEN and STORM WINDOWS



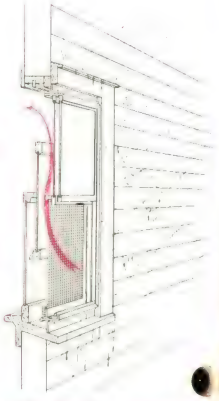


SPECIFY "ALWINTITE" COMBINATION WINDOWS FOR ADDED COMFORT . . . PLUS CONVENIENCE . . . AND VALUE TO ANY HOME YOU MAY BUILD. GENERAL BRONZE ENGINEERS HAVE DESIGNED THIS NEW SELF-STORING "TRIPLE CHANNEL" WINDOW WITH THE LATEST CONSTRUCTION FEATURES FOR DURABILITY, SMART TRIM LINES AND EASY, EFFICIENT OPERATION.

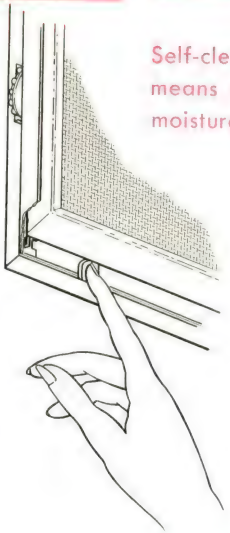


Interlocking meeting rail cuts draft, eliminates "wind rattle", and reduces heat loss

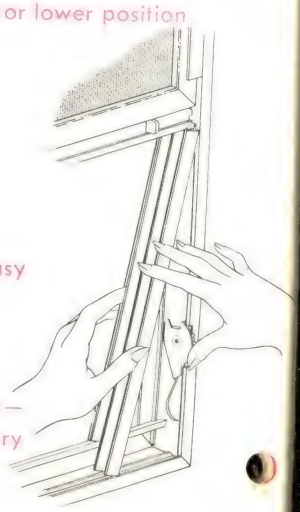
Inserts hold firmly in any position required for weather changes



Self-cleaning, sloping sill means minimum dust and moisture



Safety devices protect against prowlers all year 'round — windows lock with sash or screen in upper or lower position



Fingertip dial for instant, easy removal of inserts

Streamlined, modern design — exterior attractiveness for every type of home

REPLACEMENT OR REFUND OF MONEY
Guaranteed by Good Housekeeping
IF NOT AS ADVERTISED THEREIN

Beauty of Design

Architecturally designed for beauty and durability. Increases home attractiveness and resale value. Rust-proof, rot-proof, termite-proof.

Comfort All Year 'Round

Weatherstrip action seals out cold drafts. Controlled ventilation with screen in top or bottom position. Positive locking for double-safe security.

Time Saving Convenience

Easy to keep clean. self-storing for instant changeover. No ladder climbing, no extra storage space, no paint mess. All units can be opened at same time or removed quickly for maintenance or emergency.

More Economies

Heat losses are reduced *noticeably*, resulting in substantial savings that can pay for the windows within a few years. Maintenance costs are cut to zero . . . eliminates painting . . . gives trouble-free performance.

Long Lasting investment

Made from extruded, *architectural* aluminum sections. Rigid construction with reinforced corners for extra strength. "Dependability for longer lasting service". . . backed by the know-how of over 40 years' experience.

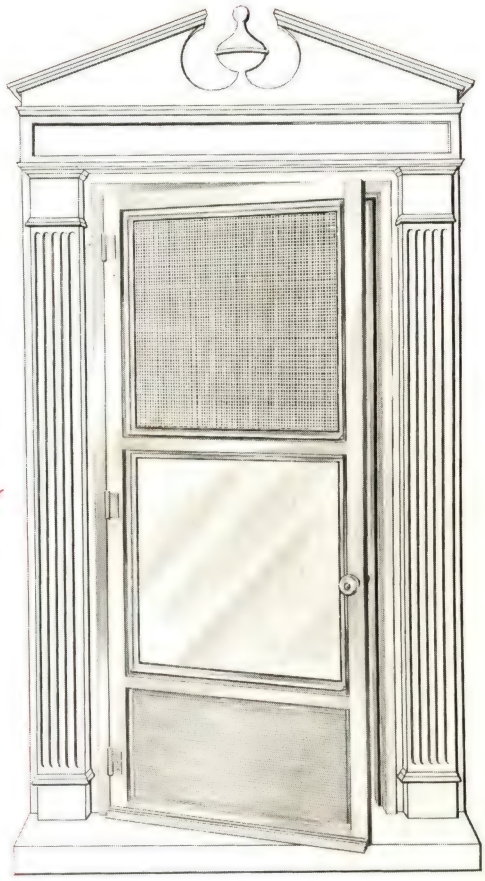
GENERAL BRONZE CORPORATION

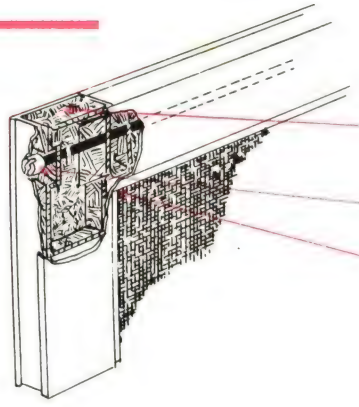
ALWINTITE

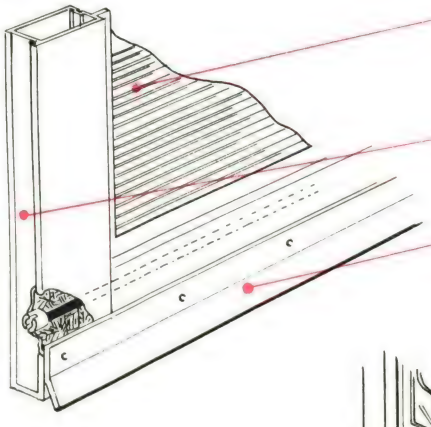
ALUMINUM COMBINATION

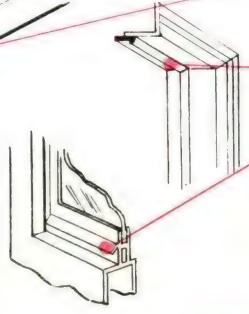
STORM and SCREEN DOOR

PLAY SAFE WHEN YOU SPECIFY "ALWINTITE" COMBINATION DOORS FOR ANY HOME. GET MORE VALUE . . . MORE BEAUTY . . . MORE QUALITY . . . BETTER PERFORMANCE. "ALWINTITE" DOORS ARE FACTORY TESTED AND HOME TESTED TO PROVIDE GREATEST ALL YEAR 'ROUND PROTECTION AND CONVENIENCE.









CUSHION CLOSURE—Patented ethyl cellulose* reinforcing blocks in all four corners to absorb shock for extra protection against slamming.

TENSION RODS—Super-strength tension rods run completely through top and bottom of door for tight, perfect fit at all times.

BUTTED CORNERS—Architecturally preferred for beauty, design, strength and rigidity.

EMBOSSED KICKPLATE—Heavy gauge aluminum for sturdiness, tempered to high degree of scuff resistance. Embedded in Vinyl for firm, quiet, weather-tight fit.

FULL ONE INCH THICKNESS—"More door for your money" gives you extra beauty—extra rigidity—extra strength.

BUILT-IN SWEEP—Made of durable vinyl, eliminates under-door draft and accumulations of dust and snow.

VINYL WEATHERSTRIPPING—Eliminates drafts—always stays supple, will not crack or rot.

WEATHERLIP ON STORM INSERTS—Sheds rain and adds extra protection against driving dust.

**Patented material by the U. S. Navy*

GENERAL BRONZE CORPORATION

ALWINTITE®



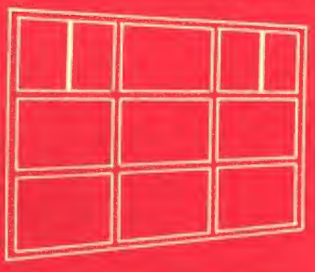
DOUBLE HUNG WINDOWS



HORIZONTAL SLIDING WINDOWS



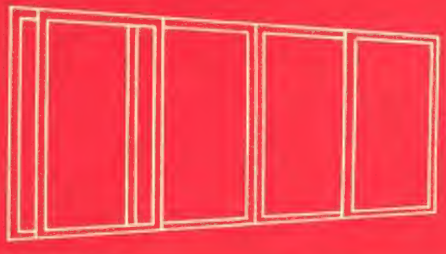
PICTURE SLIDING WINDOWS



VIEWALL WINDOW WALLS



AWNING WINDOWS



SLIDING WALLS

There is an ALWINTITE Aluminum Window for any project you may plan . . . small homes, luxury homes, multifamily structures, industrial buildings, schools, hospitals or public buildings.

ALWINTITE DIVISION: GENERAL BRONZE CORPORATION

GARDEN CITY, LONG ISLAND, NEW YORK

TELEPHONE PIONEER 1-4400

ARNOLD

the factory-glazed awning window

AWN-WIN

ARNOLD

field glazed

AWNING WINDOWS

ARNOLD

factory-assembled or knocked-down

JALOUSIES

ARNOLD

the three purpose jalousie door

JAL-DOR

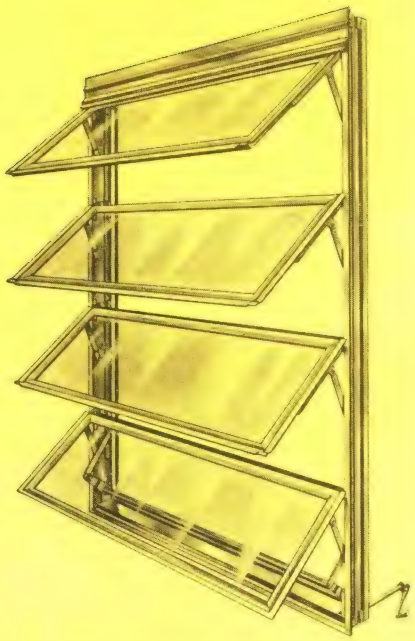
Arnold

PRODUCTS SALES CORPORATION

6721 N.W. 36th Avenue • Miami • Florida

Arnold AWN-WIN

weatherstripped factory-glazed awning window



The graceful proportions, sweeping lines and deep-down quality of Arnold Awn-Win Windows enhance the value and appearance of any structure. In addition to factory glazing and all the advantages inherent in modern, all-aluminum awning-type windows, Awn-Wins offer the following special features:

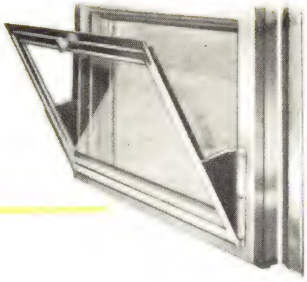
★ Operating mechanism glides on friction-free nylon bearings. These act as fulcrums to close vents tight at bottom without destructive wear at hinge points.

★ Specially engineered sealed operator (see page 6) locks vents in any position. Noiseless, touch-control operation seals Awn-Wins clam-tight against full cork weatherstripping, reducing fuel and air-conditioning costs. No additional locking devices necessary.

★ Rugged, precision-built horizontal torque shaft actuates both sides of window simultaneously . . . and delivers equal closing force along both window jambs. Standard in all Arnold windows.

Hopper Vent

Provides necessary additional ventilation control. Most practical for use in school, commercial and institutional construction. The Hopper Vent is available in both Arnold Awn-Win and Arnold Field Glazed Awning Window.



AWN-WIN specifications

materials

The head, jambs, and sill shall be of a heavy section extruded in accordance with Arnold die drawings. The material shall be 6063-T5 alloy having a minimum thickness of .081″. The vent supporting brackets shall be die formed of 3003-H14 alloy, having a thickness of .125″. The vent frame sections shall be a special hollow extruded shape of 6063-T5 alloy. All connecting and operating links shall be 6063-T5 alloy, having a thickness of .125″ or .188″. Mullions shall be of the interlocking type, extruded of 6063-T5 alloy. All rivets, screws, clips, and rollers shall be of alluminum, stainless steel, or nylon, selected according to the design requirements.

hardware

The specially designed operator shall consist of a die cast aluminum housing, containing a bronze worm gear and a hardened steel worm. A stainless steel thrust washer shall be provided at each end of the worm. Bearing for the hexagonal torque shaft shall be of stainless steel running in the aluminum housing. The torque shaft shall be a ¾″ hexagonal extrusion of 6063-T5 alloy. The operator housing shall be packed with lubricating grease.

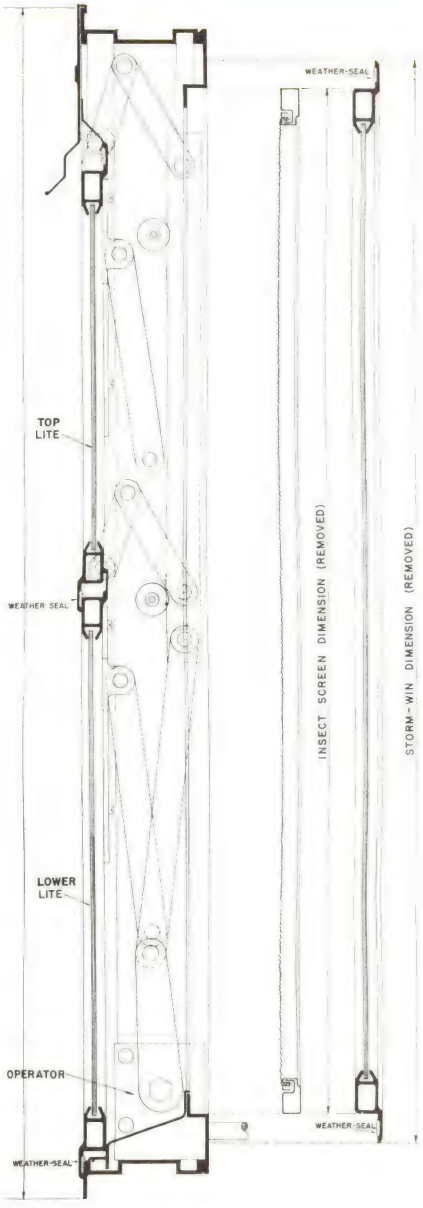
construction

Basic construction shall be riveted, mitered corners using suitable reinforcing clips. All movable joints shall be made with special shoulder rivets or studs in order to control clearances between moving parts. Effective bearing diameters shall be .312″. The vent frames shall be mitered and joined with rigid corners which are inserted into the hollow ends of the frame sections. These corners are secured by means of self tapping screws.

screens

Screens shall be an all aluminum frame and shall be constructed with 14 x 18 mesh aluminum wire. They shall be attached by means of special screen clips for easy removal.

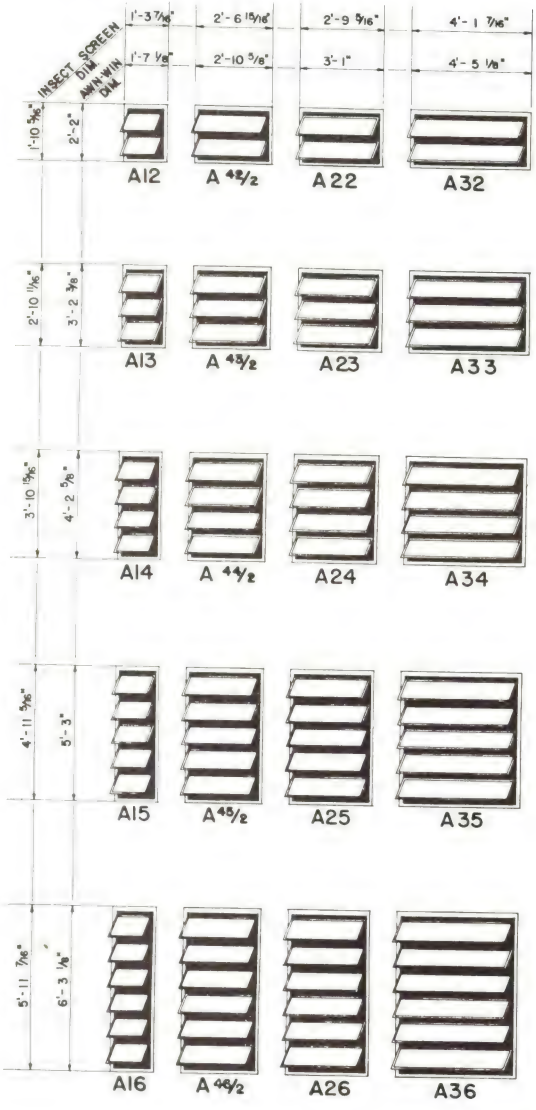
Test results showing superior Arnold performance in water leakage and air infiltration available upon request.



sizes and types

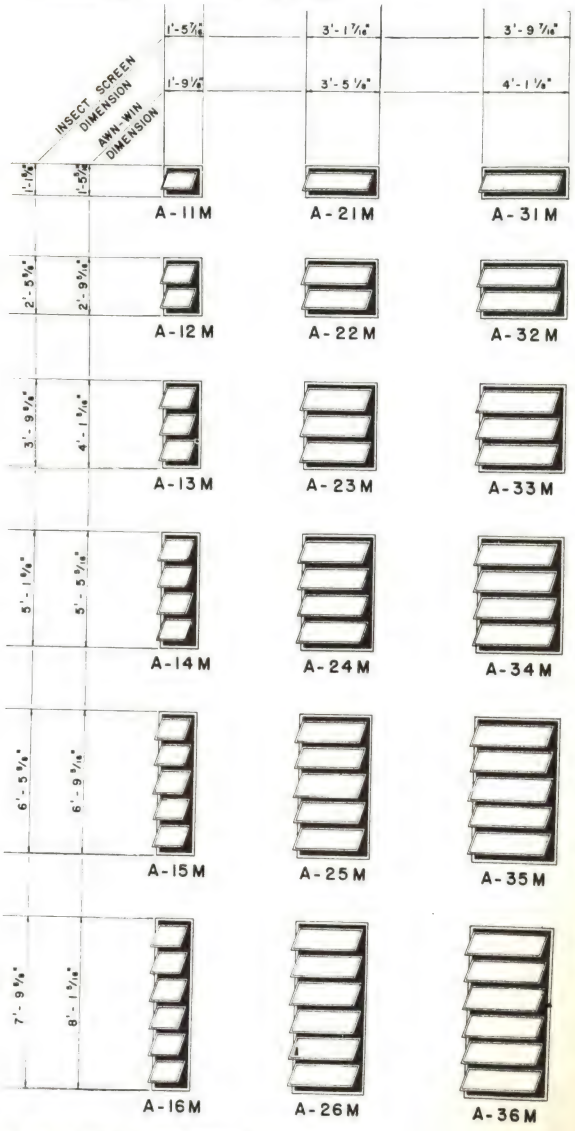
standard sizes

Buck opening dimension ¾" less than Awn-Win dimension. (Allows ⅛" tolerance at all sides.)



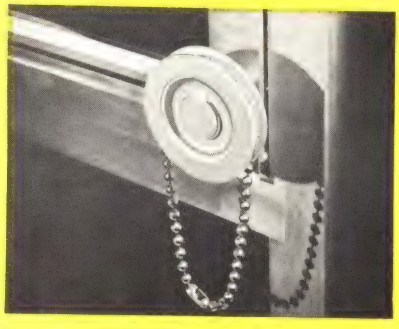
modular sizes

Buck opening dimension ¾" less than Awn-Win dimension. (Allows ⅛" tolerance at all sides.)

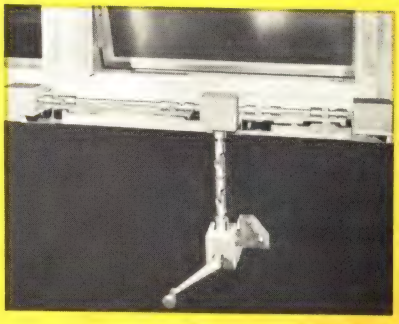


ALL ABOVE TYPES & SIZES AVAILABLE WITH HOPPER VENTS

optional operators



Here are two examples of Arnold remote control operators for easy operation of clerestory or other out-of-reach locations. See page 6 for

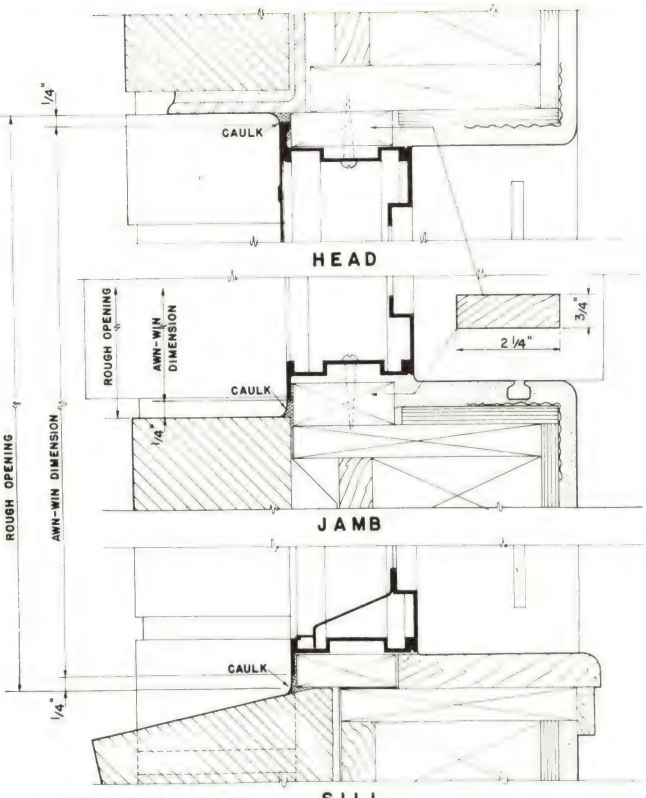


exclusive Arnold sealed operator — standard on both Arnold Awn-Win and Arnold field glazed windows.

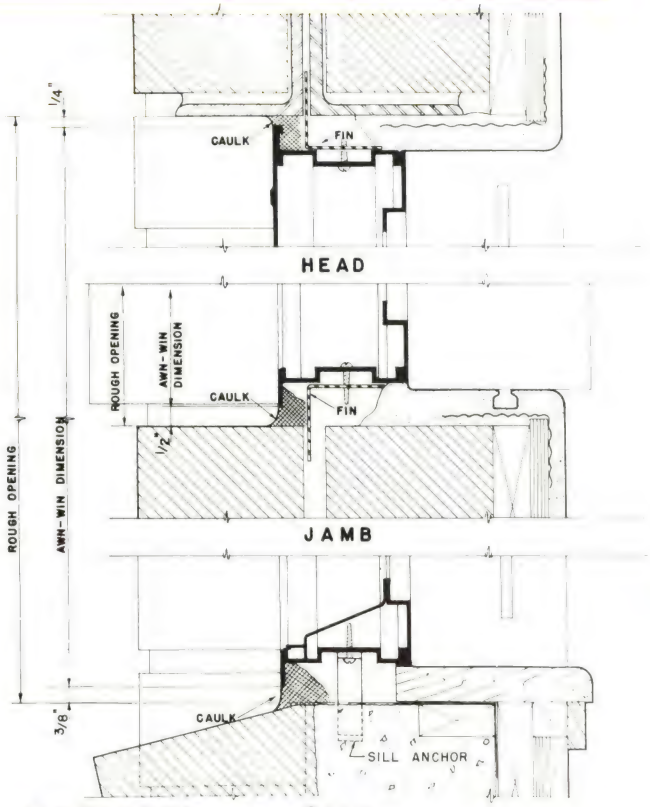
AWN-WIN STANDARD	GLASS SIZES				
	HEIGHT	WIDTH			
TOP VENTS	7 ¼"	15 ¼"	30 ¾"	33 ⅛"	49 ¼"
OTHER VENTS	10 ½"	15 ¼"	30 ¾"	33 ⅛"	49 ¼"
WINDOW OVERALL WIDTH		1'-7 ⅛"	2'-10 5/8"	3'-1"	4'-5 ⅛"

AWN-WIN MODULAR	GLASS SIZES			
	HEIGHT	WIDTH		
TOP VENTS	10 ⅜"	17 ¼"	37 ¼"	45 ⅛"
OTHER VENTS	14 ⅛"	17 ¼"	37 ¼"	45 ⅛"
WINDOW OVERALL WIDTH		1'-9 ⅛"	3'-5 ⅛"	4'-1 ⅛"

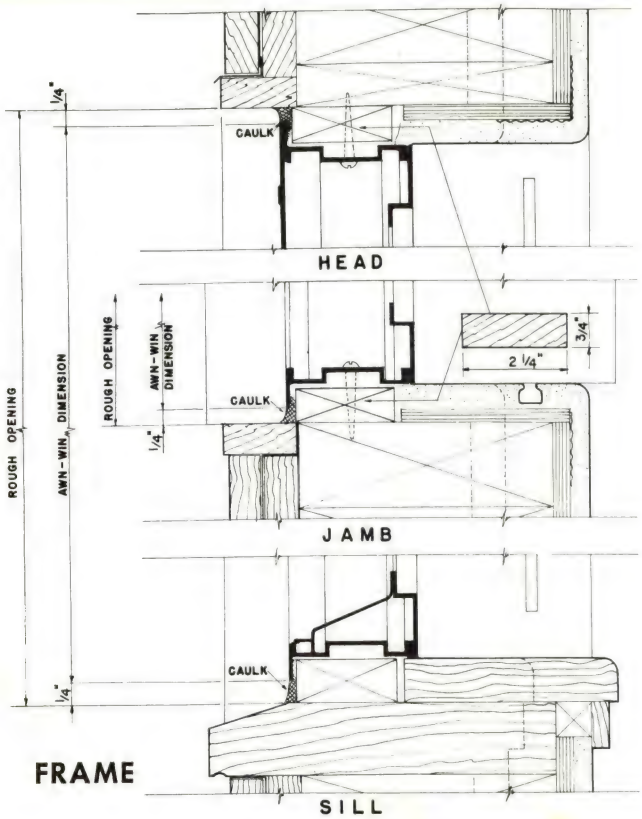
ARNOLD AWN-WIN installation details • scale 3″ —1′ 0″



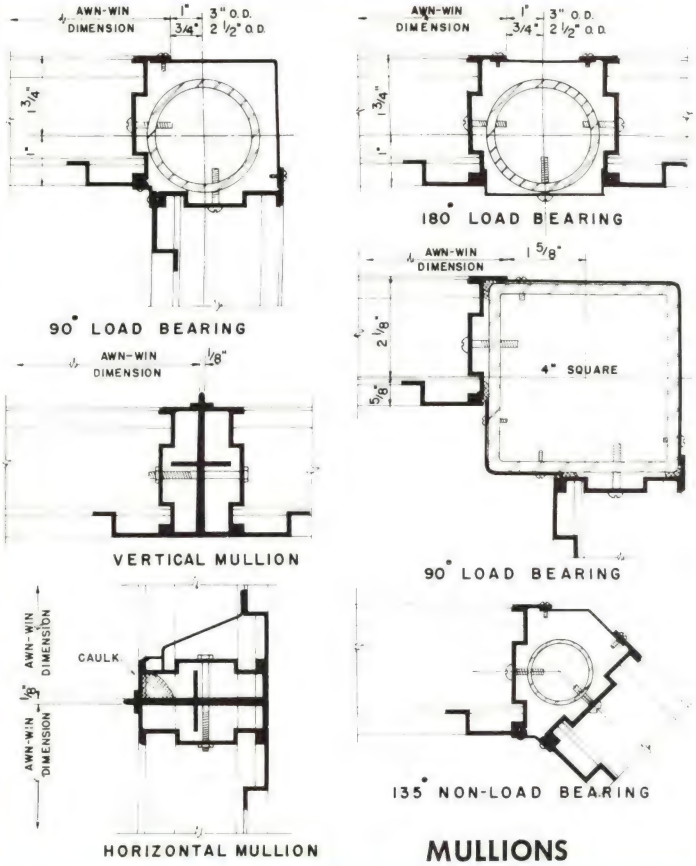
BRICK VENEER



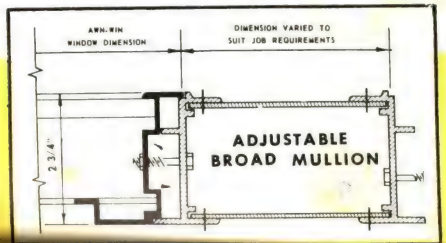
SOLID BRICK



FRAME



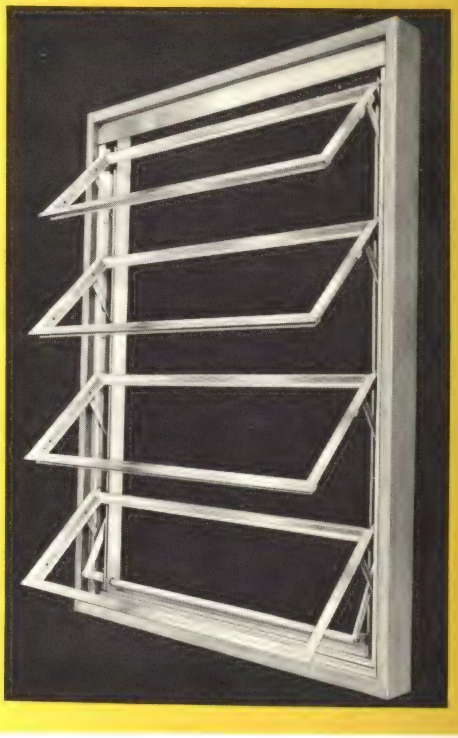
MULLIONS



A versatile mullion arrangement for either vertical or horizontal use, designed to solve a variety of architectural and construction problems. It has particular value when used in large openings, or where wide mullions enhance the beauty. This mullion can be made to any desired width and, if necessary, is easily adjusted in the field.

Arnold FIELD GLAZED **AWNING WINDOWS**

Stainless Steel Weatherstripping



features

The field glazed Arnold Awning window enjoys all the performance-proven operating features of the factory glazed Arnold Awn - Win window. In addition, the Arnold Awning window has the following exclusive advantages:

★ The protection of Arnold pioneered lifetime stainless steel weatherstripping eliminates the possibility of peeling and cracking due to freezing of ordinary plastic.

★ Added interior attractiveness with interchangeable flange-type Arnold screen or Arnold Storm-Win storm sash overlapping window frame. Adds smooth lines to any room interior.

★ Simplified operating mechanism with hardware concealed from sight, yet parts readily accessible for lubrication. Retains operational ease and minimum wear features of Arnold Awn-Win window.

★ Vent and frame sections are so designed to achieve double weathering at all contact points. In conjunction with the stainless steel weatherstripping, this insures minimum air infiltration and maximum water-tight security.



..... a simplified operating mechanism that glides on friction-free nylon bearings which act as fulcrums to close vents tight at the bottom with no destructive wear at hinge points.

FIELD GLAZED **AWNING WINDOW**

specifications

materials

All frame and vent members shall be of a heavy section extruded in accordance with Arnold die drawings. The material shall be 6063-T5 alloy having a minimum thickness of .081". Vent sections shall have a minimum depth of 1.000". Vent supporting brackets shall be die formed of 3003-H14 alloy having a thickness of .125". All connecting and operating rods shall be of 6063-T5 alloy having a thickness of .188" and balance arms shall have a thickness of .125". Mullions shall be of the interlocking type extruded of 6063-T5 alloy. All rivets, screws, clips, and rollers shall be of aluminum, stainless steel or nylon according to the design requirements. Weatherstripping shall be type 302 stainless steel specially designed to snap in a slot provided in the sill, vent top, and jamb cover extrusions.

hardware

The specially designed operator shall consist of a die cast aluminum housing, containing a bronze worm gear and a hardened steel worm. A stainless steel thrust washer shall be provided at each end of the worm. Bearings for the hexagonal torque shaft shall be of stainless steel running in the aluminum housing. The torque shaft shall be a ¾" hexagonal extrusion of 6063-T5 alloy. The operator housing shall be packed with lubricating grease.

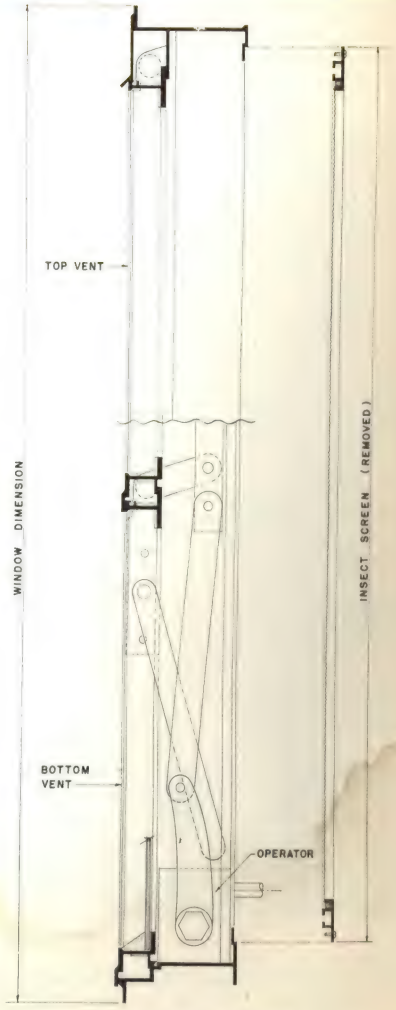
construction

Basic construction shall be of the mortise and tenon type. All movable joints shall be made with specially designed shoulder rivets, or shoulder studs with stainless steel spring clips, in order to control clearances. Effective bearing diameters shall be .312".

screens

Screens shall be an all aluminum frame of either a box or flanged section with 14 x 18 mesh aluminum wire. They shall be attached by means of special screen clips for easy removal.

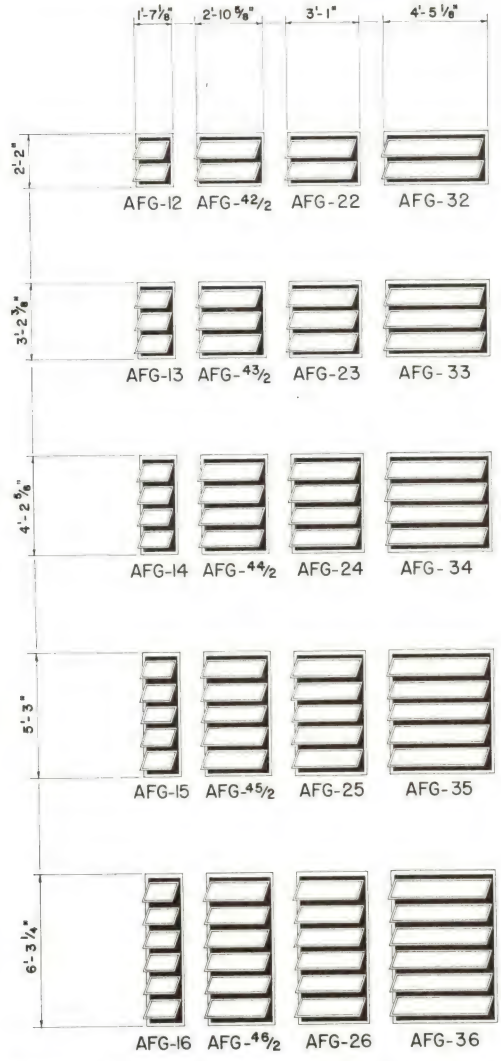
Test results showing superior Arnold performance in water leakage and air infiltration available upon request.



vertical section

ARNOLD FIELD GLAZED AWNING WINDOWS

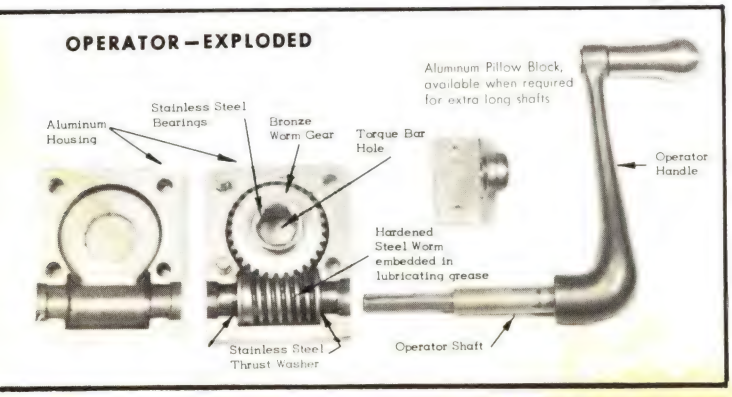
sizes and types



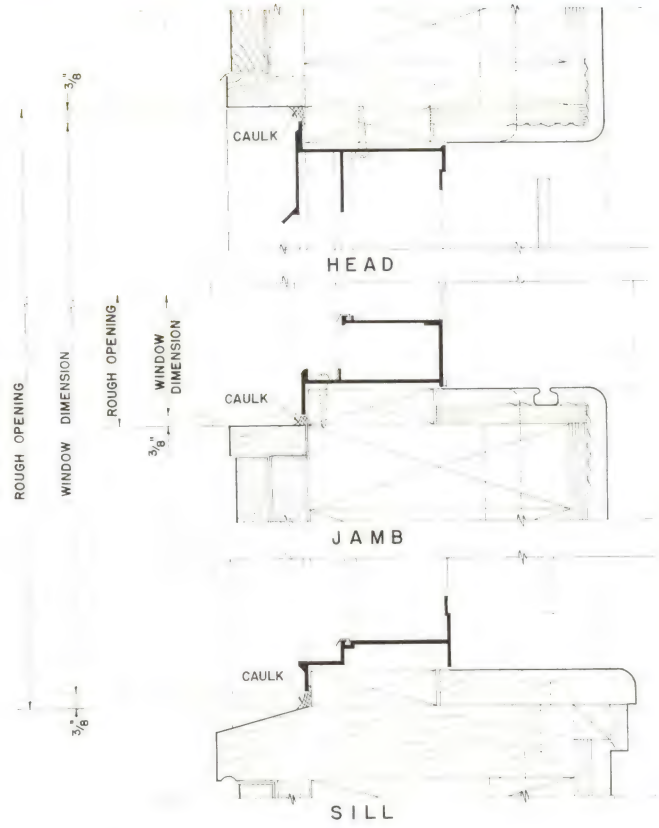
ALL ABOVE SIZES AVAILABLE WITH HOPPER VENTS

Field glazed awning windows available in all modular sizes

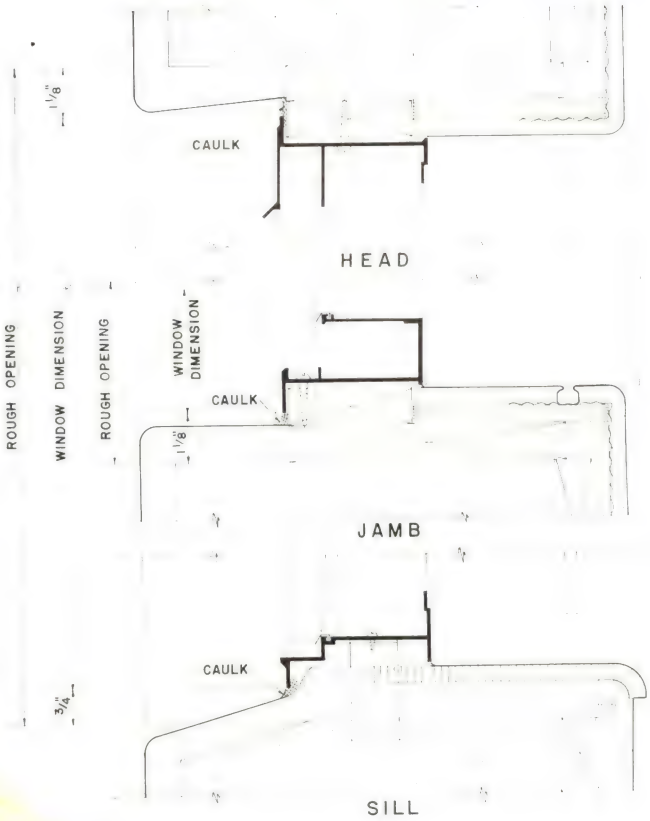
GLASS SIZES	WIDTH				HEIGHT
TOP VENTS	16"	31 ½"	33 ⅞"	50"	9 ⅞"
OTHER VENTS	16"	31 ½"	33 ⅞"	50"	11 ⅛"



"This compact, sealed operator is standard on both Arnold Awn-Win and Arnold field glazed windows. Operator mechanism does not protrude into room."



FRAME

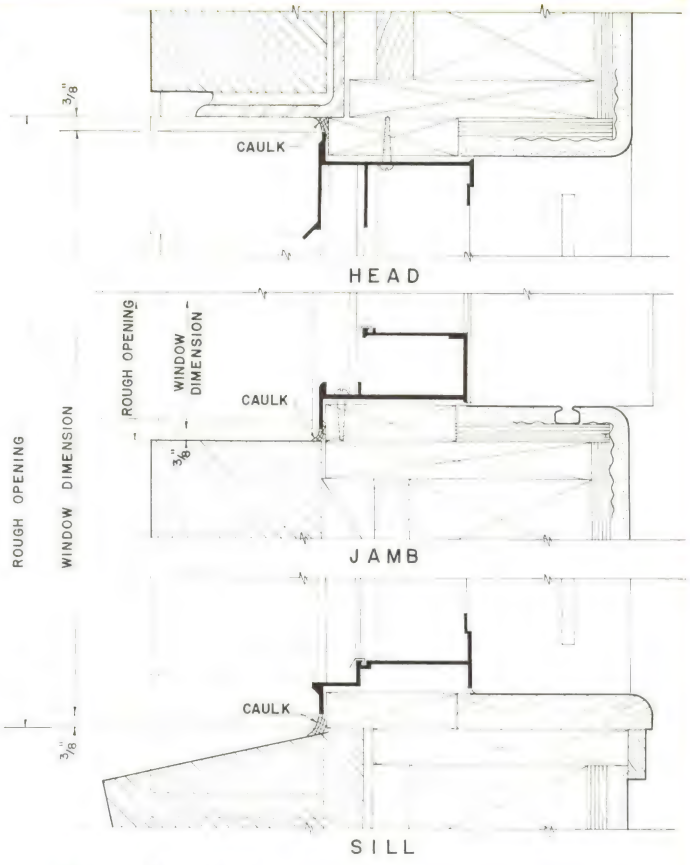


CONCRETE BLOCK

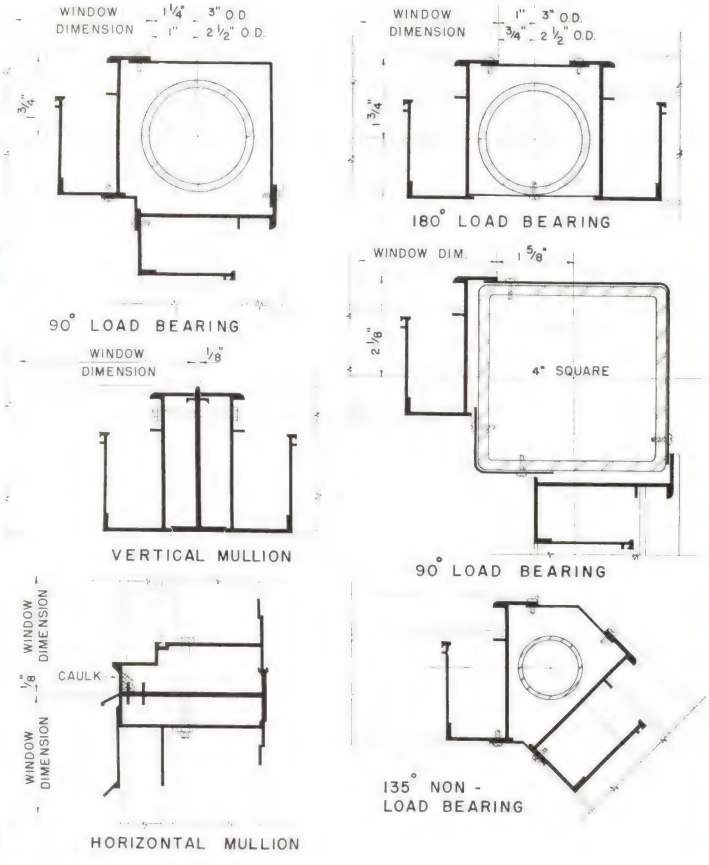
Arnold JAL-DOR

Available in K.D. Kits For Door Manufacturers

installation details • scale 3"—1' 0"

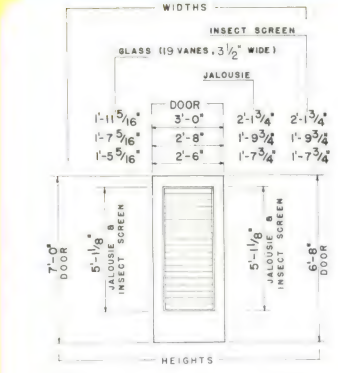


BRICK VENEER

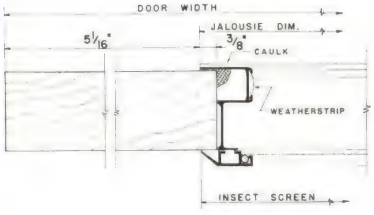


MULLIONS

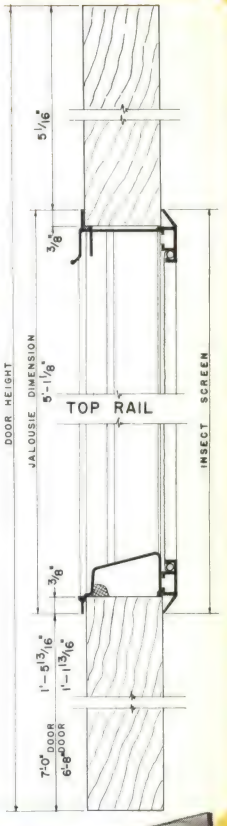
Arnold Storm-Win storm sash is available for these windows



SIZE SCHEDULE



STILE



JALOUSIE DOOR
MODEL III

BOTTOM RAIL



specifications

materials

All frame members shall be 6063-T5 alloy extruded in accordance with Arnold die drawings. The glass supporting brackets shall be die formed of 3003-H14 alloy, having a minimum thickness .051". The extruded screen frame shall be designed so as to eliminate the need for additional molding or trim. Glass width shall be 3½".

hardware

The operator shall be of the worm and sector type, mounted on the screen frame near the center of the insert.

construction

Basic construction shall be of the interlocking type requiring no additional corners or clips. The head and sill are locked in place by the jambs. All movable joints shall be made with special aluminum shoulder rivets in order to control clearances between moving parts.

weatherstripping

Weatherstripping shall be of type 302 stainless steel specially rolled to fit in a slot extruded in the jambs. The shoulder rivets used on assembly assure proper clearances so that the weatherstripping is effective at all times.

screens

Screens shall have a special extruded aluminum frame and shall be constructed of 14 x 18 mesh aluminum wire. They shall be attached by means of sheet metal screws.

Arnold JALOUSIES

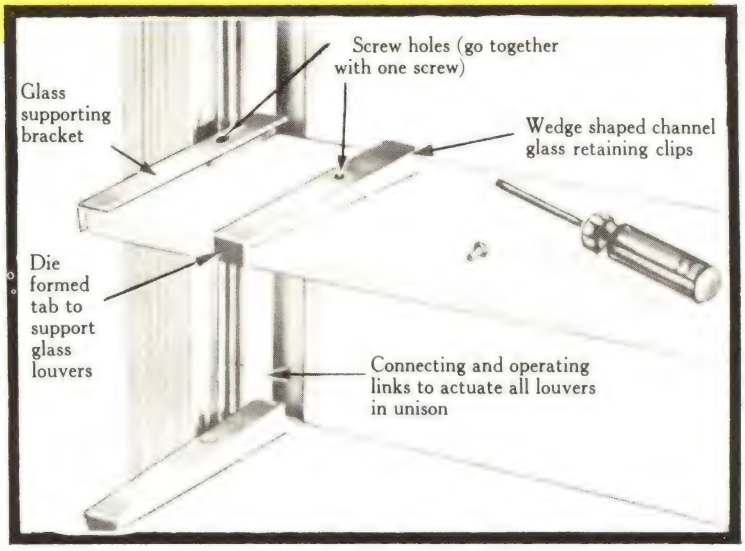
factory-assembled or knocked-down

Stainless Steel Weatherstripping



Arnold pioneered stainless steel weatherstripping, and exclusive Arnold wedge louver clips place Arnold Jalousies head and shoulders above the crowd . . . eliminate glass rattling and assure positive louver alignment for absolute tight fit and minimum air infiltration.

Model II. Heavy duty construction for prime window and door use (also see page 7 for special door jalousie Model III). Frame recessed for interchangeable screen and storm sash.

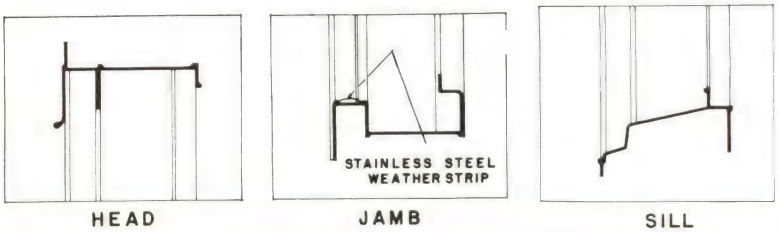


Standard Sizes

Window Overall Sizes

Catalog No.	Width	Height
J-12	1′7⅛″	x 2′2″
J-13	1′7⅛″	x 3′2⅜″
J-14	1′7⅛″	x 4′2⅝″
J-15	1′7⅛″	x 5′3″
J-16	1′7⅛″	x 6′3¼″
J-32/2	2′2½″	x 2′2″
J-33/2	2′2½″	x 3′2⅜″
J-34/2	2′2½″	x 4′2⅝″
J-35/2	2′2½″	x 5′3″
J-36/2	2′2½″	x 6′3¼″
J-22	3′1″	x 2′2″
J-23	3′1″	x 3′2⅜″
J-24	3′1″	x 4′2⅝″
J-25	3′1″	x 5′3″
J-26	3′1″	x 6′3¼″

JALOUSIE SECTION DETAILS MODEL II



HEAD JAMB SILL

specifications

materials

All frame members shall be specially designed 6063-T5 alloy extrusions having a minimum thickness of .062" in accordance with Arnold die drawings. The glass supporting brackets shall be die formed of 3003-H14 alloy having a thickness of .051". Glass retaining clips shall be die formed to a wedge shaped channel from .040" thick 3003-H14 alloy. Glass width shall be 4½". All connecting bars and links shall have a minimum thickness of .125". Mullions shall be of the interlocking type extruded of 6063-T5 alloy.

hardware

The operator shall be of the worm and sector type, mounted on the jamb near the sill.

construction

Basic frame construction shall be mechanically joined corners using suitable die formed corner clips so designed that final assembly is by means of aluminum sheet metal screws. All movable joints shall be made with special aluminum shoulder rivets in order to control clearances between moving parts. Effective bearing diameter shall be .250" The glass retaining clips shall be designed to hold the glass tightly at all times. The tabs which support the glass are pre-formed and no bending is required on installation.

weatherstripping

Weatherstripping shall be of type 302 stainless steel specially rolled to fit in a slot extruded in the jambs. The shoulder rivets used on assembly assure proper clearances so that the weatherstripping is effective at all times.

screens

Screens shall have an aluminum frame and shall be constructed of 14 x 18 mesh aluminum wire. They shall be attached by means of special screen clips for easy removal.

Arnold PRODUCTS SALES CORPORATION

6721 N.W. 36th Avenue • Miami • Florida

THERM
ARTEX
SPANDRELS

ALUMINUM SKIN WINDOW WALLS

HINGED and PIVOTED
ARTEX
WINDOWS



ASHE MEMORIAL BUILDING, UNIVERSITY OF MIAMI
WATSON AND DEUTSCHMAN architects and engineers
GUST K. NEWBURG CONSTRUCTION CO. contractors

ARTEX CORPORATION
SUMMERVILLE • SOUTH CAROLINA

ARTEX ALUMINUM WINDOWS

DOUBLE WEATHER-STRIPPED FOR AIR-CONDITIONED BUILDINGS



Maximum efficiency with surprising versatility is yours in Artex aluminum windows — designed especially for use in air-conditioned buildings, with or without accompanying Therm-Artex spandrels. Artex windows are available in an exceptionally wide variety of sizes to your specification. They meet your needs for project-out, out-swing, in-swing, project-in, vertical or horizontal pivot or fixed sash. Hopper vents are available with all types.

Hurricane tested and approved by the University of Miami Housing Research Laboratory, Artex windows are double weatherstripped for minimum air infiltration and maximum watertight security. Successfully proven in many installations, Artex is your answer to the need for heavy duty, trouble-free windows that cost no more to buy and less to install, that reduce heating and cooling expense and practically eliminate maintenance.

SERIES 500 (IN-SWING)



TOP HINGED



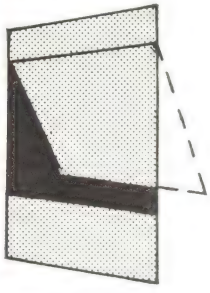
SIDE HINGED

SERIES 700



VERTICAL PIVOT

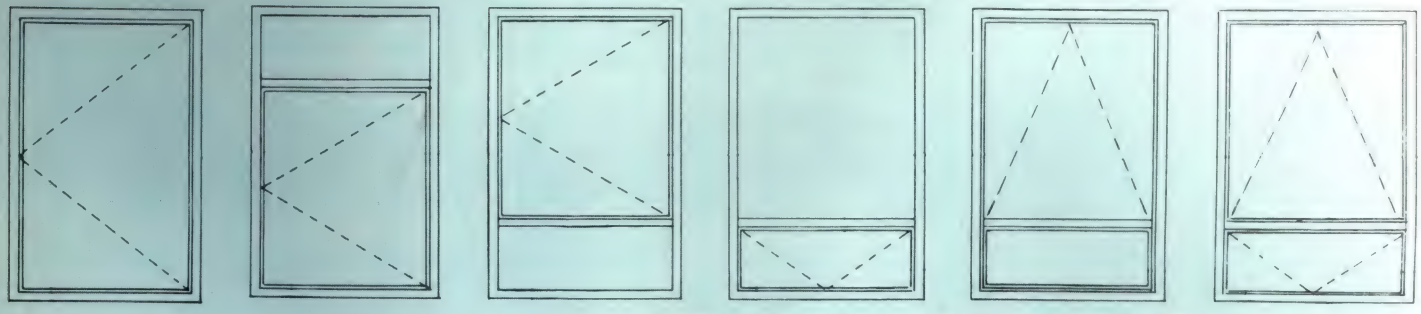
SERIES 900



PROJECT OUT

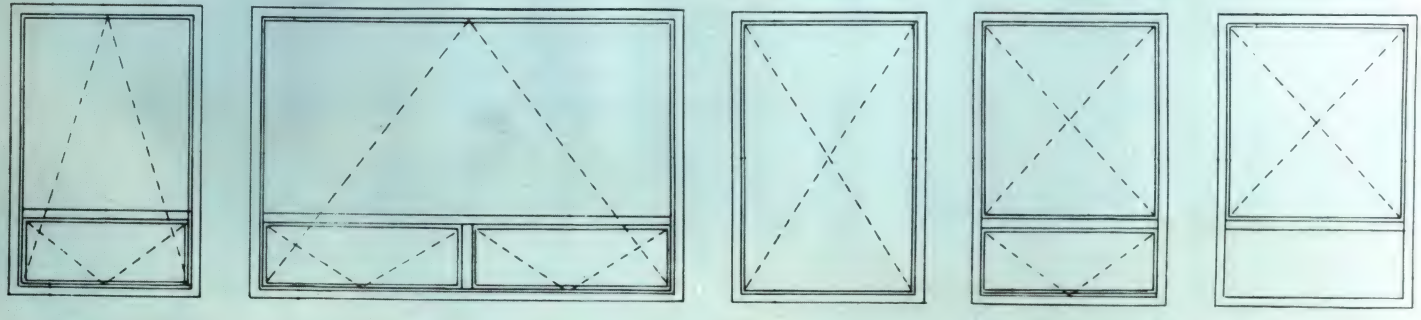
SIZE SCHEDULE

ARTEX SIDE HINGED, TOP HINGED & CENTER PIVOTED ALUMINUM WINDOWS

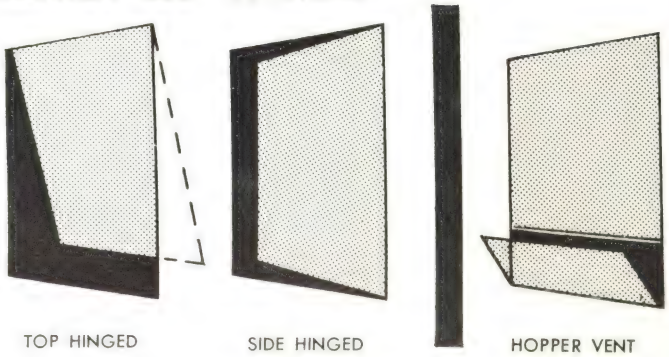


Maximum Sizes — Single Operating Unit

Series 500	In Swing, Side Hinged	: 4'-0" Wide x 7'-6"
Series 500	In Swing, Top Hinged	: 50 Square Feet
Series 700	Center Pivoted	: 50 Square Feet
Series 900	Project Out	: 20 Square Feet



SERIES 500 OUT-SWING



TOP HINGED | SIDE HINGED | HOPPER VENT ALL TYPES

WINDOW SPECIFICATIONS

(A) SERIES 500 — SIDE, TOP & BOTTOM HINGED IN-SWING AND OUT-SWING WINDOWS.

(B) SERIES 700 — VERTICALLY OR HORIZONTALLY CENTER PIVOTED REVERSIBLE WINDOWS.

MATERIALS — (A) & (B):
Window frames and ventilators shall be of 63S-T5 extruded aluminum alloy having a minimum tensile strength of 22,000 p.s.i. The minimum thickness of all wall sections shall be 0.125". The minimum thickness of all web section shall be 0.187".

CONSTRUCTION — (A) & (B):
All corners shall be secured by mechanical means in such a manner that will develop the full strength of the sections attached. The mechanical method of joining shall be such that the members joined shall be in compression, one against the other, and shall develop a completely weather tight connection.

FASTENINGS — (A) & (B):
All fastenings used throughout the construction of the window shall be of aluminum or stainless steel. All fastenings for attaching anchors to the window shall be of aluminum or stainless steel.

HARDWARE — (A) & (B):
All hardware shall be of aluminum or stainless steel, of sufficient strength to perform the function for which intended, except that the following hardware components may be of other materials: Anchoring devices may be of zinc plated steel. Hinges shall be architectural bronze, dull zinc plated and lacquered, and equipped with stainless steel hinge pins. Exposed locking handles may be either aluminum or plated bronze. Friction stay bars shall be of plated bronze.

ACCESSORIES — (A):
Side hinged windows shall, when specified, be equipped with friction type stay bars for holding window in any open position. Bottom hinged windows shall be equipped with friction type stay bars for holding sash in any open position. Top hinged windows shall be furnished with (name quantity) ARTEX standard non-collapsible window jacks for holding ventilator in open position for cleaning. Center pivoted windows shall, when specified, be equipped with stay bars for holding sash in open position.

GLAZING BEADS — (A) & (B):
Shall be the inside semi-snap-on type so keyed that two screws at the head section are adequate for holding all beads in place.

STANDARD FINISH — (A) & (B):
The exposed surfaces of all aluminum members shall be cleaned to make them reasonably uniform in appearance and free from any surface blemishes or scratches.

ALTERNATE FINISH — (A) & (B):
The aluminum window members shall be Alumilited in accordance with Alcoa Finish No. 204.

PROTECTIVE COATING — (A) & (B):
A protective coating shall be applied to all window frame and sash members before leaving the factory. Before the protective coating is applied the aluminum surface shall be prepared so as to provide a good bonding base for the protective coating. The protective coating shall be a water-white methacrylate lacquer which will withstand the action of lime mortar for a period of 30 days in an atmosphere of 100% humidity at room temperature. NOTE: It is not necessary to remove this protective coating after erection of the windows.

WEATHERSTRIPPING — (A):
Double weatherstripping shall be provided. The outermost weatherstripping shall be of continuous tubular synthetic rubber, Goodrich "Koroseal" or equivalent. The innermost weatherstripping shall be permanent, all-wool resilient felt treated to render it waterproof, fungusproof and verminproof.

(B) Weatherstripping at the head, sill and jambs shall be permanent, all-wool resilient felt treated to render it waterproof, fungusproof and verminproof.

LOCKING DEVICES — (A) & (B):
The sash shall be equipped with key type cam locks located as necessary to assure tight closure of the sash. The cam locks shall be adjustable in increments of 1/40". Lock operating keys shall be furnished for the use of maintenance personnel. Hopper vents shall be equipped with exposed permanent handle type cam locks having concealed adjustable keepers.

INFILTRATION — (A) & (B):
A 4'0" x 6'0" nominal size window shall be tested for air and water infiltration by the Housing Research Laboratory, University of Miami, Coral Gables, Florida, or other accredited testing laboratory. The duration of test shall be 12 minutes. A wind of at least 100 m.p.h. at maximum point shall be directed at the window for 10 minutes. Gust winds of 80 to 120 m.p.h. shall be directed at the window for 2 minutes. During the test water shall be continuously introduced into the air stream. The amount of water introduced shall be equivalent to a four (4) inch rainfall in the 12 minute interval. Under the above test conditions the window shall not leak more than an average of .09 gallon of water per minute and not more than 0.030 cubic feet of air per minute per foot of sash perimeter.

SHOP DRAWINGS — (A) & (B):
Before fabrication the manufacturer shall furnish detailed shop and installation drawings showing materials to be furnished for approval by the architect.

THERM ARTEX SPANDRELS

You can say goodbye to the time loss of laborious masonry wall construction and even to the lack of flexibility in conventional building panels when you specify Therm-Artex! With Therm-Artex, inside and outside walls go up at the same time, and in a hurry. Panels are built to the exact dimensions of whatever style of fenestration you specify — our own Artex windows or any other.

Therm-Artex spandrels provide superior insulation qualities with less thickness for more useable floor space . . . "U" factors exceed those of all conventional masonry wall construction. And with Therm-Artex, you can let your imagination for color and appearance soar! Facings inside or out may be of any available porcelain enamel or any pattern of sheet aluminum. Diffusion of reflection is good and the perfectly flat Therm-Artex slab produces a depth of appearance resembling that of marble or masonry.



FONTAINEBLEAU HOTEL
MORRIS LAPIDUS
architect

TAYLOR CONSTRUCTION CO.
contractor



CORRIGAN BUILDING

WYATT C. HEDRICK
architect

HENRY C. BECK CO.
contractor



AINSLEY BUILDING

MORRIS LAPIDUS
architect

R. L. TURCHIN CONSTRUCTION CO.
contractor

NO WINDOW WALL JOB TOO BIG

Take the load off your shoulders as well as your walls! You can do it with Artex because you specify Artex as you like — the windows and spandrels by themselves, both together, or the complete job from design assistance through installation and glazing by our own expertly trained construction crews.

For savings in structural steel, in foundation costs, and in erection labor, plus knowledge of full reliability through undivided responsibility, specify Artex . . . the complete job by a single supplier!

Architects are invited to consult us for complete engineering data, design collaboration and costs.

THERM
ARTEX
SPANDRELS

HINGED and PIVOTED
ARTEX
WINDOWS

ARTEX
CORPORATION

SUMMERVILLE • SOUTH CAROLINA

MIAMI, FLA. OFFICE: 6721 N.W. 36th AVE.

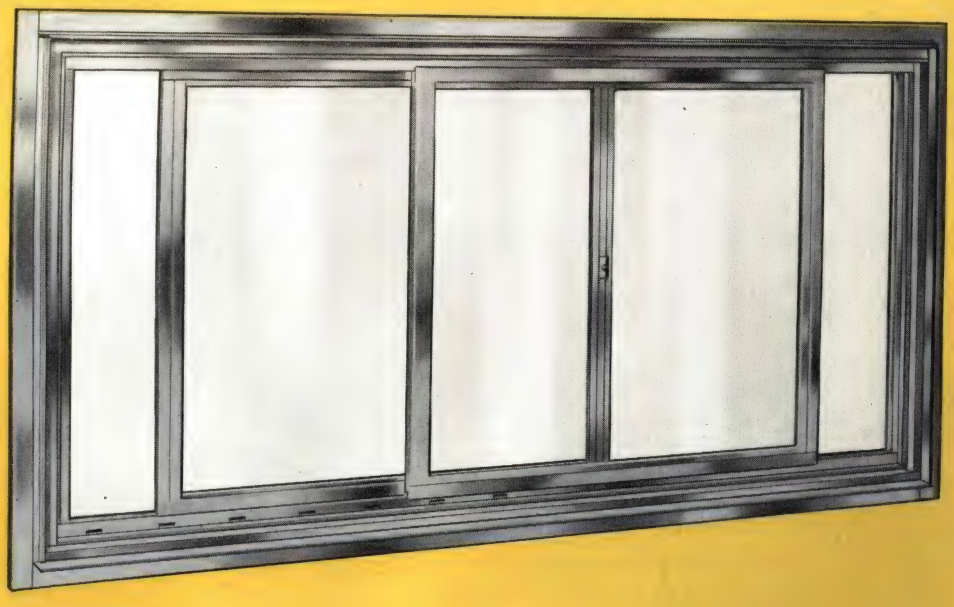
Cupples

RESIDENTIAL

ALUMINUM WINDOWS

Double Hung and Sliding





QUALITY APPROVED

DH-A1

A.W.M.A. Quality Specifications—Materials, Construction, Strength of sections and Air infiltration requirements—confirmed by Pittsburgh Testing Laboratory

MEMBER—ALUMINUM WINDOW MANUFACTURERS ASSOCIATION

1955

CUPPLES PRODUCTS CORP.

2650 SOUTH HANLEY ROAD • MAPLEWOOD, ST. LOUIS 17, MO.

Cupples

Series 200-B

The Cupples' 200-B was designed to meet the demand for a good, economical, residential aluminum double hung window. This fine unit is recommended for general residential use as well as for apartments, dormitories and small commercial buildings.

This window is equipped with complete built-in stainless steel weatherstrip. It is the heaviest, strongest and most ruggedly built of all the stock residential windows on the market. Despite these facts, it is surprisingly low in cost and readily available from distributors' warehouses.

The 200-B is manufactured in 27 stock sizes and in 8 various glass (muntin) arrangements. It may be glazed with either single or double strength glass only. Picture windows are made in 26 stock sizes, 8 of which take standard size Thermopane or Twindow. Half or full screens are available for all window sizes. Storm sash are furnished in two halves, glazed with double strength glass, ready to install. No hardware need be applied at the job on either storm sash or screens.

Exterior metal trim (fin trim) is manufactured in stock sizes. It is an inexpensive, effective trim for frame construction. Easily applied to the window, it eliminates erection problems and saves costly erection time.

The Cupples' 200-B not only meets, but in most instances, exceeds all the rigid DH-A1 specifications of the Aluminum Window Manufacturers Association. Should a heavier low cost window be desired, we recommend our Series 300-B which meets the Aluminum Window Manufacturers Association DH-A2 specification (see details, Page 13).

QUALITY APPROVED

DH-A1

A.W.M.A. Quality Specifications—Materials, Construction, Strength of sections and Air infiltration requirements—confirmed by Pittsburgh Testing Laboratory.

MEMBER—ALUMINUM WINDOW MANUFACTURERS ASSOCIATION











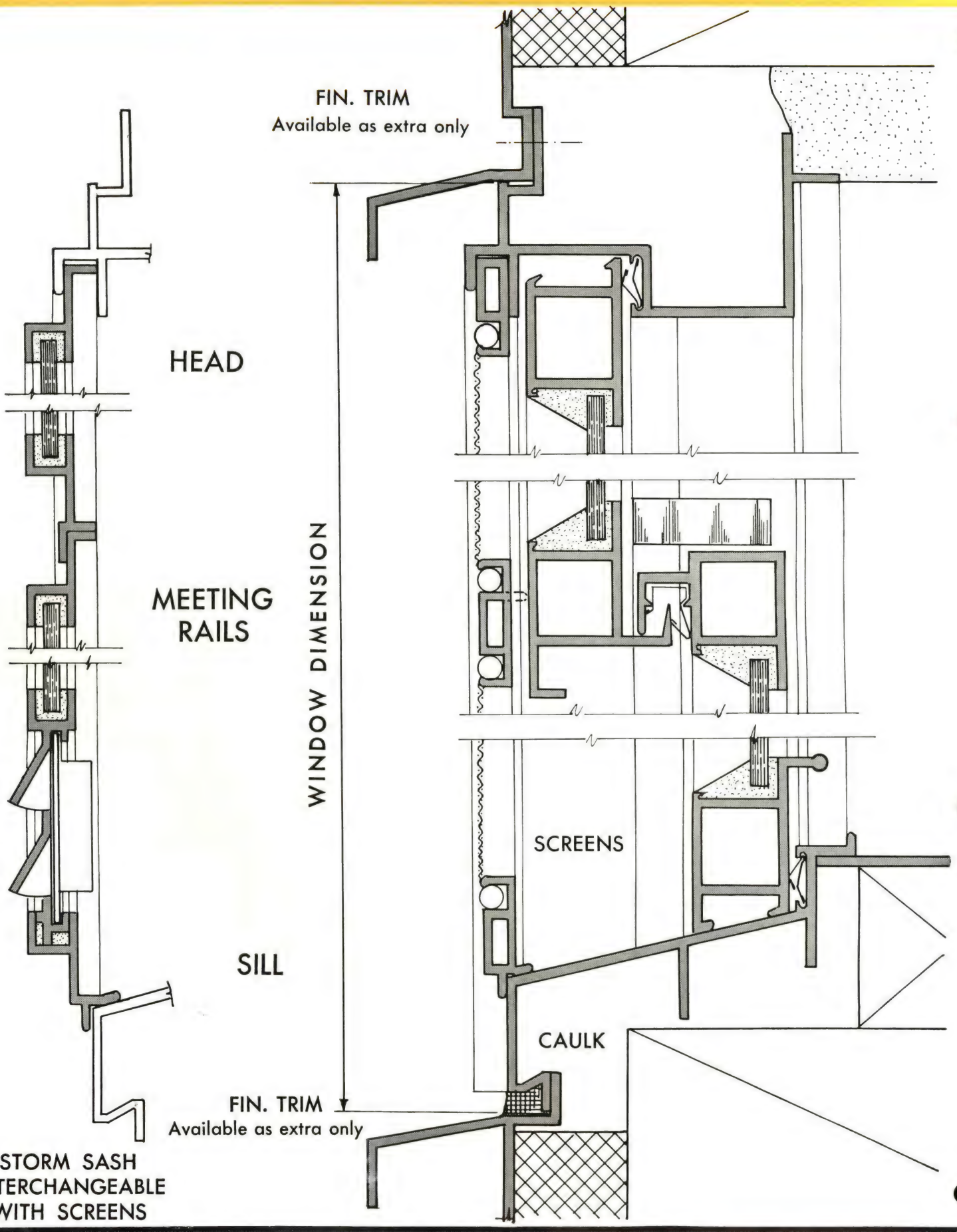
Typical 200-B Installations

These photographs are representative of 200-B installations from various sections of the country. They indicate its selection for the low cost individual home, as well as the larger "ranch house". Apartments, dormitories, small commercial buildings, as well as replacements for wood windows in reconditioned structures are other typical uses. Cupples Products Corporation has installed over 600,000 residential windows in the past five years.



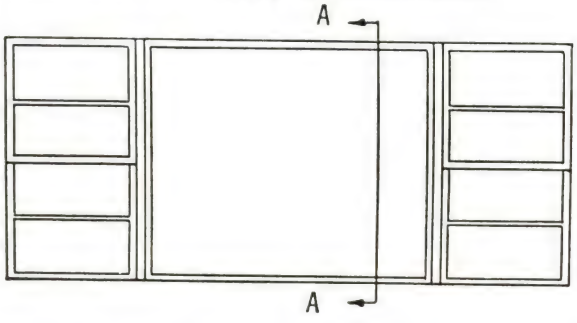


Full Size Details—200-B Double Hung

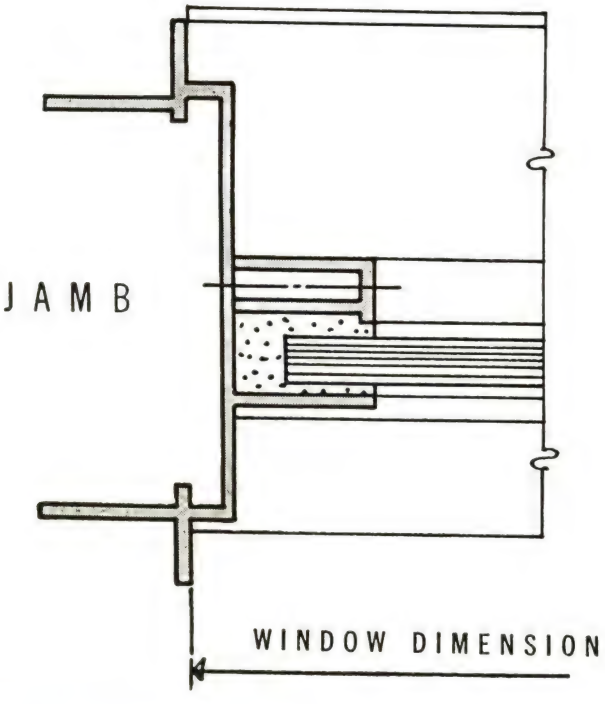


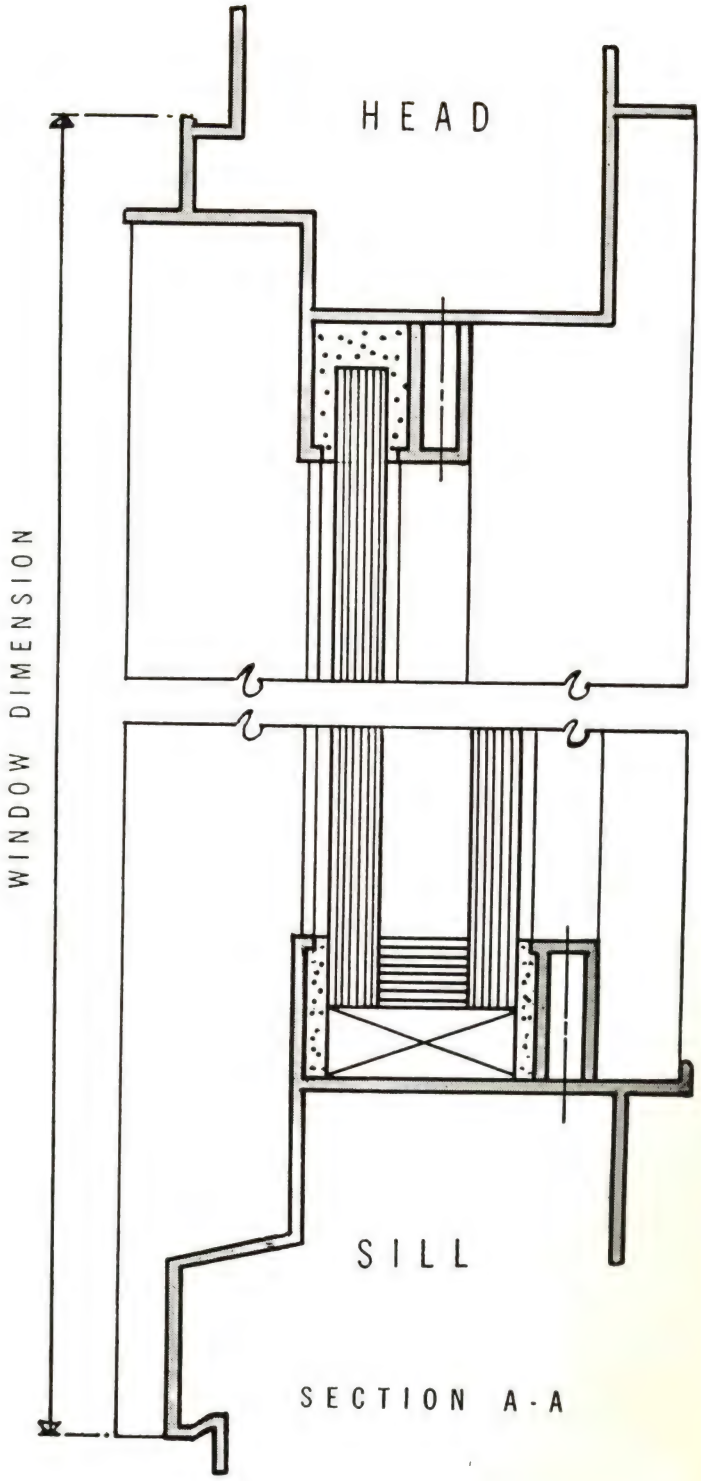
Available in 26 stock sizes (including the 59 height) Cupples 200-B Picture Windows are designed for use with double hung units as "flankers" and as individual units. Of these sizes, 8 take the stock sizes now available in Thermopane and Twindow. To eliminate shipping problems, Picture Windows are shipped in 4 pieces.

The aluminum extrusions are carefully finished and glazing beads are applied. The builder simply slips the pieces together, applies permanent waterproof caulking compound (furnished in carton) at the machined joints, inserts two screws in each corner, and the unit is ready for installation.



PICTURE WINDOW WITH FLANKERS

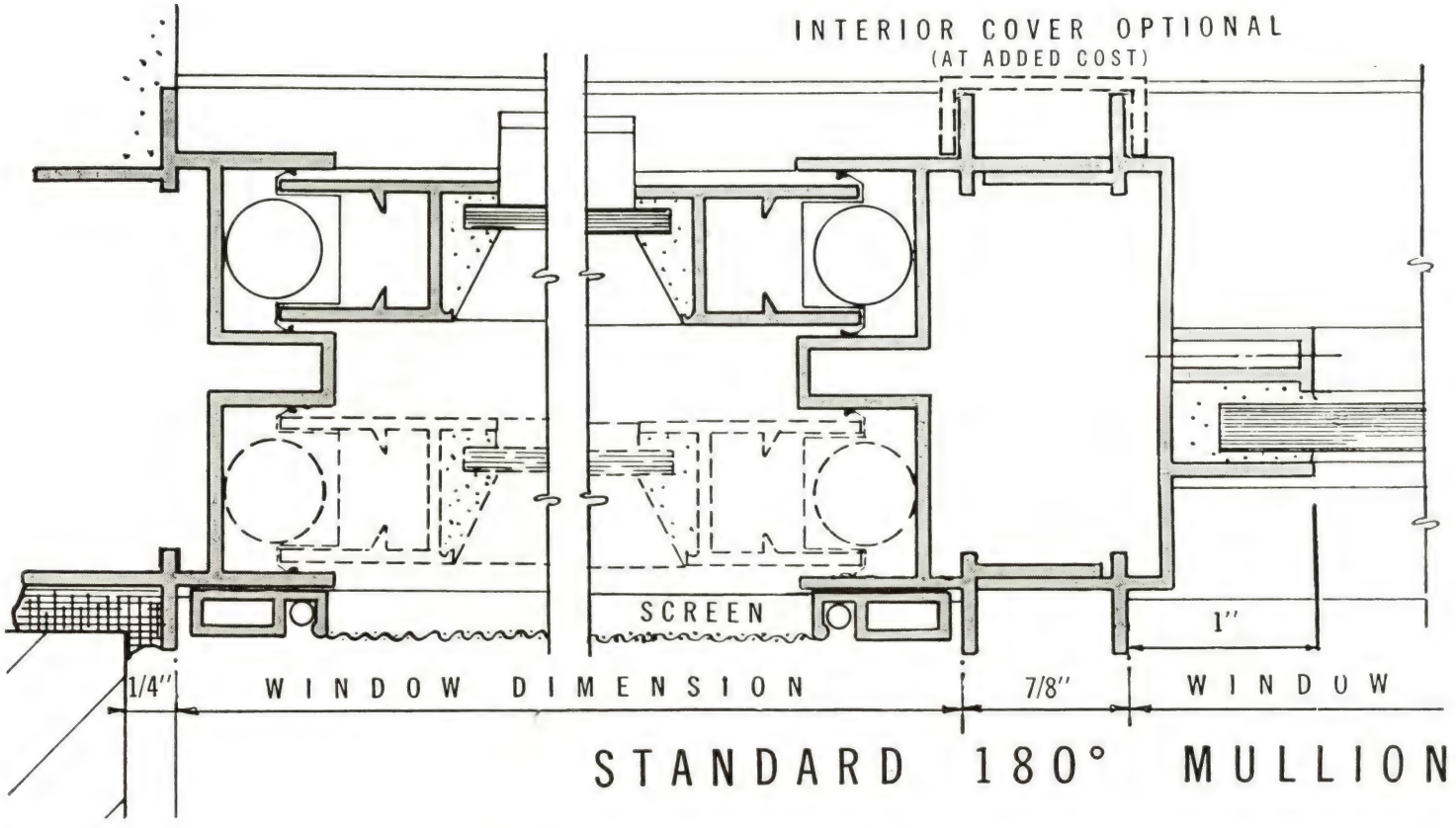




Window Dimensions 200-B

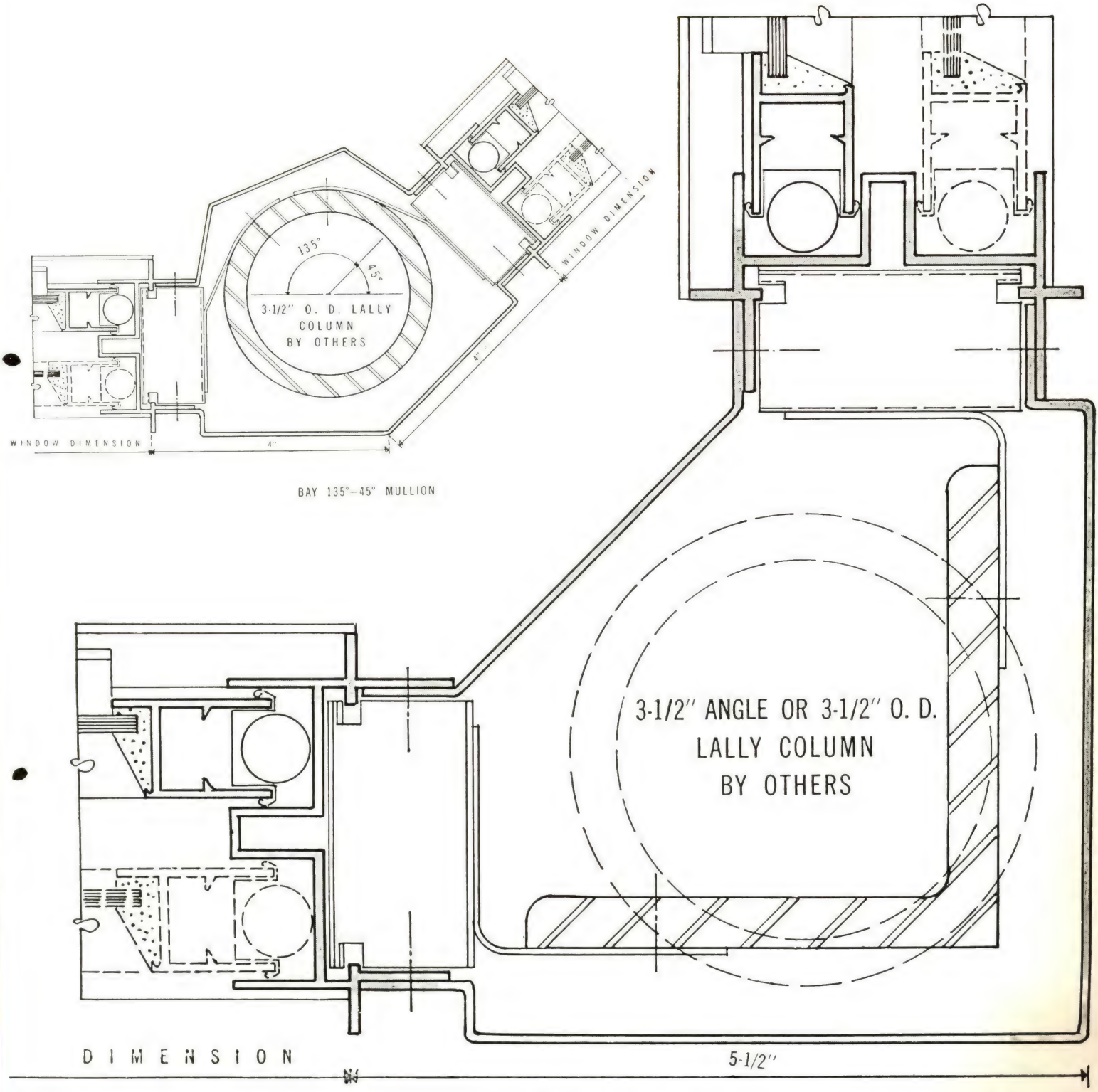
Size	Single Window	Double Window	Triple Window
2031	2' 0" x 3' 1⅝"	4' 0⅞" x 3' 1⅝"	6' 1¾" x 3' 1⅝"
39	3' 9⅝"	3' 9⅝"	3' 9⅝"
45	4' 5⅝"	4' 5⅝"	4' 5⅝"
51	5' 1⅝"	5' 1⅝"	5' 1⅝"
2431	2' 4" x 3' 1⅝"	4' 8⅞" x 3' 1⅝"	7' 1¾" x 3' 1⅝"
39	3' 9⅝"	3' 9⅝"	3' 9⅝"
45	4' 5⅝"	4' 5⅝"	4' 5⅝"
51	5' 1⅝"	5' 1⅝"	5' 1⅝"
2831	2'8" x 3' 1⅝"	5' 4⅞" x 3' 1⅝"	8' 1¾" x 3' 1⅝"
39	3' 9⅝"	3' 9⅝"	3' 9⅝"
45	4' 5⅝"	4' 5⅝"	4' 5⅝"
51	5' 1⅝"	5' 1⅝"	5' 1⅝"
3031	3' 0" x 3' 1⅝"	6' 0⅞" x 3' 1⅝"	9' 1¾" x 3' 1⅝"
39	3' 9⅝"	3' 9⅝"	3' 9⅝"
45	4' 5⅝"	4' 5⅝"	4' 5⅝"
51	5' 1⅝"	5' 1⅝"	5' 1⅝"
3439	3' 4" x 3' 9⅝"	6' 8⅞" x 3' 9⅝"	10' 1¾" x 3' 9⅝"
45	4' 5⅝"	4' 5⅝"	4' 5⅝"
51	5' 1⅝"	5' 1⅝"	5' 1⅝"
3845	3' 8" x 4' 5⅝"	7' 4⅞" x 4' 5⅝"	11' 1¾" x 4' 5⅝"

For Rough Opening add 2" to Width and 1" to Height from Finished Sill

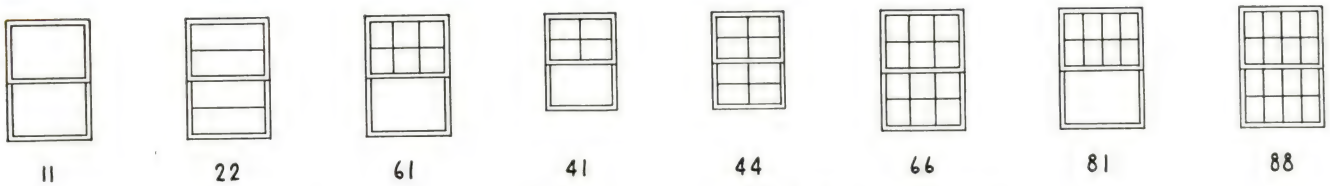


STANDARD 180° MULLION

BAY 135°–45° MULLION



CORNER 90° MULLION



TYPE 11 22 61 41 44 66 81 88

STANDARD TYPES AND SIZES

WIN. DIM. 2'-0 1/2" 2'-4 1/2" 2'-8 1/2" 3'-0 1/2"

3'-1 5/8"
20 7/8 × 8 — 2031
24 7/8 × 8 — 2431
28 7/8 × 8 — 2831
32 7/8 × 8 — 3031

3'-4 1/2"

3'-9 5/8"
20 7/8 × 10 — 2039
24 7/8 × 10 — 2439
28 7/8 × 10 — 2839
32 7/8 × 10 — 3039
36 7/8 × 10 — 3439

3'-8 1/2"

4'-5 5/8"
20 7/8 × 12 — 2045
24 7/8 × 12 — 2445
28 7/8 × 12 — 2845
32 7/8 × 12 — 3045
36 7/8 × 12 — 3445
40 7/8 × 12 — 3845

WIN. DIM. 5'-1 5/8"
20 7/8 × 14 — 2051
24 7/8 × 14 — 2451
28 7/8 × 14 — 2851
32 7/8 × 14 — 3051
36 7/8 × 14 — 3451
40 7/8 × 14 — 3851

2'-0 1/2" 2'-4 1/2" 2'-8 1/2" 3'-0 1/2"

10 5/16 × 8 — 2031 — 20 7/8 × 16 1/4
8 1/8 × 8 — 2431 — 24 7/8 × 16 1/4
9 7/16 × 8 — 2831 — 28 7/8 × 16 1/4
10 3/4 × 8 — 3031 — 32 7/8 × 16 1/4

3'-4 1/2"

10 5/16 × 10 — 2039 — 20 7/8 × 20 1/4
8 1/8 × 10 — 2439 — 24 7/8 × 20 1/4
9 7/16 × 10 — 2839 — 28 7/8 × 20 1/4
10 3/4 × 10 — 3039 — 32 7/8 × 20 1/4
12 1/8 × 10 — 3439 — 36 7/8 × 20 1/4

3'-8 1/2"

10 5/16 × 12 — 2045 — 20 7/8 × 24 1/4
8 1/8 × 12 — 2445 — 24 7/8 × 24 1/4
9 7/16 × 12 — 2845 — 28 7/8 × 24 1/4
10 3/4 × 12 — 3045 — 32 7/8 × 24 1/4
12 1/8 × 12 — 3445 — 36 7/8 × 24 1/4
10 × 12 — 3845 — 40 7/8 × 24 1/4

10 5/16 × 14 — 2051 — 20 7/8 × 28 1/4
8 1/8 × 14 — 2451 — 24 7/8 × 28 1/4
9 7/16 × 14 — 2851 — 28 7/8 × 28 1/4
10 3/4 × 14 — 3051 — 32 7/8 × 28 1/4
12 1/8 × 14 — 3451 — 36 7/8 × 28 1/4
10 × 14 — 3851 — 40 7/8 × 28 1/4

5'9" Heights Available in all Widths on Special Order

SPECIFICATIONS — Cupples 200-B Double Hung Windows

MATERIAL AND CONSTRUCTION: All aluminum to be the equivalent of Alcoa 63S alloy in correct temper with a minimum thickness of .0625". The sections shall all conform to the strength requirements of the Aluminum Window Manufacturers Association specification DH-A1.

CONSTRUCTION: Joints of frames and sash are to be neatly uniform and permanently tight. All muntins, mullions, hardware and locking devices are to be fitted snugly and securely attached.

WEATHERSTRIP: Each sash stile shall be equipped with continuous double contact stainless steel weatherstrip. Truly rolled strip of the same material shall be incorporated at the head, meeting rail and sill.

AIR INFILTRATION: Infiltration shall not exceed ½ cubic foot of air per minute, per foot, of sash perimeter when the window is subject to a static pressure equivalent to a wind velocity of 25 miles per hour.

HARDWARE: Each window shall be equipped with four easily adjustable sash balances. Two locks are to be provided, one on either side of the meeting rail at the jamb. All necessary anchors are to be furnished with the window and conform to the requirements of the Aluminum Window Manufacturers Association.

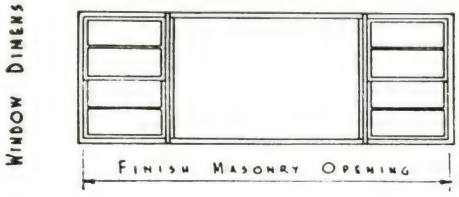
FINISH: The exposed surfaces of all aluminum frames and sash shall be cleaned to make them reasonably uniform in color and free from serious surface blemishes. A protective lacquer coating shall be applied, after the unit is thoroughly degreased, before shipment, for protection during installation.

GENERAL: All windows to be furnished for outside putty glazing, unglazed, completely assembled, adjusted and ready for installation. Glazing clips for putty glazing to be supplied with the windows.

STOCK SIZES

Win. Dim.	3'-5-1/2"	4'-1-1/2"	4'-9-1/2"	5'-5-1/2"	6'-1-1/2"	6'-9-1/2"
3'-1⅝"	40½ × 34 — 3631	48½ × 34 — 4231	56½ × 34 — 41031			
3'-9⅝"	40½ × 42 — 3639	48½ × 42 — 4239	56½ × 42 — 41039	64½ × 42 — 5639	72½ × 42 — 6239	
4'-5⅝"	40½ × 50 — 3645	48½ × 50 * -1 — 4245	56½ × 50 * -2 — 41045	64½ × 50 * -3 — 5645	72½ × 50 * -4 — 6245	80½ × 50 * -5 — 61045
5'-1⅝"	40½ × 58 — 3651	48½ × 58 — 4251	56½ × 58 — 41051	64½ × 58 * -6 — 5651	72½ × 58 * -7 — 6251	80½ × 58 * -8 — 61051

Plate glass sizes are shown in picture window panel.



The following units, take the stock Twindow and Thermopane sizes indicated —

*1—48½" x 50"
*2—56½" x 50"
*3—64½" x 50"
*4—72½" x 50"
*5—80½" x 50"
*6—64½" x 58"
*7—72½" x 58"
*8—80½" x 58"

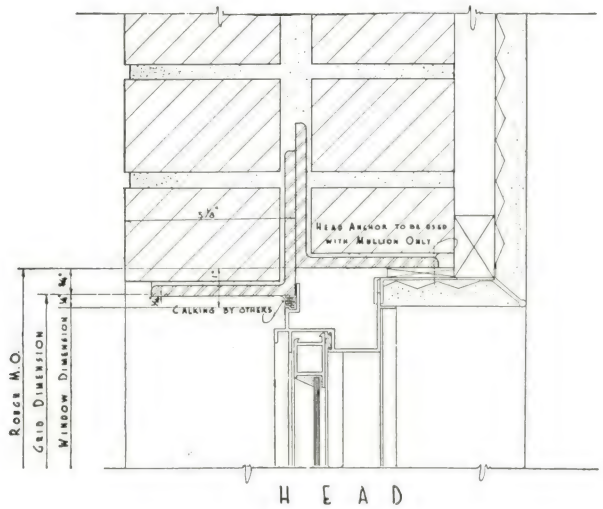
Picture Window Combinations

P. W. Size	Flanker Size	Finish M.O. Width	Rough M.O. Width
36	20	7'- 7¾"	7'-9¾"
	24	8'- 3¾"	8'-5¾"
	28	8'-11¾"	9'-1¾"
	30	9'- 7¾"	9'-9¾"
	34	10'- 3¾"	10'-5¾"
42	20	8'- 3¾"	8'-5¾"
	24	8'-11¾"	9'-1¾"
	28	9'- 7¾"	9'-9¾"
	30	10'- 3¾"	10'-5¾"
	34	10'-11¾"	11'-1¾"
410	20	8'-11¾"	9'-1¾"
	24	9'- 7¾"	9'-9¾"
	28	10'- 3¾"	10'-5¾"
	30	10'-11¾"	11'-1¾"
	34	11'- 7¾"	11'-9¾"

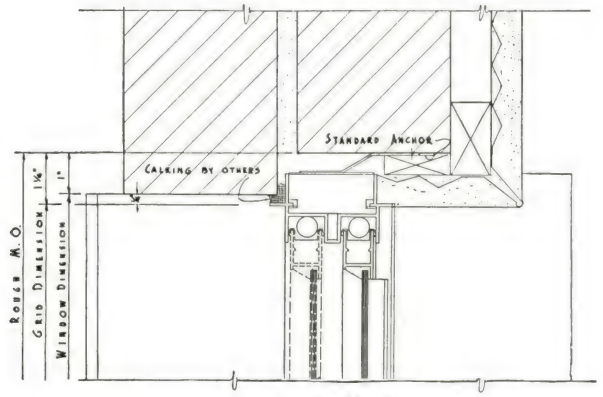
P. W. Size	Flanker Size	Finish M.O. Width	Rough M.O. Width
56	20	9'- 7¾"	9'-9¾"
	24	10'- 3¾"	10'-5¾"
	28	10'-11¾"	11'-1¾"
	30	11'- 7¾"	11'-9¾"
	34	12'- 3¾"	12'-5¾"
62	20	10'- 3¾"	10'-5¾"
	24	10'-11¾"	11'-1¾"
	28	11'- 7¾"	11'-9¾"
	30	12'- 3¾"	12'-5¾"
	34	12'-11¾"	13'-1¾"
610	20	10'-11¾"	11'-1¾"
	24	11'- 7¾"	11'-9¾"
	28	12'- 3¾"	12'-5¾"
	30	12'-11¾"	13'-1¾"
	34	13'- 7¾"	13'-9¾"

Picture Windows are shipped knocked down in 4 pieces.

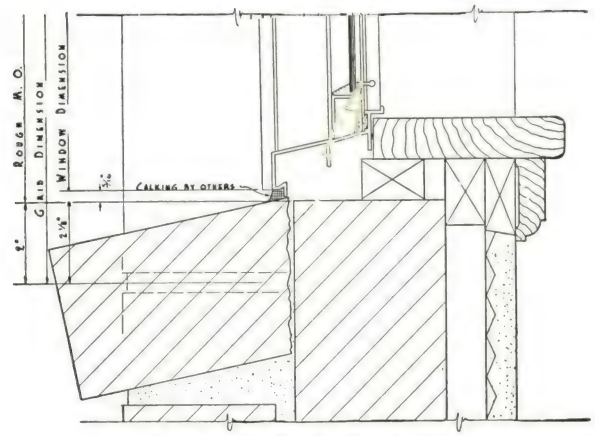
MASONRY CONSTRUCTION



HEAD

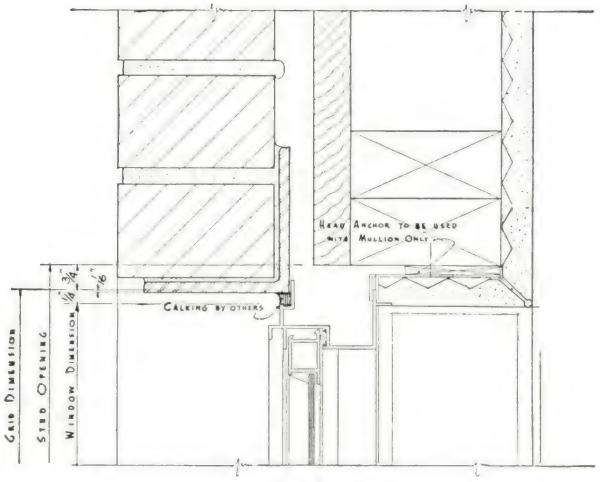


JAMB

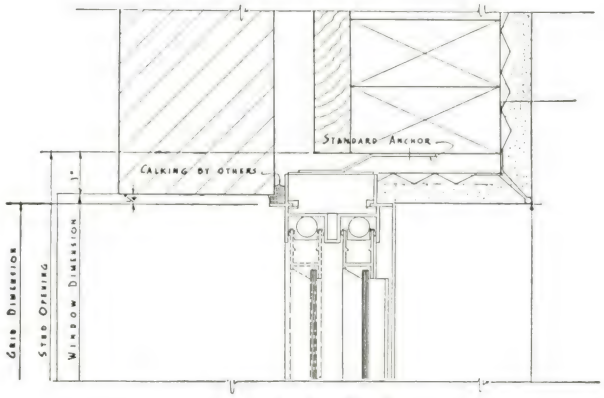


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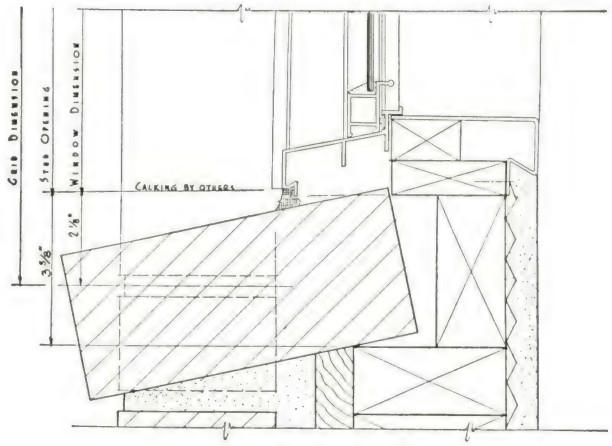
BRICK VENEER CONSTRUCTION



HEAD

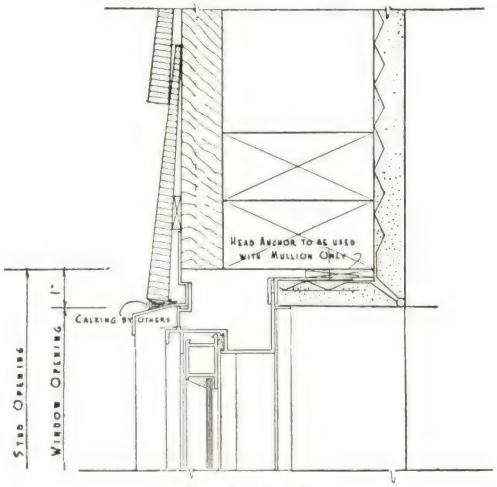


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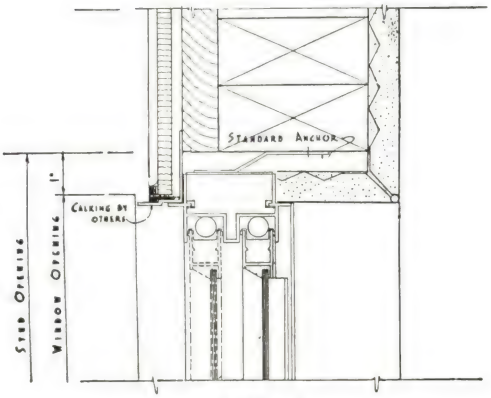


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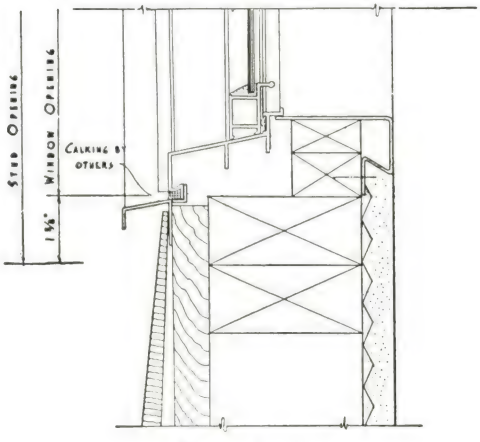
FRAME CONSTRUCTION
(SHOWING APPLIED METAL TRIM)



HEAD

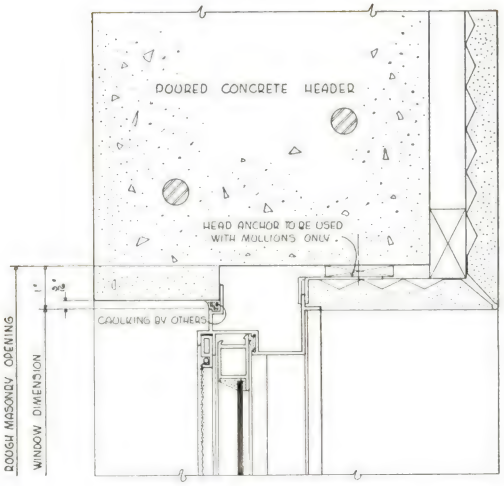


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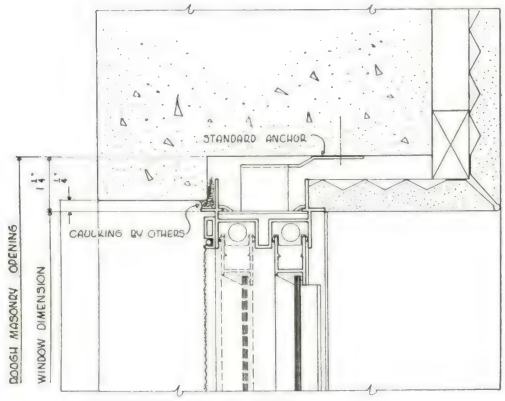


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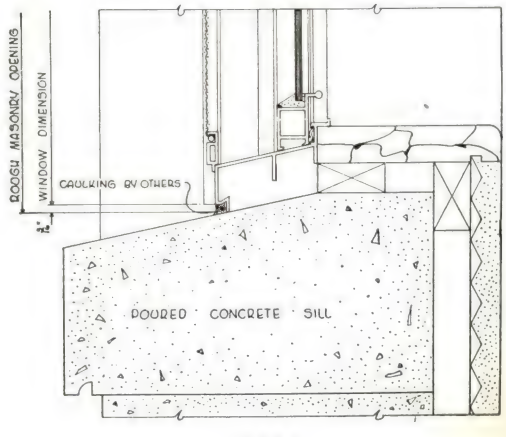
CONCRETE BLOCK



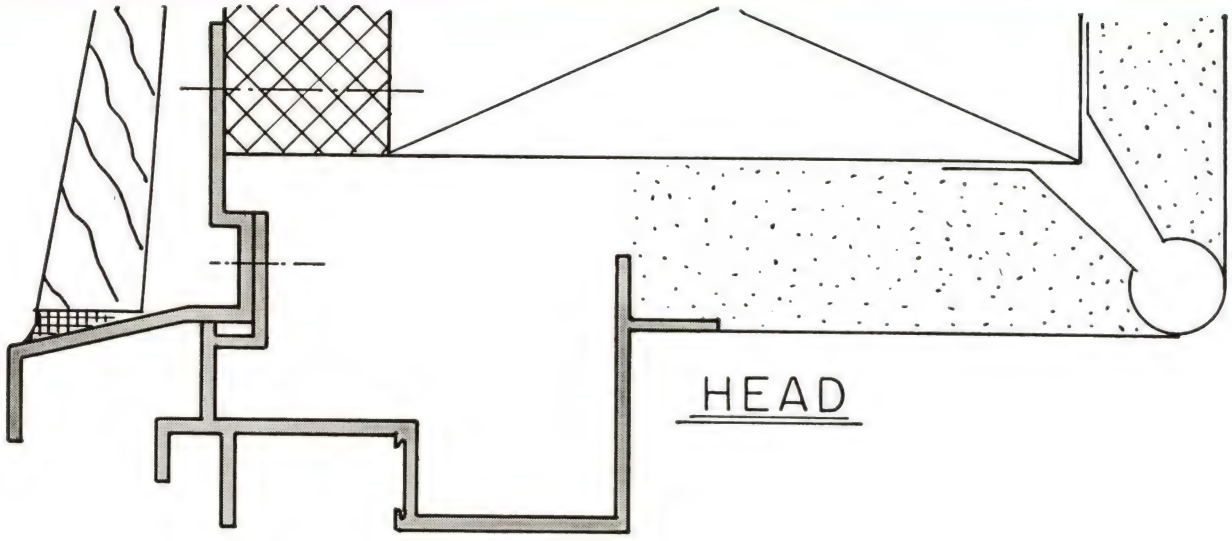
HEAD

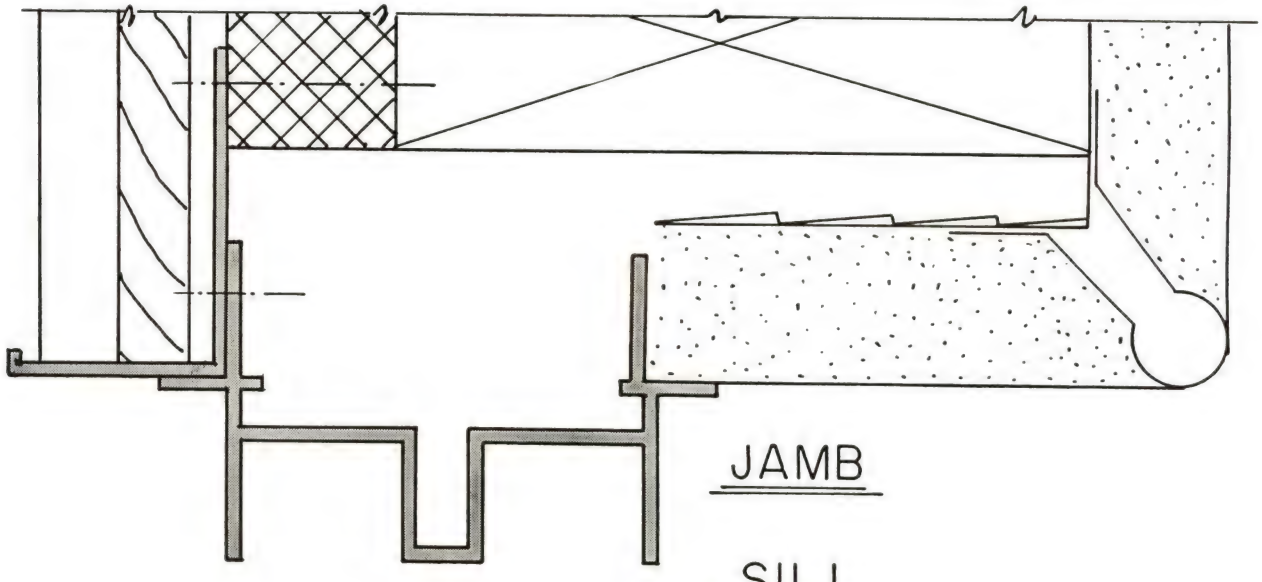


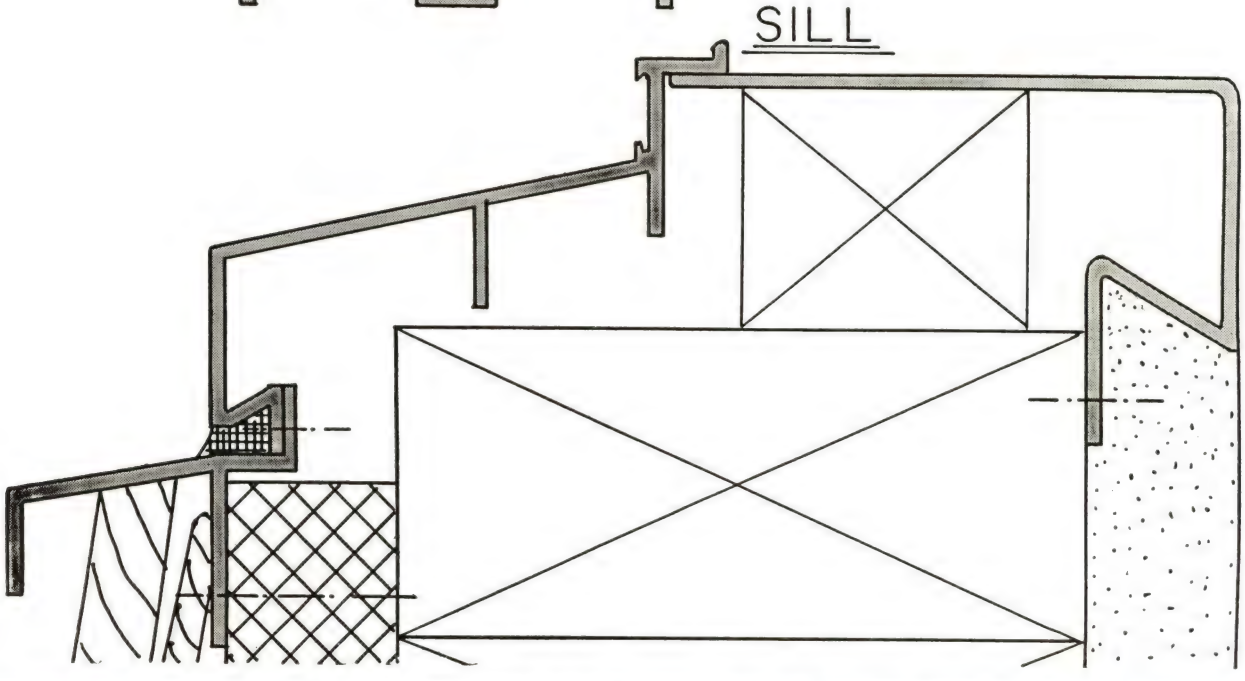
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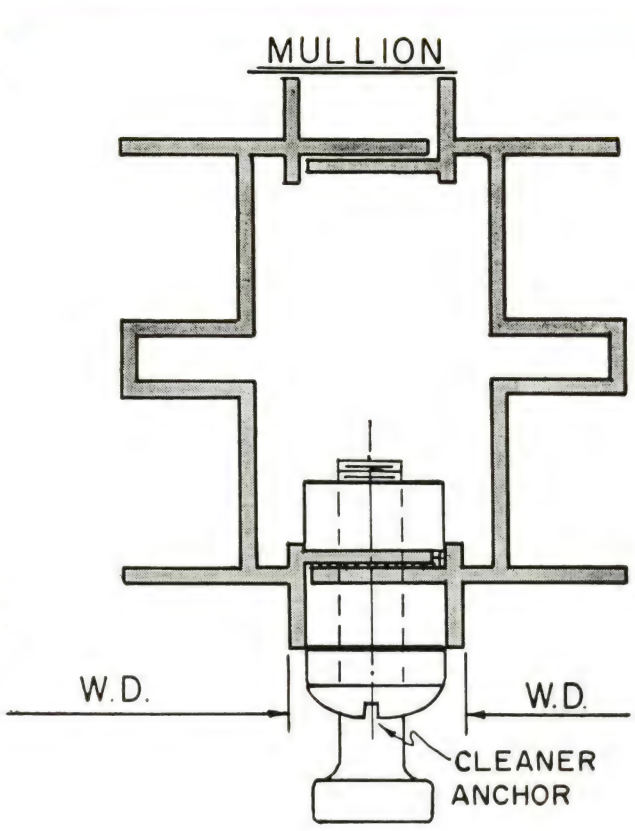


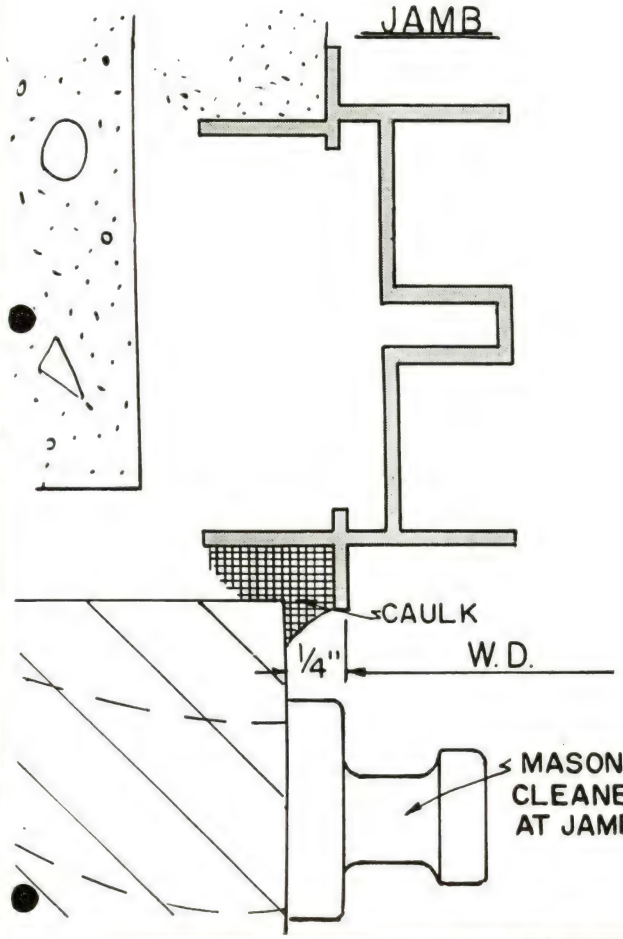
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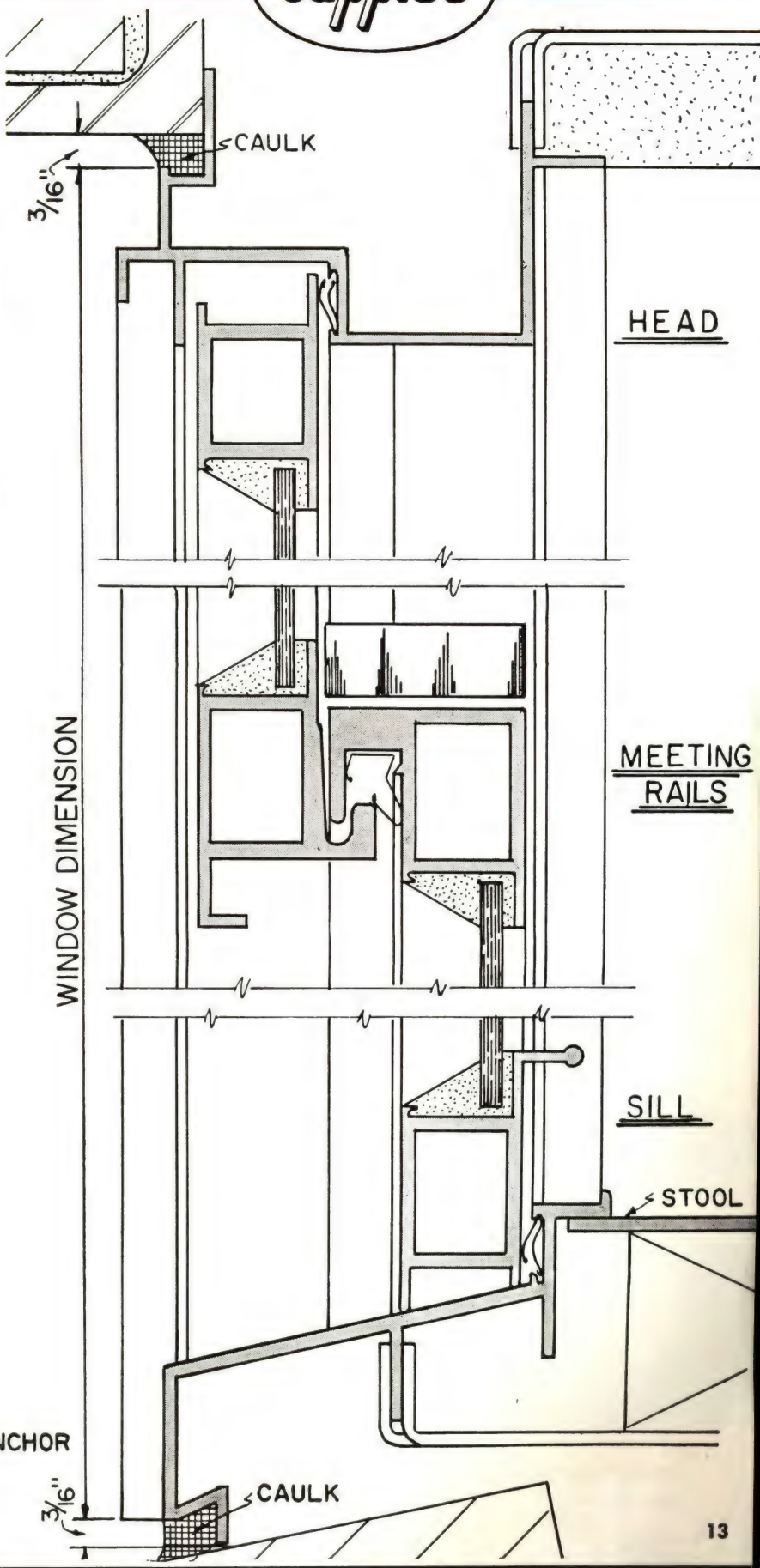

HEAD


JAMB


SILL


MULLION
W.D.
W.D.
CLEANER
ANCHOR


JAMB
CAULK
1/4"
W.D.
MASONRY
CLEANER ANCHOR
AT JAMBS.


CAULK
3/16"
HEAD
MEETING
RAILS
WINDOW DIMENSION
SILL
STOOL
3/16"
CAULK

Typical Installations

Photographs on this page are striking examples of the design possibilities of horizontal sliding windows in housing project work.



An interesting use of sliding units in a long continuous run to allow maximum light and ventilation.



This photograph of a housing project apartment shows fixed transom units over horizontal sliding. On this particular job they were substituted for standard size steel casement windows.



A series of sliding units showing narrow and wide mullions installed with fin trim in corrugated asbestos siding.



Large sliding units used in bedrooms and kitchens. Second story windows were equipped with aluminum fin trim for ease of installation, and trim with corrugated asbestos siding.

Horizontal Sliding Windows







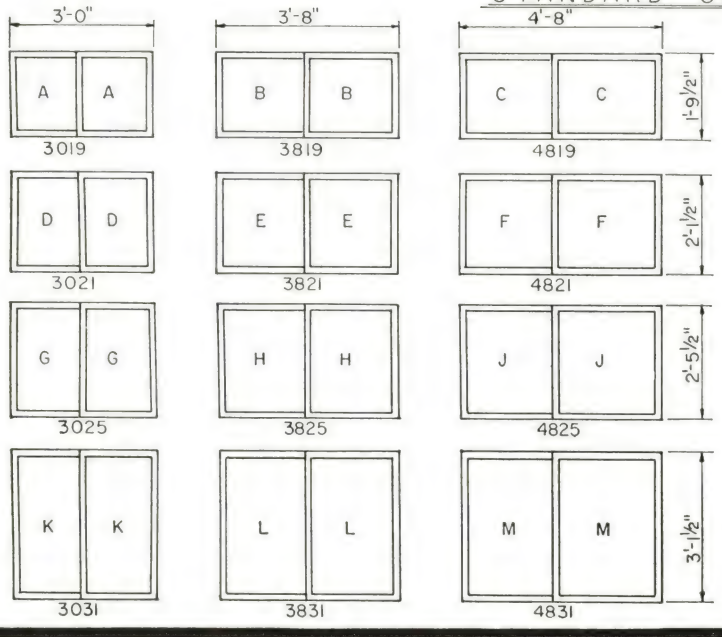
The Cupples' Horizontal Sliding Window was developed after much experimentation to assure the elimination of the troubles in earlier sliding units. The result is a sound, economical and wholly practical window. Sliding windows are used in residences, apartments and small commercial structures. They may be employed throughout the building or in conjunction with double hung windows. Their ratio of width to height offers the architect wide latitude in design. Where maximum light and ventilation are required or in rooms where working wall space must be saved, they have no equal.

The Cupples' horizontal sliding unit is completely double weather stripped at head, jamb and sill with high pile Schlegel cloth weather stripping. Both sash slide in either direction and are easily removed. The sash rides smoothly and easily on zinc shoes concealed in the sash rails. The windows are stocked in 12 standard sizes. Fixed windows, either as transoms or auxiliary lights are available. Vertical mullions are standard for horizontal groupings. Horizontal mullions are available for "stacking" and for use as "window walls".

These windows are shipped by our distributor glazed with either single or double strength glass. Glass thickness of more than ⅛" cannot be used. Screens and storm sash are made for all sizes.

This sliding unit is designed primarily for frame or brick veneer construction. It may be used in solid masonry and concrete block only if special precaution is taken with installation. It is recommended that all windows be used with metal fin trim (see details) or with a wood buck. The buck may be varied to meet the builders' requirements.

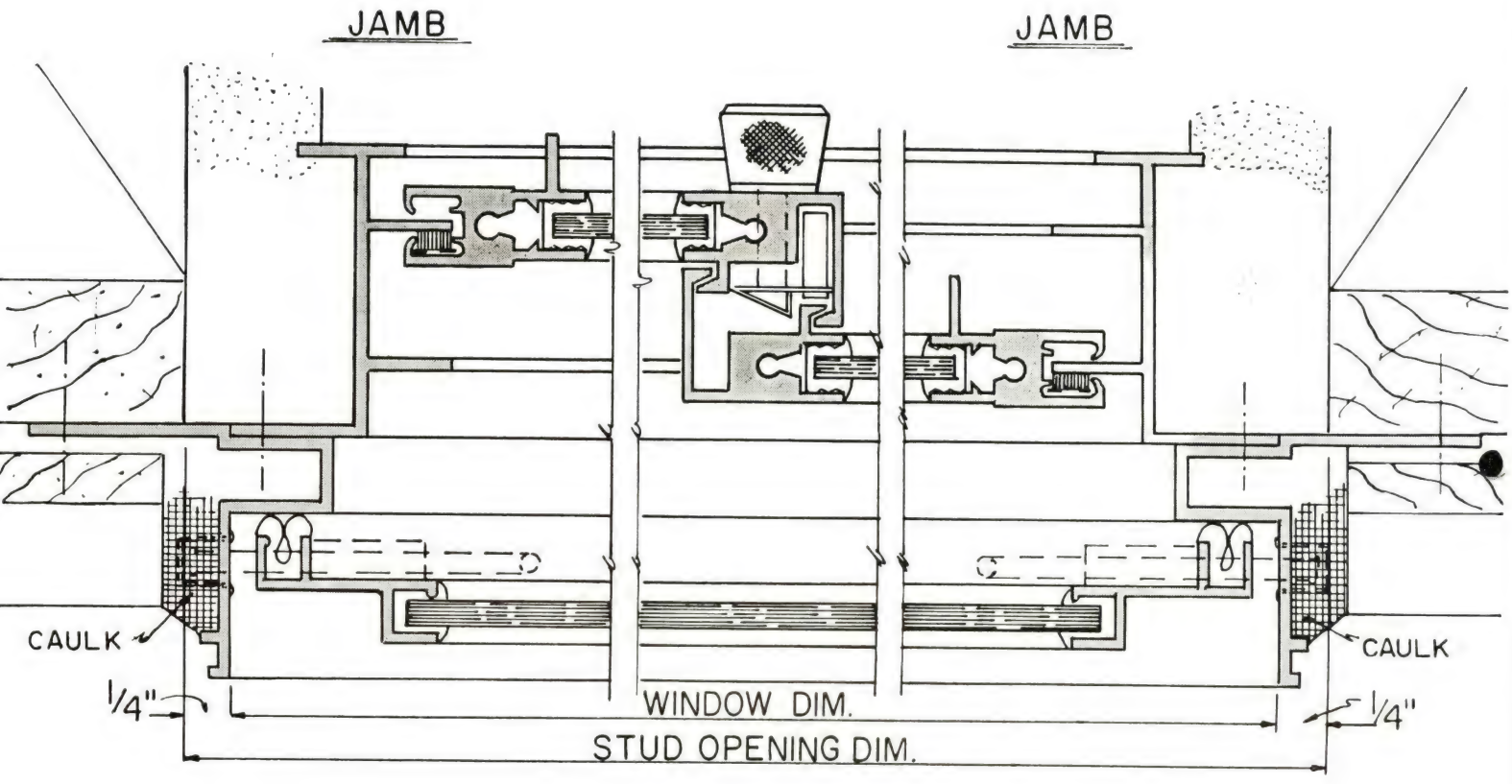
STANDARD SIZES

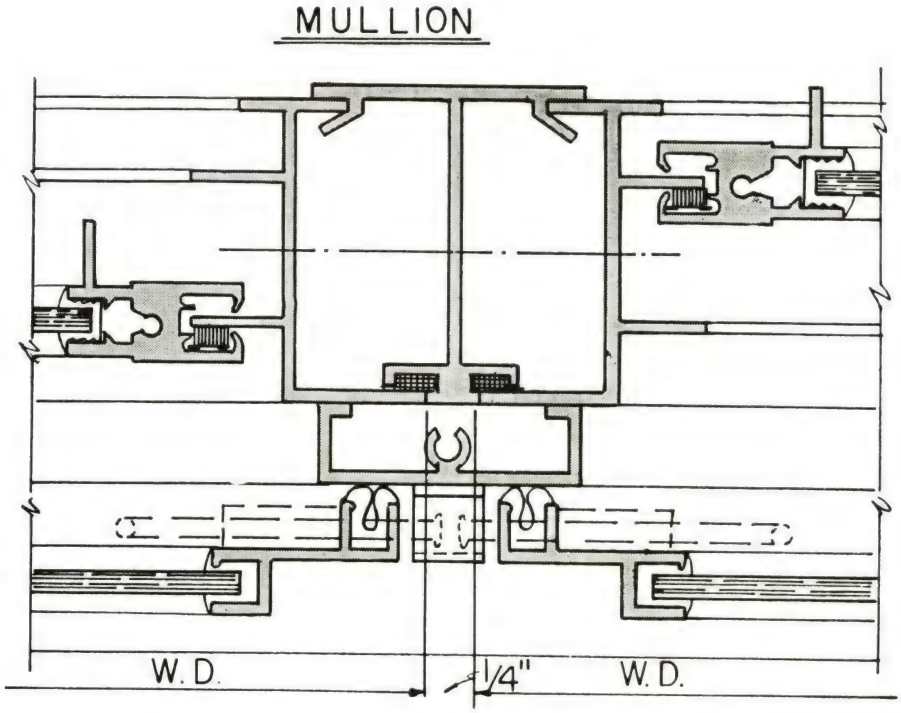


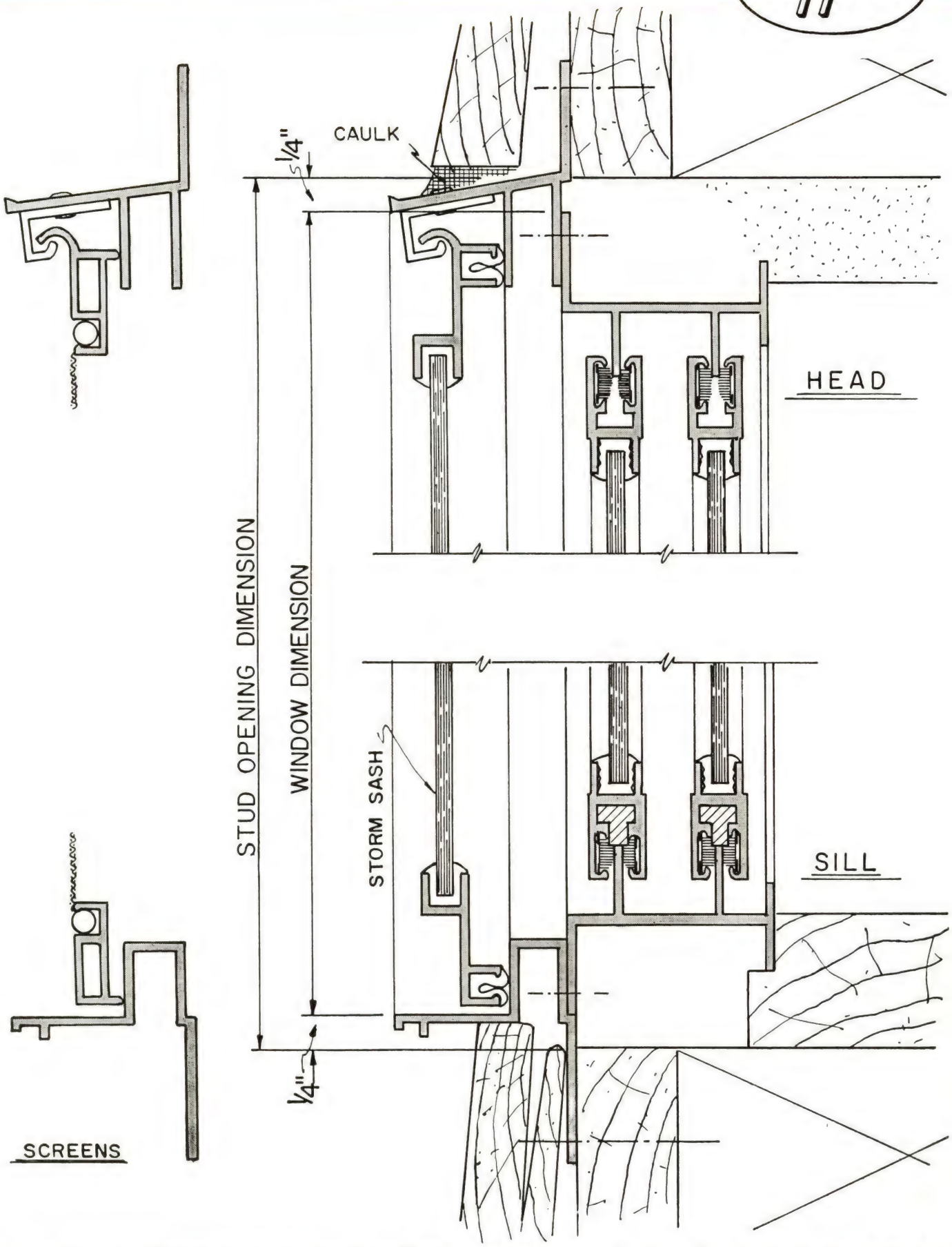
GLASS SIZES		
MARK	WIDTH	HEIGHT
A	16"	18"
B	20"	18"
C	26"	18"
D	16"	22"
E	20"	22"
F	26"	22"
G	16"	26"
H	20"	26"
J	26"	26"
K	16"	34"
L	20"	34"
M	26"	34"

NOTE: MAX THICKNESS OF GLASS ⅛"

3' 9½" heights available on special order. Additional standard sizes are often added during the year. For complete size range contact Cupples Distributor or write to plant.


JAMB
JAMB
CAULK
CAULK
1/4"
1/4"
WINDOW DIM.
STUD OPENING DIM.


MULLION
W. D.
1/4"
W. D.


CAULK
1/4"
HEAD
STUD OPENING DIMENSION
WINDOW DIMENSION
STORM SASH
SILL
1/4"
SCREENS



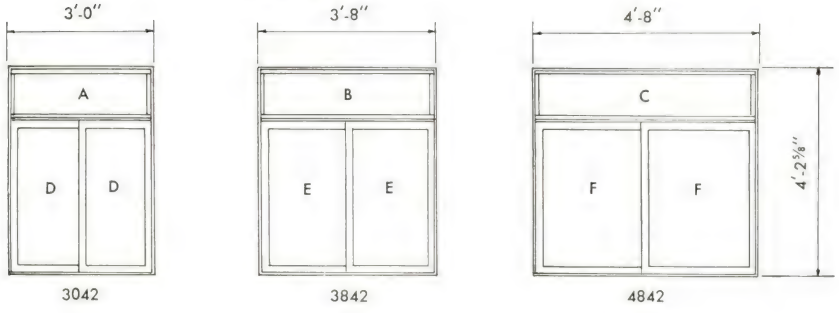


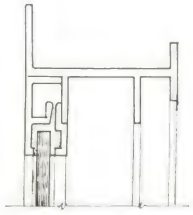
CASE-SLIDE WINDOWS

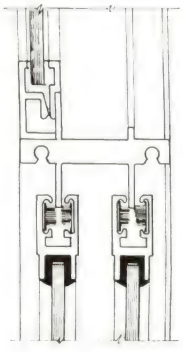
Practical, attractive windows that combine the light area and sight lines of casements with all the advantages of the slide window. Tightly weatherstripped — is removable for cleaning. Case Slide Windows may be used throughout your home or in conjunction with Cupples Double Hung Windows.

GLASS SIZES		
Mark	Width	Height
A	33⅜″	11¾″
B	41⅜″	11¾″
C	53⅜″	11¾″
D	16″	34″
E	20″	34″
F	26″	34″

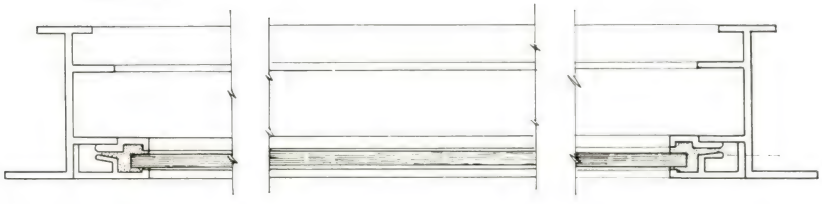
STANDARD SIZES

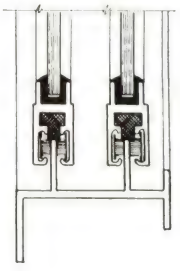




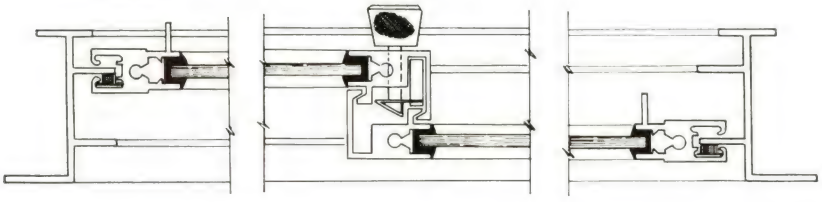


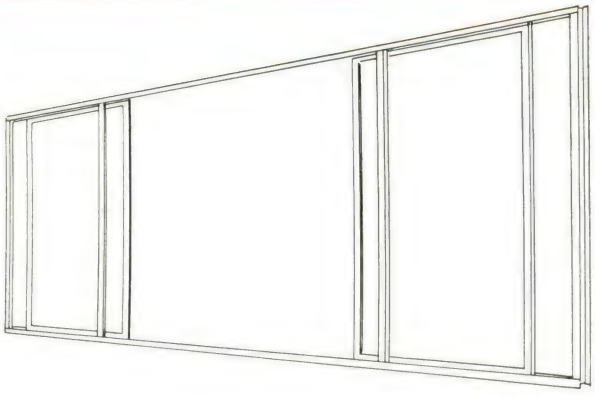
JAMB

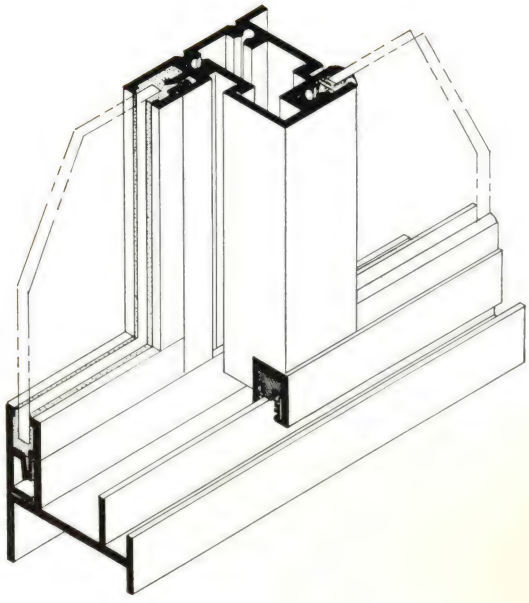




JAMB







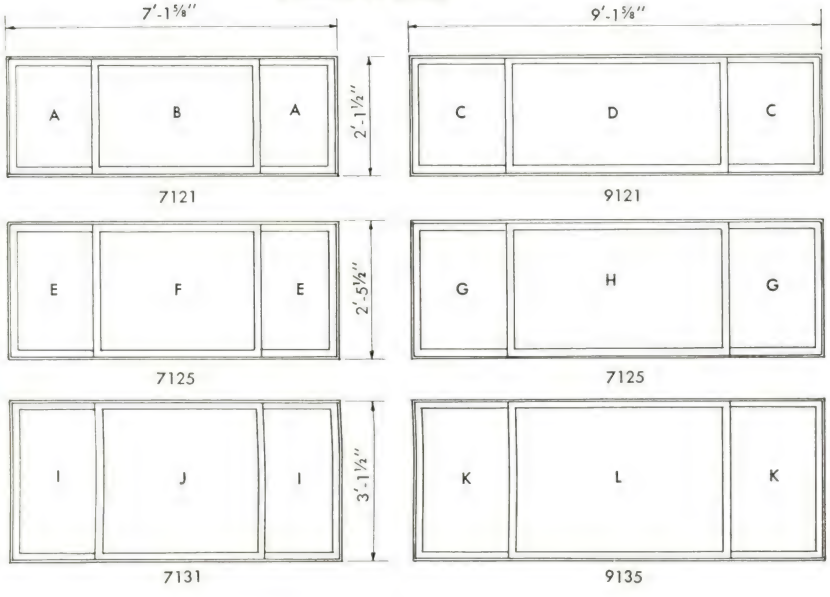
SLIDING PICTURE WINDOWS

Picture window and flankers fabricated as 1 unit. Picture window can be glazed with single or double strength glass.

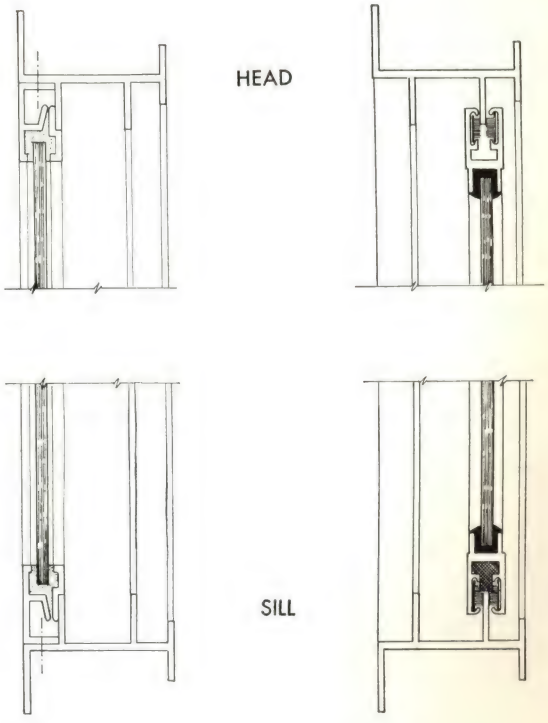
Storm sash includes picture window area. Screen for flankers only.

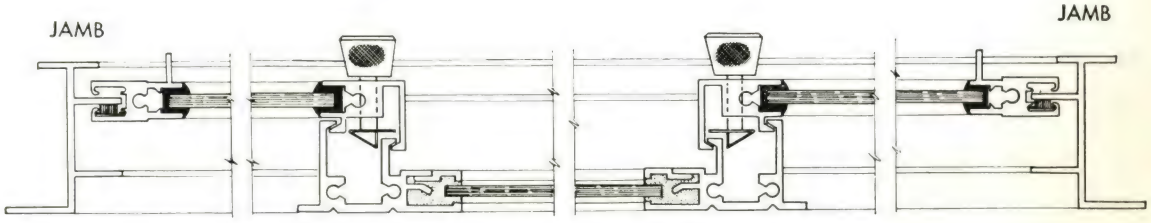
GLASS SIZES		
Mark	Width	Height
A	20″	22″
B	40″	22⅞″
C	26″	22″
D	52″	22⅞″
E	20″	26″
F	40″	26⅞″
G	26″	26″
H	52″	26⅞″
I	20″	34″
J	40″	34⅞″
K	26″	34″
L	52″	34⅞″

STANDARD SIZES

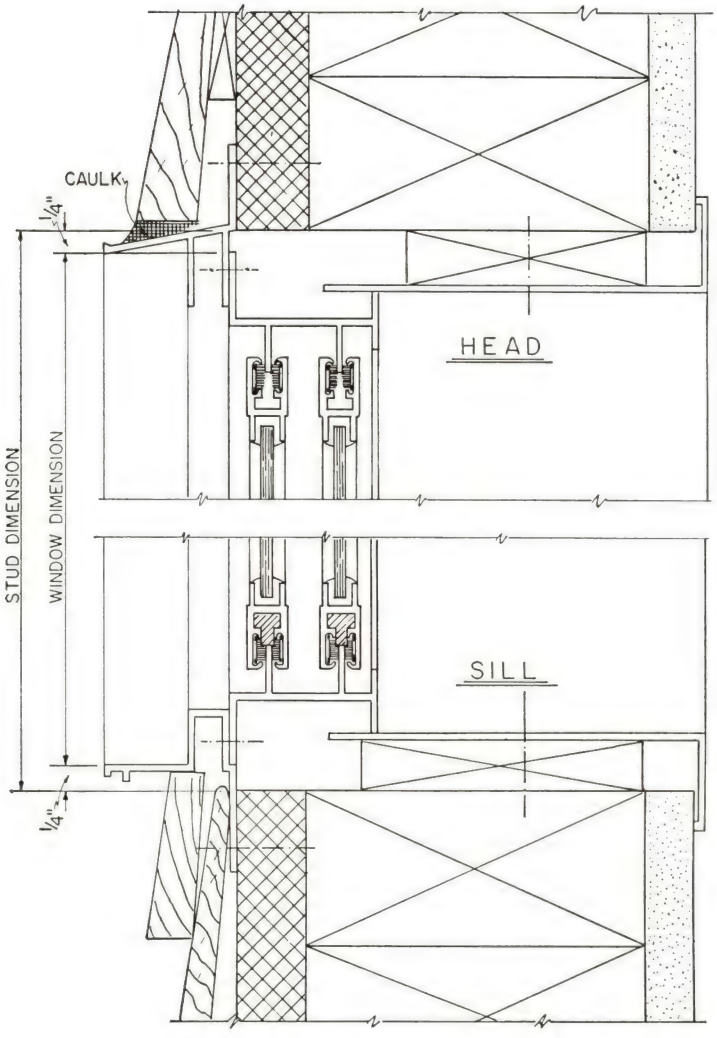


Available also in widths of 5′-9⅝″ and heights of 1′-9½″ on special order.

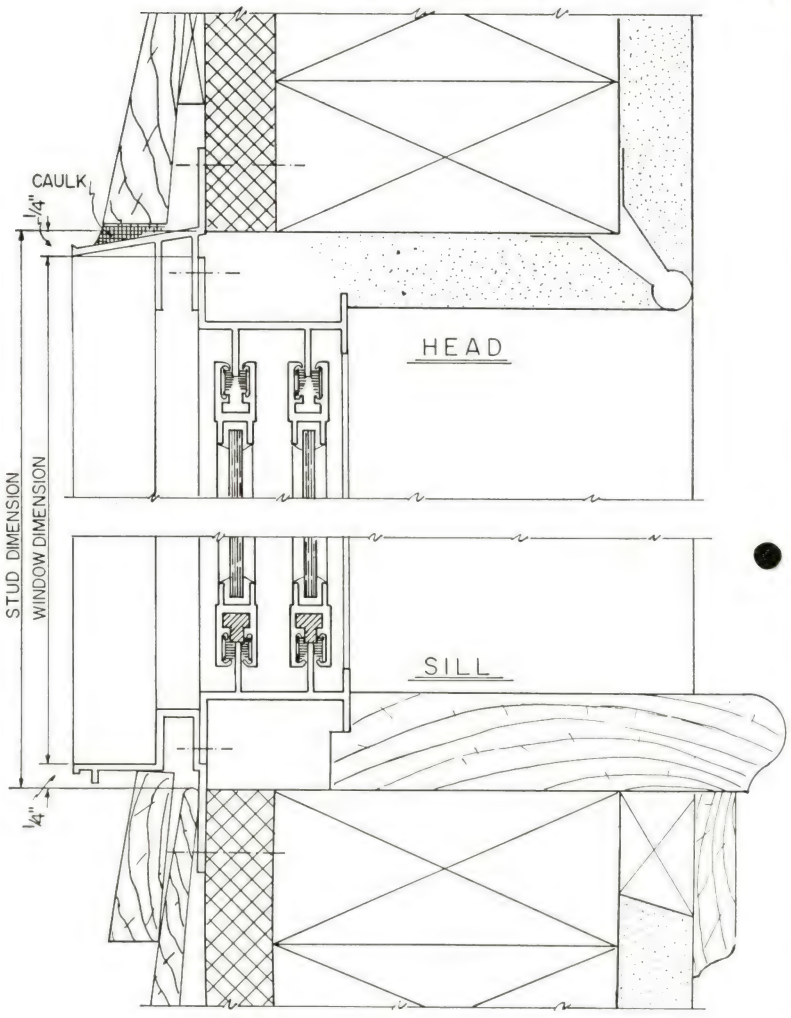


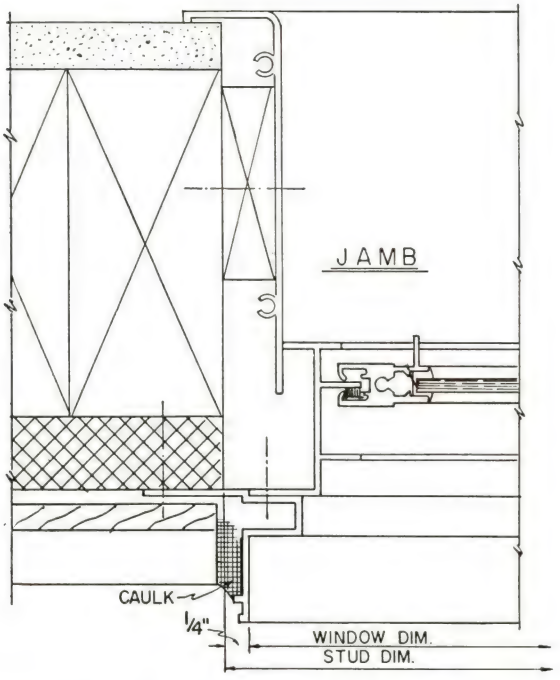


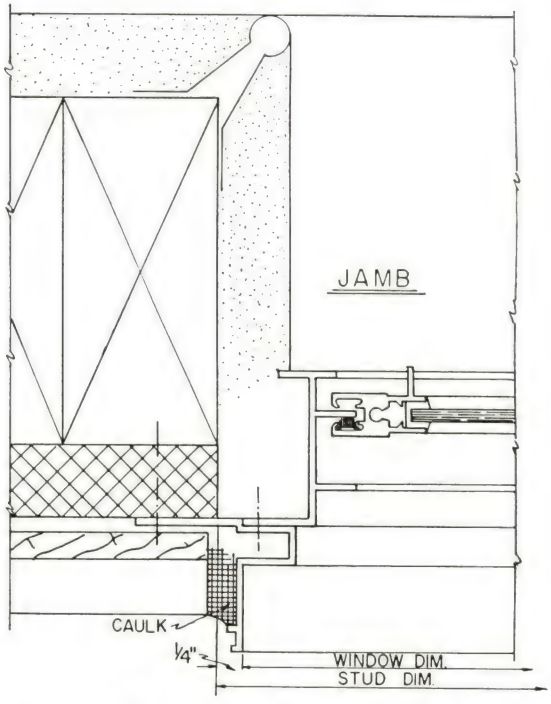
FRAME CONSTRUCTION
(SHOWING INTERIOR & EXTERIOR TRIM)



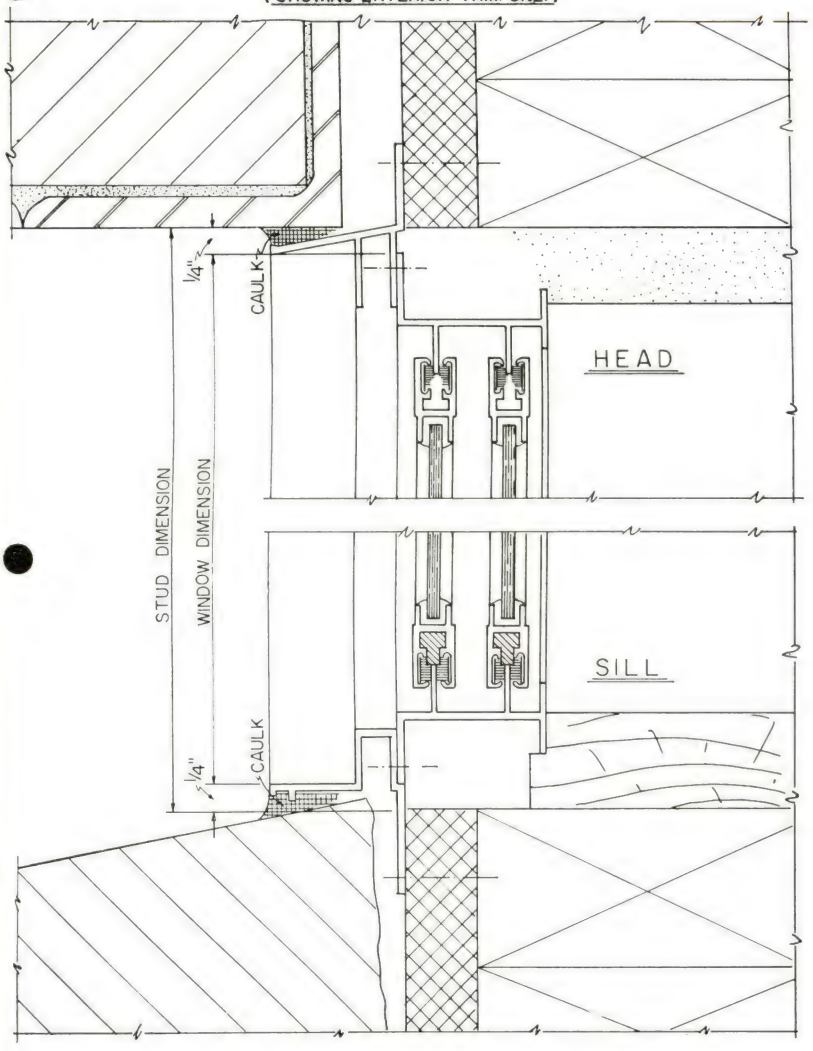
FRAME CONSTRUCTION
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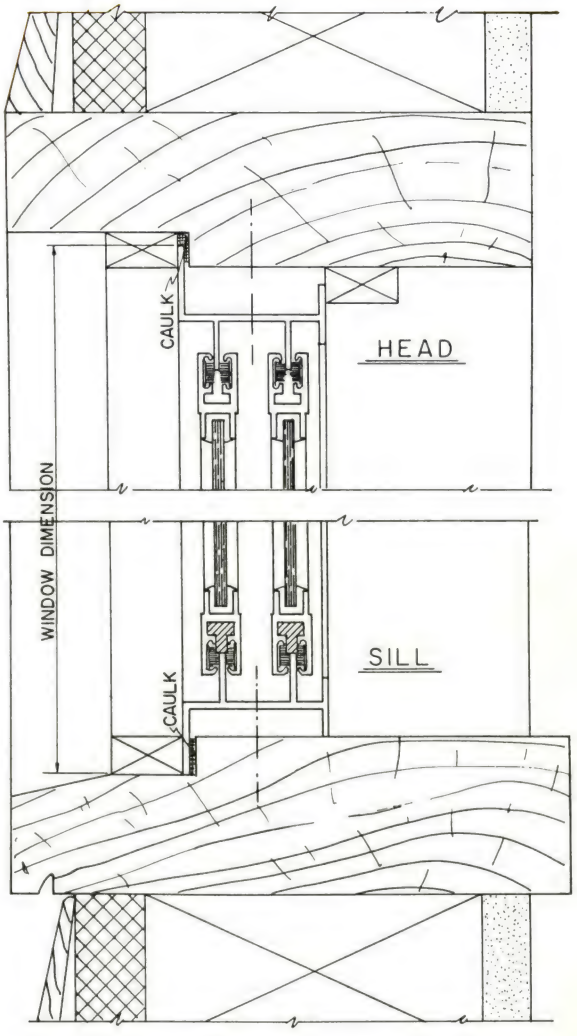


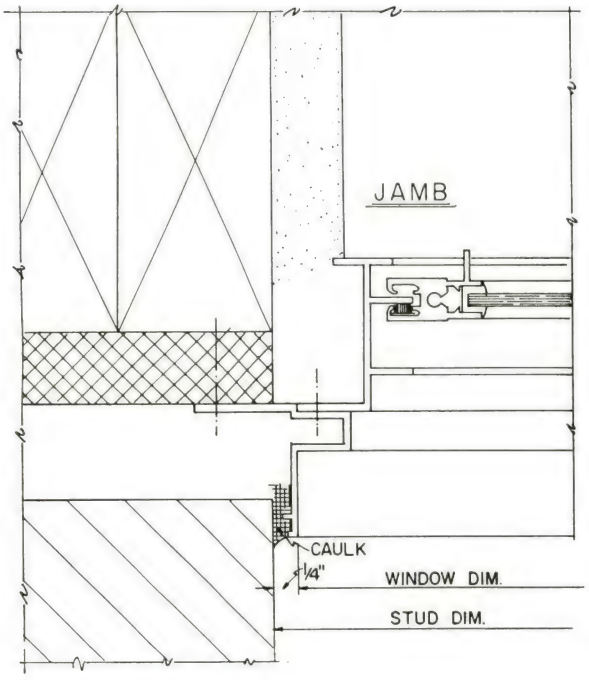


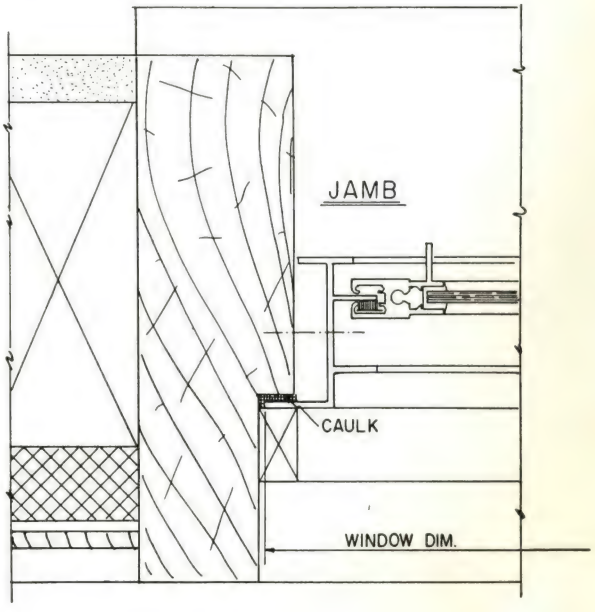
BRICK VENEER CONSTRUCTION
(SHOWING EXTERIOR TRIM ONLY)

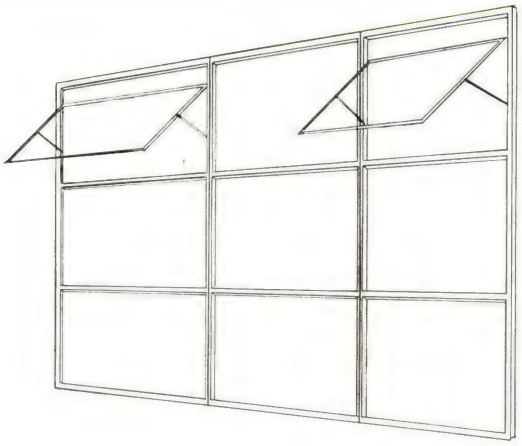


WOOD BUCK CONSTRUCTION



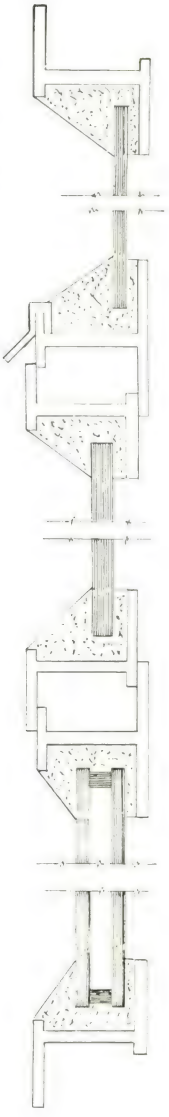


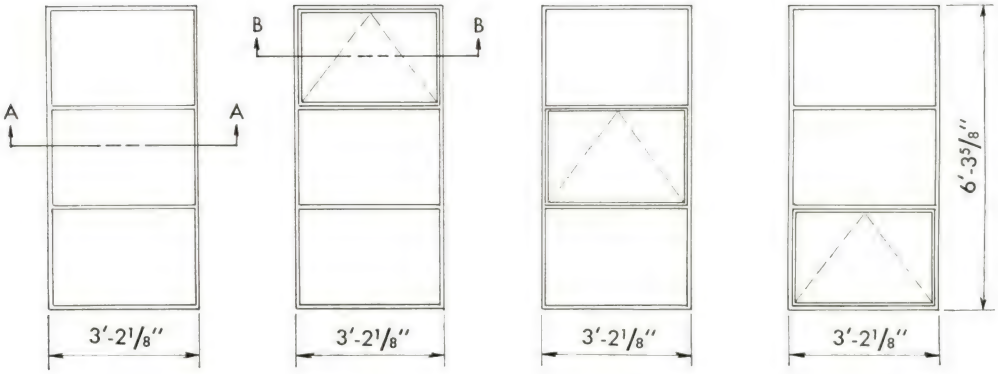




CUPPLES VIEW WALL

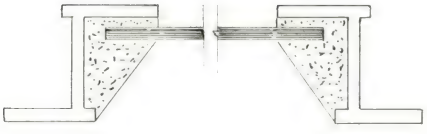
The Cupples' View Wall window unit is our latest residential product. Designed primarily for builders who want to enclose large areas at a minimum cost. Deeper and stronger sections have been used throughout with a substantial interlocking mullion which makes it possible to use multiples to achieve any desired architectural effect. Fixed and operating vents may be varied as required. In layout ⅛" should be added to window opening dimensions for each mullion employed.





GLASS SIZE

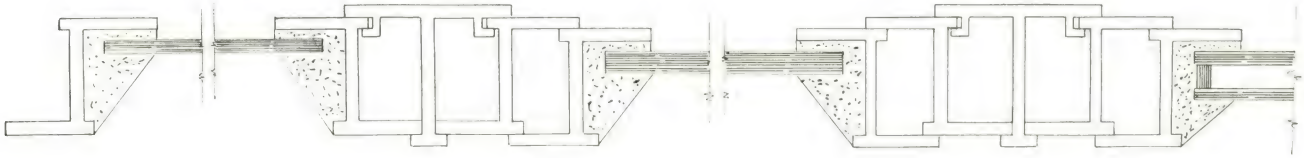
½ THERMOPANE OR T WINDOW
FIXED 36" x 24"
VENT $34^{11}/_{16}$" x $22^{11}/_{16}$"
D.S.A. GLASS
FIXED 36" x 24"
VENT $34^{11}/_{16}$" x $22^{13}/_{16}$"



SECTION A-A



SECTION B-B



List of Residential Distributors

Fox Sales Company, Inc.
1921 First Avenue, South
Birmingham, Alabama

Building Products, Inc.
605 N. McDonough Street
Montgomery, Alabama

Shearer & Rayford
P. O. Box 425
157½ St. Louis Street
Mobile, Ala.

Builders Hardware Co.
P. O. Box 7246
Phoenix, Arizona

Crawford Door Sales Company
222 Scott Street
Little Rock, Arkansas

Harry G. Barr Company
1213 No. 32nd Street
Fort Smith, Arkansas

Western States Window Company
1087 W. Hampden
Englewood, Colorado (Denver)

Fox Steel Company
Boston Post Road
Orange, Connecticut

Randall Brothers, Inc.
665 Marietta Street
Atlanta, Ga.

Cupples Products Corporation
3240 Peachtree Road
Atlanta, Ga.

Cupples Products Corporation
30 N. LaSalle Building
Suite 909
Chicago, Illinois

W. L. Weaver Company
2615 St. Charles Road
Bellwood, Illinois (Chicago)

E. J. Fitzwilliam Company
3112 Prairie Avenue
Mattoon, Illinois

Lucas Sales Company
100 Block MacArthur Highway
Peoria, Illinois

Moline Consumers Company
Moline, Illinois

Stearns & Sadler
Eldorado, Illinois

Glass Service, Inc.
433 E. Fifth Avenue
Gary, Indiana

Michiana Plate Glass & Mirror Co.
2410 Western Avenue
South Bend, Indiana

Potter Coal & Material Company
3515 East Washington Street
Indianapolis, Indiana

Hall Metal Window Sales
P. O. Box 2213—Station B
Ft. Wayne, Indiana

Eugene F. Wilsey Company
213-214 Benson Building
Sioux City, Iowa

Iowa Concrete Block & Material Co.
820 S. W. 9th St.
Des Moines, Iowa

Ray Anderson Company
2322 W. Sixth
Topeka, Kansas

American Builders Supply Co.
1044 E. Chestnut Street
Louisville, Kentucky

Ideal Building Materials, Inc.
1730 Claiborne Avenue
Shreveport, Louisiana

Metal Building Products Co.
1937 Lafayette Street
New Orleans, Louisiana

Washington Lumber Co.
1900 Washington Blvd.
Baltimore, Maryland

Dolben & Company
224 Clarenden St.
Boston, Massachusetts

Associated Materials & Supply Co.
1222 Burton Street
Grand Rapids, Michigan

Klein Realty Company
Sill Building Room 504
Flint, Michigan

Standard Building Supply
4724 Aurelius Road
Lansing, Michigan

D. D. Burford & Company
10827 Puritan Avenue
Detroit, Michigan

Metal Building Specialties
419 E. Dutton Street
Kalamazoo, Michigan

Michigan Jalousie Window Dist. Co.
2406 N. Michigan Avenue
Saginaw, Michigan

W. L. Hall Company
2814 Dupont Avenue South
Minneapolis, Minnesota

Southwestern Insulation &
Material Company
1301 St. Louis Street
Springfield, Missouri

Len A. Maune Company
8500 Eager Road
St. Louis, Missouri

Columbia Glass & Window Co.
1824 McGee
Kansas City, Missouri

Cape Paint & Glass Company
418 Broadway
Cape Girardeau, Missouri

Bonne Terre Farming & Cattle Co.
Bonne Terre, Missouri

William Kennedy
1145 N. 32nd Street
Billings, Montana

Lumbermens Brick & Supply Co.
900 S. 15th Street
Omaha, Nebraska

Atlas Steel Products
371 Montgomery Street
Jersey City 2, New Jersey

Aetna Window & Specialties, Inc.
315 Hoyt Street
Mamaroneck, New York

The Maurer Company, Inc.
31 Richmond Street
Rochester, New York

John J. Doody & Son, Inc.
Brooklyn, N. Y.
(Avenue Y & East 17th Street)

Babcock, Hinds & Underwood
174 Washington Street
Binghamton, N. Y.

Martin & Crannell
282 Delaware
Delmar, N. Y. (Albany)

A. O. Stilwell Company, Inc.
350 Masten
Buffalo, N. Y.

B. R. Johnson & Son
5900 S. Salina
Syracuse, N. Y.

Expanded Metal Engineering Co.
2-01 50th Avenue
Long Island City, N. Y.

Edwin C. Boyette & Son, Inc.
216 E. Morehead Street
Charlotte, N. C.

Richland Shale Brick Company
Box 328
Mansfield, Ohio

The Fred M. Cole Corp.
1726 Young Street
Cincinnati, Ohio

Emil E. Kerbler & Co.
6491 Proprietors Road
Worthington, Ohio (Columbus)

Ohio Builders Specialty Co.
11707 Putnam Avenue
Cleveland, Ohio

The Thomas Brick Company
775 N. Main Street
Akron, Ohio

S. L. Everitt, Inc.
1514 Madison
Toledo, Ohio

Bissell Builders Supply Co.
314 Colcord Building
Oklahoma City, Oklahoma

Bissell Builders Supply Co.
P. O. Box 1665
Tulsa, Oklahoma

Building Specialties Company
951 Century Building
Pittsburgh, Pa.

Halteman Company
Allen & St. Cloud Streets
Allentown, Pa.

Charles G. Noska Company
501 W. Chelten Avenue
Germantown, Pa. (Philadelphia)

Lloyd E. George
N. George St. & 3rd Avenue
North York, Pa.

Penn-Ohio Glass Company
520 S. Mill St.
New Castle, Pa.

Tru-Seal Eastern Sales Company
2077 Elmwood Avenue
Warwick, Rhode Island

Dakota Steel & Supply Co.
P. O. Box 631
Rapid City, S. D.

Cook & Nichol, Inc.
2870 Poplar Blvd.
Memphis, Tennessee

Hale & Wallace
1077 Duncan
Chattanooga, Tennessee

The Conner Company
830 West Main Street
Knoxville, Tennessee

John W. McDougall Company
P. O. Box 538
Nashville, Tennessee

Steel & Engineering Products Co.
Box 32
El Paso, Texas

Blue Diamond Company
2722 Logan St.
Dallas, Texas

Williams-Moore Company
717 Avenue J
Lubbock, Texas

Western Glass & Mirror Company
909 Johnson Street
Big Springs, Texas

Buie Building Material Company
7400 Washington Blvd.
Houston, Texas

Charles F. Williams Co., Inc.
368 Lipscomb Street
Ft. Worth, Texas

Safety Glass Company
412 N. Staples
Corpus Christi, Texas

Builders Specialties Co. of Austin
5215 E. 1st Street
Austin, Texas

Amarillo Plate Glass & Mirror Co.
1009 W. Fifth Avenue
Amarillo, Texas

San Angelo Building Material Co.
25 West Beauregard
San Angelo, Texas

Associated Specialties Company
203 Greyhound Terminal Bldg.
Salt Lake City, Utah

Shaw Supply Company
2124 Washington Blvd.
Ogden, Utah

Roanoke Engineering Sales Co.
2201 Franklin Road
Roanoke, Virginia

J. S. Archer Company
1103 E. Main Street
Richmond, Virginia

Withers Clay Utley, Inc.
424 W. 21st Street
Norfolk, Virginia

Capital Products, Inc.
1505 South Capitol Street
Washington, D. C.

Ira F. Kuhn Company
1724 Washington Street East
Charleston, W. Va.

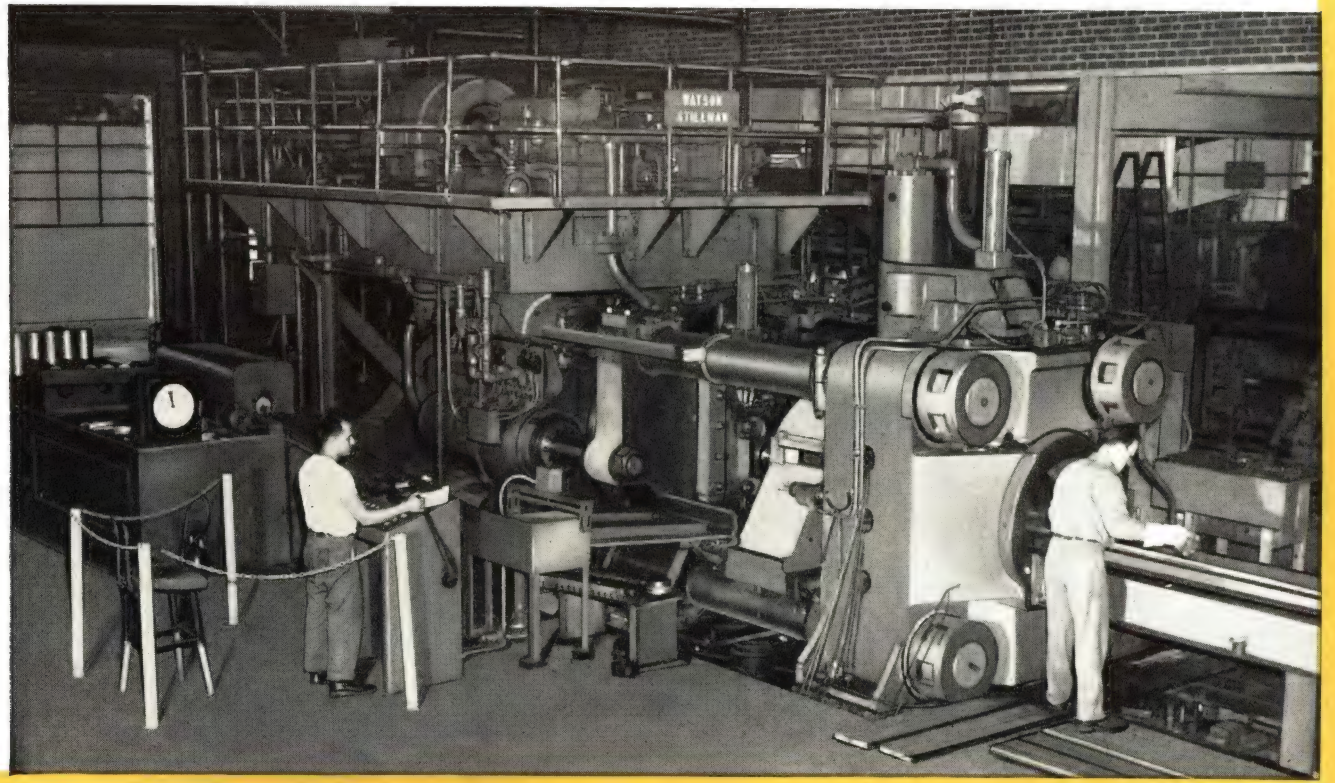
Janesville Sand & Gravel Co.
Janesville, Wisconsin

Cupples Products Corporation
369 Lexington Avenue
New York, N. Y.

PLANT AND FACILITIES

Acceptance of the various Cupples windows by architects and contractors throughout the country has resulted in several additions to our original modern manufacturing plant.





To meet our ever increasing demand for aluminum extrusions, our extrusion presses were installed in 1950. They are now in full production turning out window sections and a complete line of accessory items, sills, stools, trim, extruded spandrels, special curtain wall designs, and Alumi-Coustic suspended ceiling systems. For additional information on these or similar items, contact our engineering department for complete information and service.

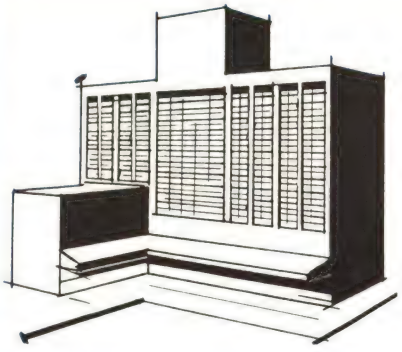
CUPPLES PRODUCTS CORP.

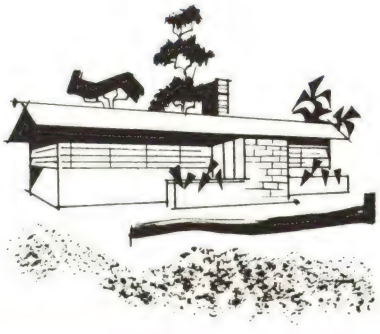
2650 SOUTH HANLEY ROAD • MAPLEWOOD, ST. LOUIS 17, MO.

Denison aluminum awning Windows

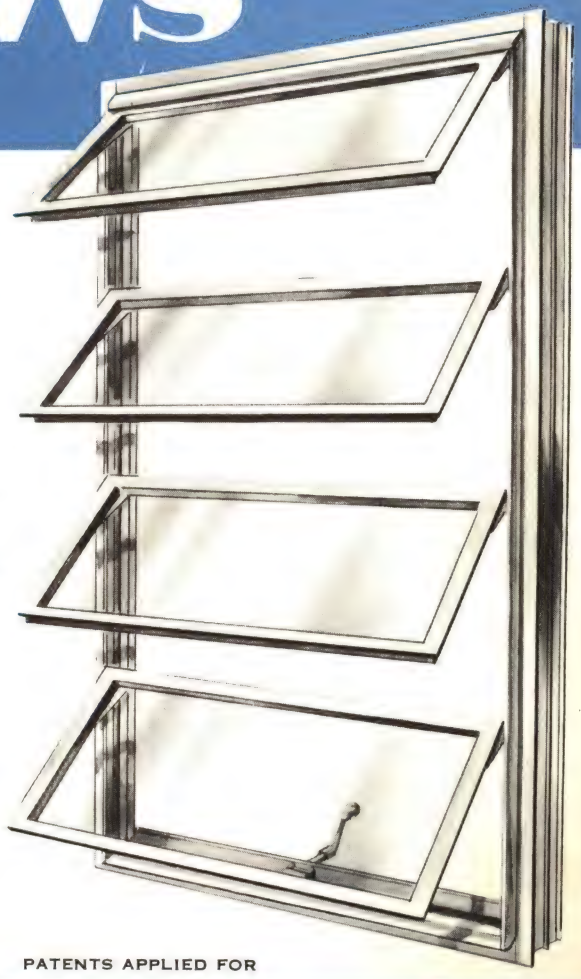
A.I.A. FILE NO. 16-L











PATENTS APPLIED FOR

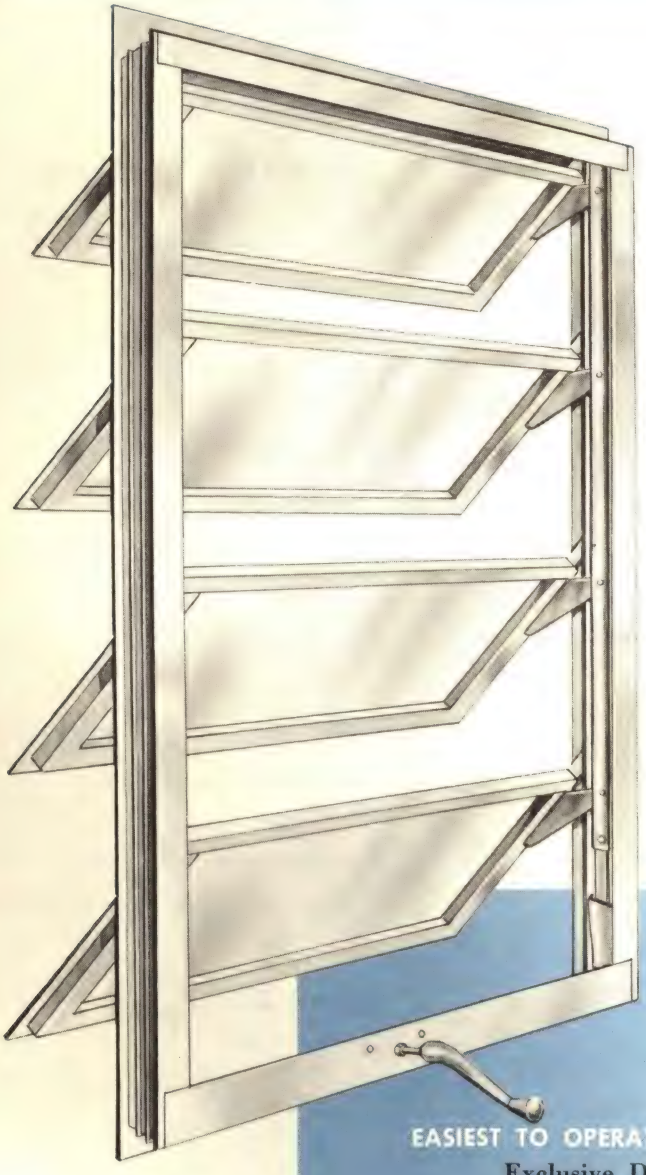
For any type of installation... In every type of building

Denison Corporation

1890 N. E. 146th Street • North Miami, Florida

Manufacturers of Jalousie Windows and Doors and Aluminum Awning Windows

Denison *aluminum awning* Window features



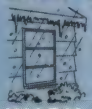
DENISON WINDOWS are designed to provide a lifetime of beauty, comfort, and protection. No other windows offer all the advantages of DENISON WINDOWS . . . their striking simplicity of design . . . rugged extruded-aluminum construction . . . complete weather protection . . . full ventilation . . . ease of operation . . . their surprisingly low cost.

EASIEST TO OPERATE



Exclusive DENISON triple-powered operator for the easiest operating window ever made.

COLD WEATHER PROTECTION



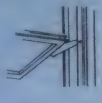
Positive weather tight closure keeps cold air out . . . warm air in . . . reduces fuel bills.

WARM WEATHER VENTILATION



Scoops air in and circulates it through the house without drafts. Opens wide for full ventilation.

FUNCTIONAL BEAUTY



Approximate twelve inch vents with full cantilever support and narrow meeting rails provide unobstructed view... eliminate undesirable projecting arms.

VENTILATION WHILE RAINING



Downward slant of vents and fixed hinge operation of top vent keep rain out...let air in.

WINTER CONVENIENCE



When cold weather comes, screen is replaced by storm sash in a matter of seconds . . . from the inside.

EASY TO CLEAN



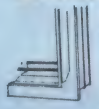
Just open the vents and clean both inner and outer glass surfaces from the inside.

CENTER OPERATOR



Eliminates corner operation and installation problems. Over-sill operation allows windows to be opened or closed even when venetian blinds are down.

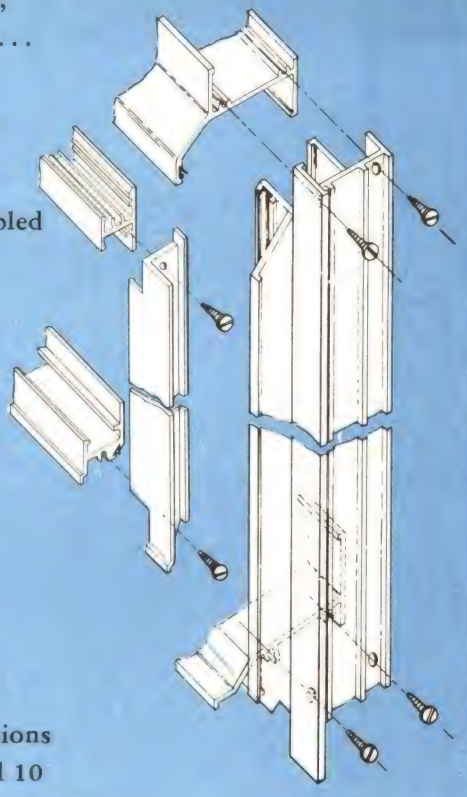
SLOPING SILL



Allows free drainage of the water to outside. No dirt traps or unsightly drain holes.

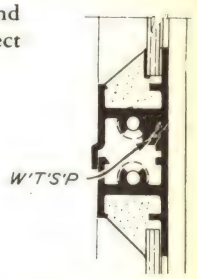
THE FIRST COMPLETELY KD (KNOCKDOWN) ALUMINUM AWNING WINDOW

- Vent frames, as well as outer frames, shipped KD in convenient packages . . . shipped assembled if specified.
- Any width window made by simple cutting operation.
- Outer frames and vent frames assembled in seconds with screwdriver.
- Mechanism and vents can be installed after frame installation . . . prevents fouling of mechanism by plaster, etc.
- Seven KD units stored in space normally required for one assembled window.
- Center operation eliminates left and right hand window inventory . . . no corner installation problems.
- Head, picture window, and mull sections interchangeable with Denison Model 10 Jalousie . . . reduces working inventory required.

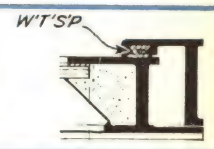


WEATHERSTRIPPING

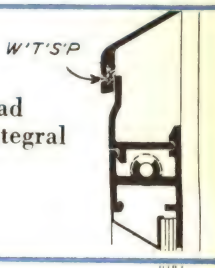
DENISON aluminum awning windows are completely weatherstripped with extruded Elastomeric Vinyl. Weatherstripping plus double-metal-to-metal contact on jamb, sill, and meeting rails assure a perfect weathertight seal.



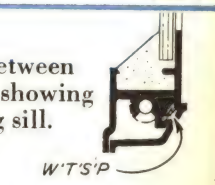
Triple weathering between vents.



Triple weathering of vent and jamb.



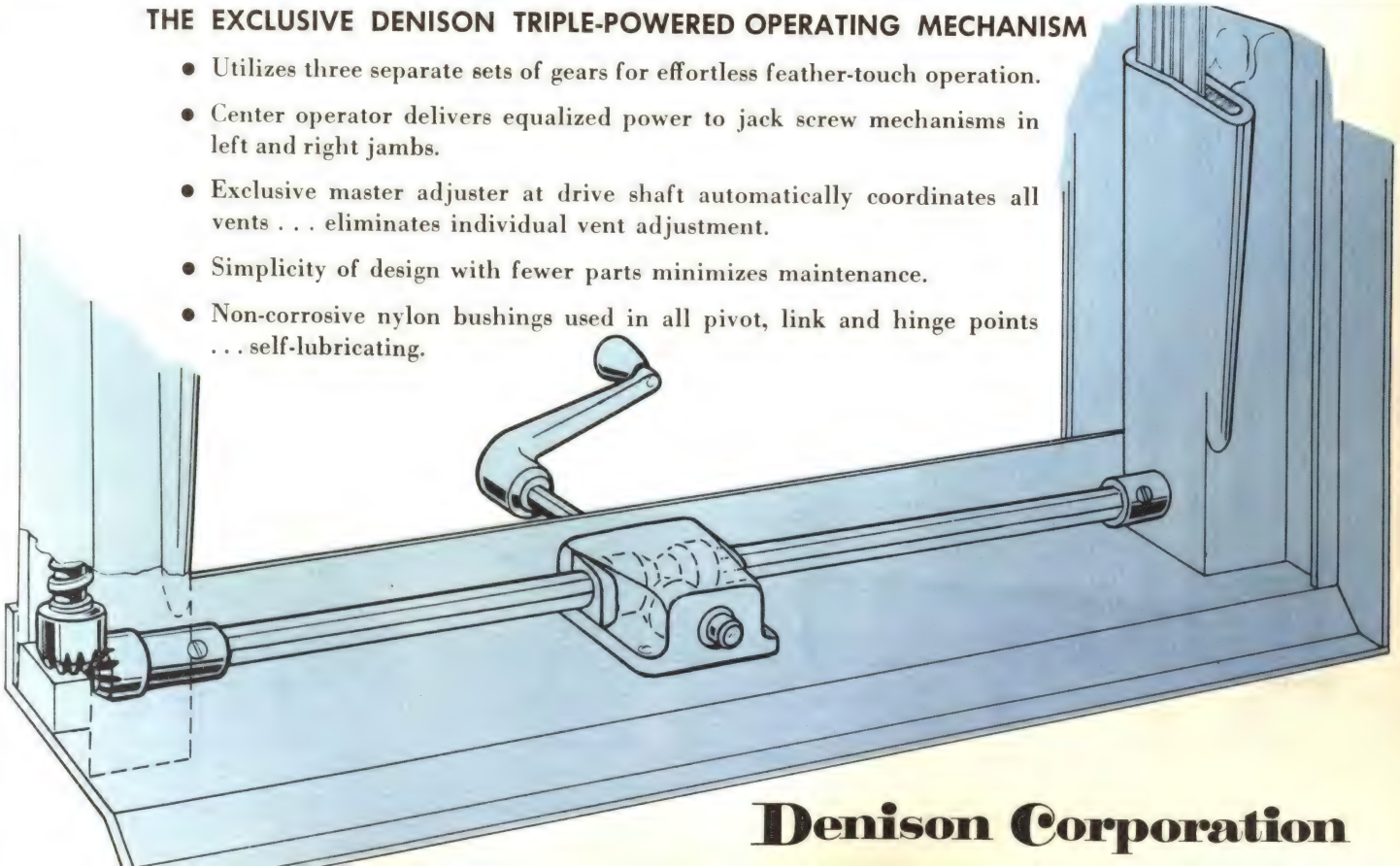
Weatherstripped head showing extended integral drip cap.



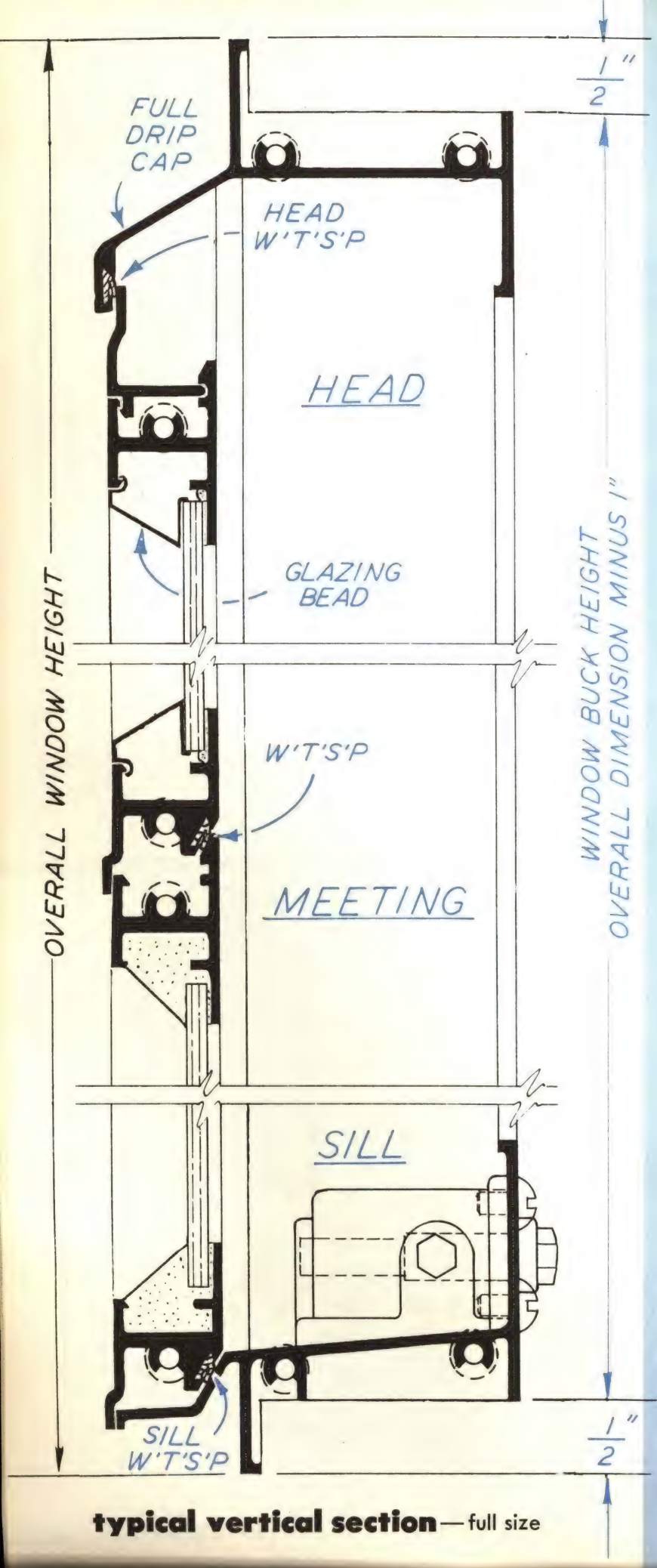
Triple weathering between bottom vent and sill showing free-draining sloping sill.

THE EXCLUSIVE DENISON TRIPLE-POWERED OPERATING MECHANISM

- Utilizes three separate sets of gears for effortless feather-touch operation.
- Center operator delivers equalized power to jack screw mechanisms in left and right jambs.
- Exclusive master adjuster at drive shaft automatically coordinates all vents . . . eliminates individual vent adjustment.
- Simplicity of design with fewer parts minimizes maintenance.
- Non-corrosive nylon bushings used in all pivot, link and hinge points . . . self-lubricating.



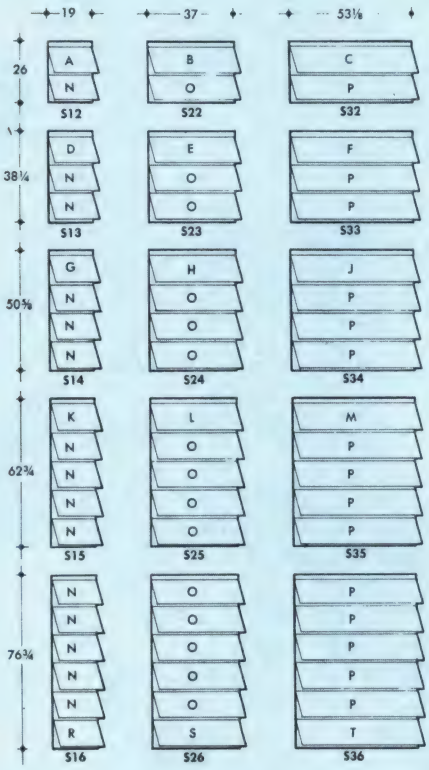
Denison Corporation



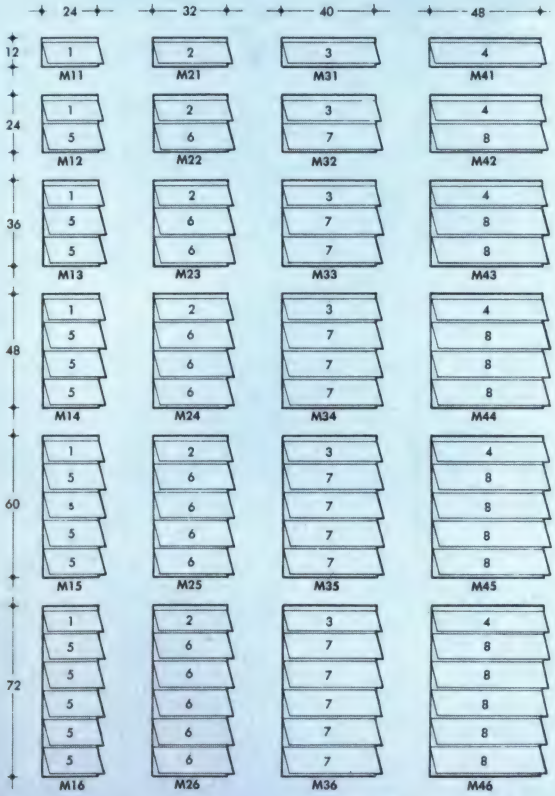
typical vertical section—full size

types and sizes

standard sizes



modular sizes



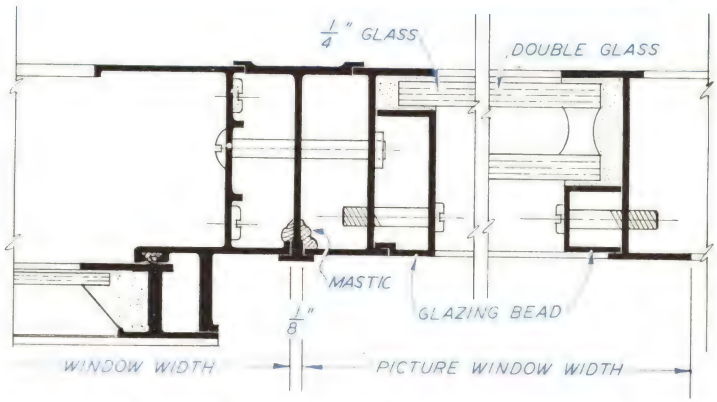
Denison aluminum awning Window

standard glass sizes

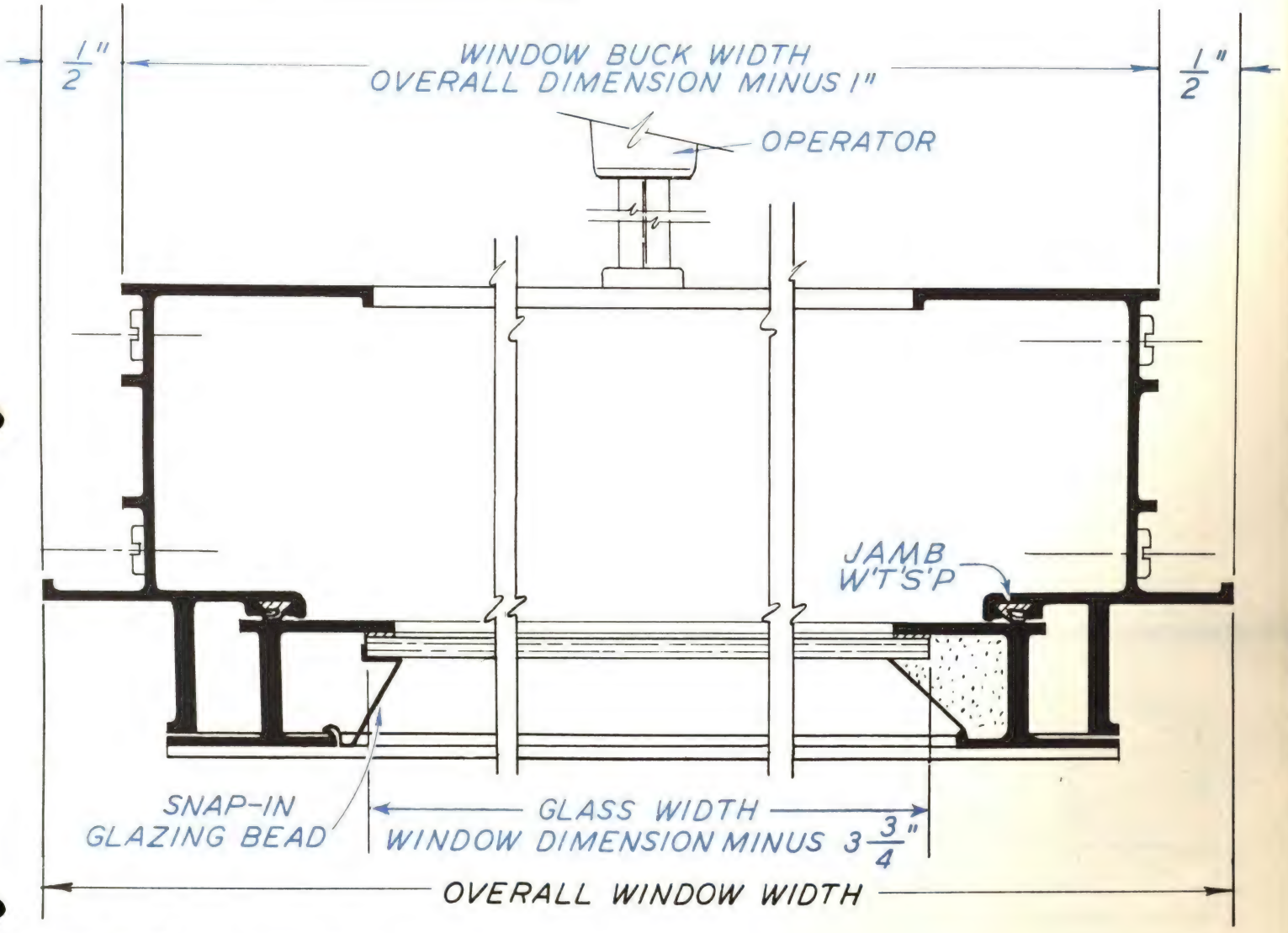
A — 15¼ x 9⅝
B — 33¼ x 9⅝
C — 49⅜ x 9⅝
D — 15¼ x 9⅞
E — 33¼ x 9⅞
F — 49⅜ x 9⅞
G — 15¼ x 10¼
H — 33¼ x 10¼
J — 49⅜ x 10¼
K — 15¼ x 10⅜
L — 33¼ x 10⅜
M — 49⅜ x 10⅜
N — 15¼ x 10½
O — 33¼ x 10½
P — 49⅜ x 10½
R — 15¼ x 12⅜
S — 33¼ x 12⅜
T — 49⅜ x 12⅜

modular glass sizes

1 — 20¼ x 7⅝
2 — 28¼ x 7⅝
3 — 36¼ x 7⅝
4 — 44¼ x 7⅝
5 — 20¼ x 10½
6 — 28¼ x 10½
7 — 36¼ x 10½
8 — 44¼ x 10½



typical mullion with picture window
one half full size

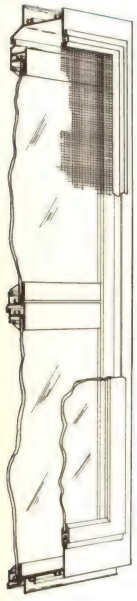


typical jamb section — full size

Denison Corporation

Denison *aluminum awning* Window

accessories



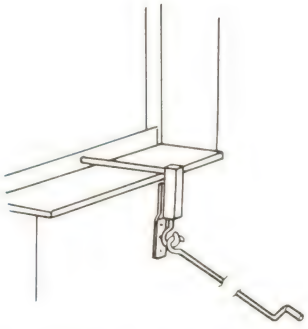
INTERCHANGEABLE SCREEN, STORM SASH

Interchangeable screens are easily replaced by storm sash in a matter of seconds . . . . from the inside. Denison's exclusive swivel clip is adaptable to both screens and storm sash.

HOPPER VENT

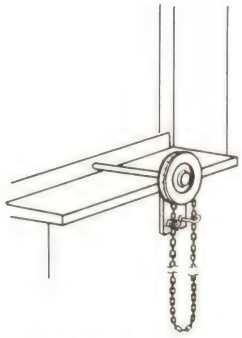
Weatherstripped Hopper vents (open-in) can be supplied in place of the bottom vent on either Standard or Modular height windows. It is closed and locked by means of one or two cam latches depending on the width of the window. Storm sash and screens are interchangeable from the inside.

POLE ADAPTER



Denison windows are easily operated when installed in high or clerestory openings by means of pole type or chain type adaptors. When ordering pole type adaptors specify the depth of the sill and the length of the pole.

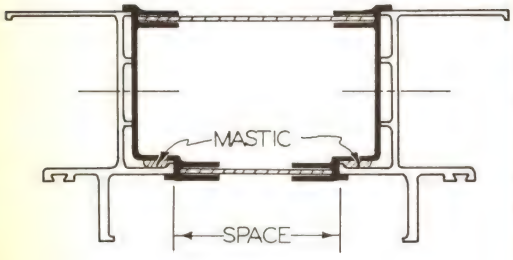
CHAIN ADAPTER



When ordering chain type adaptors specify the sill depth and the length of chain required. Normal length of chain required would be two times the height from the sill to the floor less six feet.

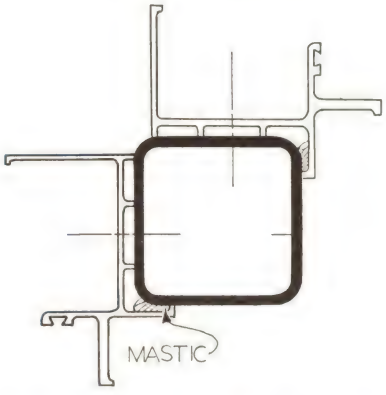
Gang operation for continuous windows can be adapted to Denison Awning Windows. Request assistance from Denison's Sales Engineering Department on special operating problems.

WIDE MULLIONS



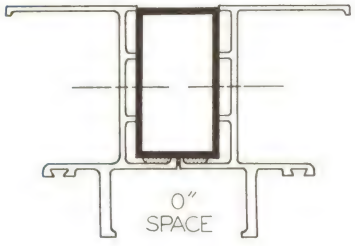
Wide mullions provide for greater flexibility in window openings making it possible to use standard width windows. This mullion is made up on order to any width up to six inches. Specify width required.

2″ SQUARE MULLION



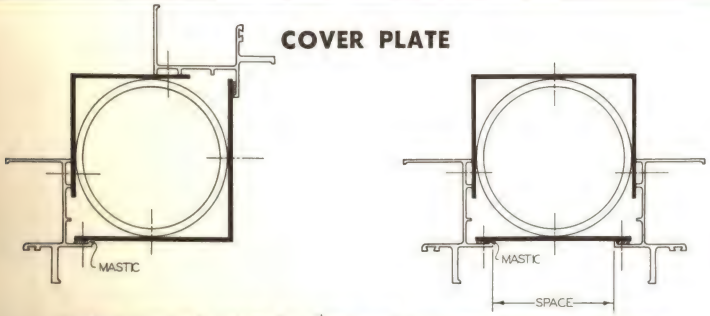
Ideally suited as corner mullion. It can also be used in a straight window run and has a mull space of 1″ when used in that manner.

1″ x 1¾″ RECTANGULAR MULLION



Provides for 0 inch mull space between windows in straight window runs and is to be used when a tubular section is required instead of the standard "T".

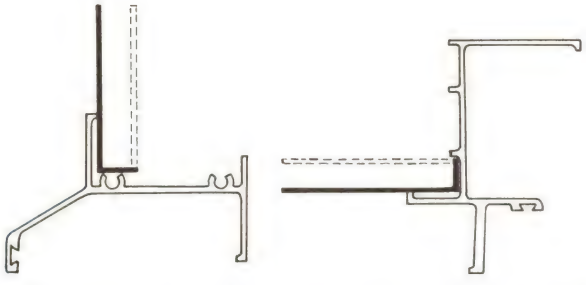
COVER PLATE



Typical standard details for corner and continuous window runs where columns require inside and outside cover plates.

When ordering specify the outside diameter of the pipe column and its use . . . corner or straight runs. Inside and outside cover plates will be furnished unless specified otherwise. Submit a sketch of your requirements for unusual conditions.

2″ or 3″ METAL FINS



Denison continuous metal fins are universal. They can be turned either way to suit job requirements. Head and jamb installations are shown. When ordering, specify window size on which they are to be used.

Denison aluminum awning Window

GENERAL: Windows are to be aluminum awning windows as manufactured by Denison Corporation, North Miami, Fla.

MATERIAL: All frame and vent members shall be 63S-T5 or suitable aluminum alloy. Jamb frames to have minimum depth of 2¾″ and thickness of 1/16″ minimum with forward flanges ⅛″ thick. Head and sill members to be deep sections — the head member shall be over 2⅞″ in depth. Vent jamb members to be ⅛″ thick with 1/16″ flanges (commercial tolerances observed). Hinges and brackets to be die cast of high strength zinc alloy No. 5.

CONSTRUCTION: The windows shall be assembled in a secure and workmanlike manner to assure weathertight construction. Triple weathering of window to be accomplished by two metal-to-metal contacts plus one weatherstrip seal using elastomeric vinyl around the vents. Weatherstripping to be concealed and away from outside weathering elements.

OPERATION: Opening and closing of window to be accomplished by triple unit operator as manufactured by Denison Corporation and under its specifications. The adjusting crank is to be of the over-the-sill type and located in the center of the sill. Two equal length drive shafts to transmit turning energy to individual jack-screw power units in each jamb which exert equal power to both sets of jamb hardware without twisting or racking of vents. To obtain ventilation during a moderate rain the top vent shall not drop down presenting an opening for rain to enter. Maximum vertical heights of top vent to be 12″ to provide for easy cleaning of outside of top glass from inside. Operator to close vents against weatherstrip, compressing it for weathering seal without the use of auxiliary latches or keepers.

HARDWARE MECHANISM: Jamb hardware mechanism shall be as manufactured by Denison Corporation. The hardware mechanism in each jamb shall be driven individually by its own jack-screw operator to eliminate torque, rack or twist and to eliminate transmitting power from one side of window to the other through the vent and glass. All hinge and pivot points to have flanged bushings of nylon to reduce friction and to eliminate corrosion at these important points. The jamb frame half of all vent hinges shall be an integral part of the jamb frame to prevent misalignment and misadjustment. Rollers will not be required in hardware mechanism. The hardware shall be easily installed or removed from the window after installation.

WEATHERSTRIPPING: Windows shall be completely weatherstripped using extruded elastomeric vinyl and shall be located away from outside weathering elements.

FINISH: The finish to be a bright aluminum mill finish. (Methocrylate lacquer or anodizing where specified.)

MULLIONS: Extruded aluminum alloy 63S-T5 shall be used for all standard mullions.

SCREENS AND STORM SASH: Screens and storm sash shall be installed and removed from inside. Screens and storm sash to be interchangeable. Screens shall be 14 x 18 aluminum mesh with recessed overlapping aluminum frames. Frames shall be attached with swivel clips to permit easy removal.

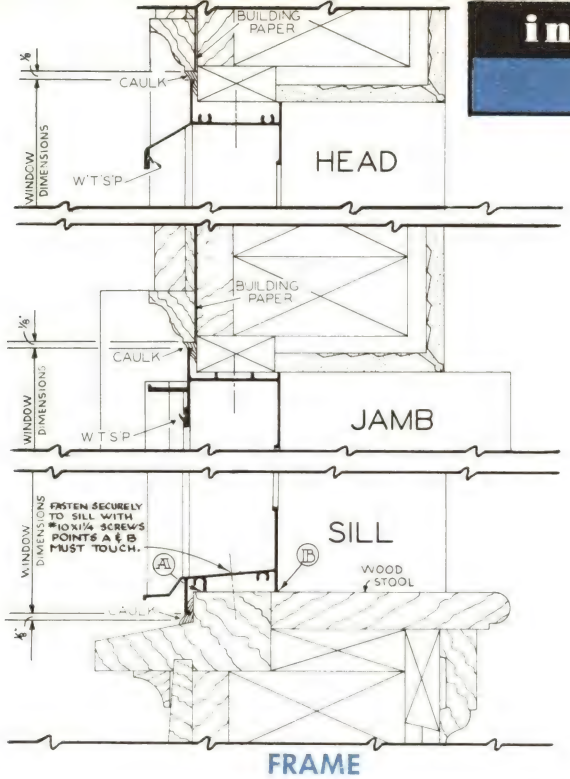
DRAWINGS AND INSTALLATION DETAILS: Upon request, the window manufacturer shall furnish standard details which show recommendations for the installation of the windows, or shop drawings if called for.

ERECTION: The erection contractor shall securely anchor windows into place in properly prepared openings. (The window frames can be erected and in place before hardware, vents, and operator are installed.) The openings must be square, plumb and level to prevent distortion of windows. The window frames shall not be distorted by erection screws or fittings and shall not interfere with the operating mechanism. Caulking, mastic, setting of window, etc. shall be in accordance with good window erection practice. When window is to be installed into a masonry opening, the erection contractor shall protect the frame from mortar and plaster by coating outside of frame with masking liquid, No. 20 oil or other suitable protective material.

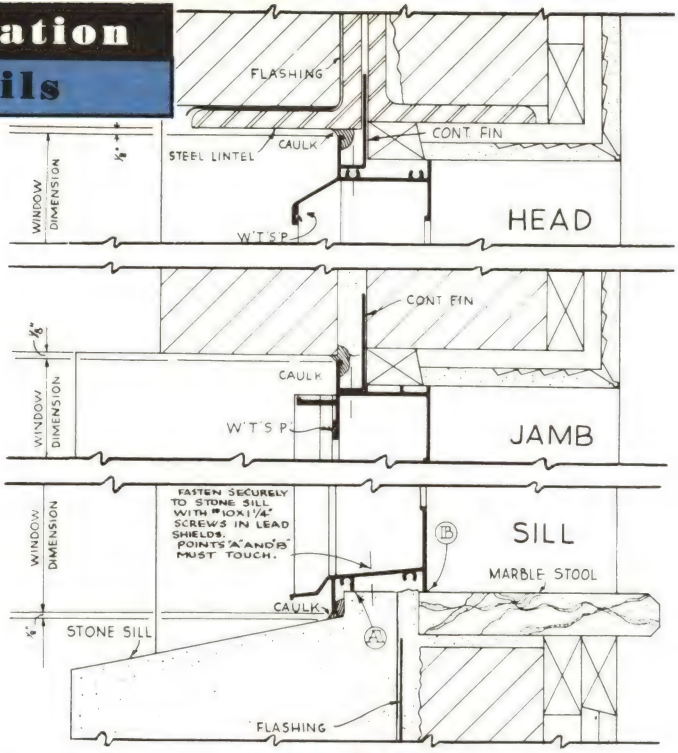
GLAZING: The glazing contractor shall use glazing compound particularly suited for use with aluminum windows and shall not require painting to protect it from deterioration. Glass shall be back bedded, clipped and face puttied in a workmanlike manner. Where glazing bead is specified, it shall be shown on drawings and as supplied by manufacturer. Caution must be taken to prevent bowing of vent heads and sills when glazing, as bowing of these members might interfere with proper operation of window.

CLEANING AFTER ERECTION: All exposed portions of the window to be cleaned, by others, to its original appearance after painting and finishing of the building.

installation details

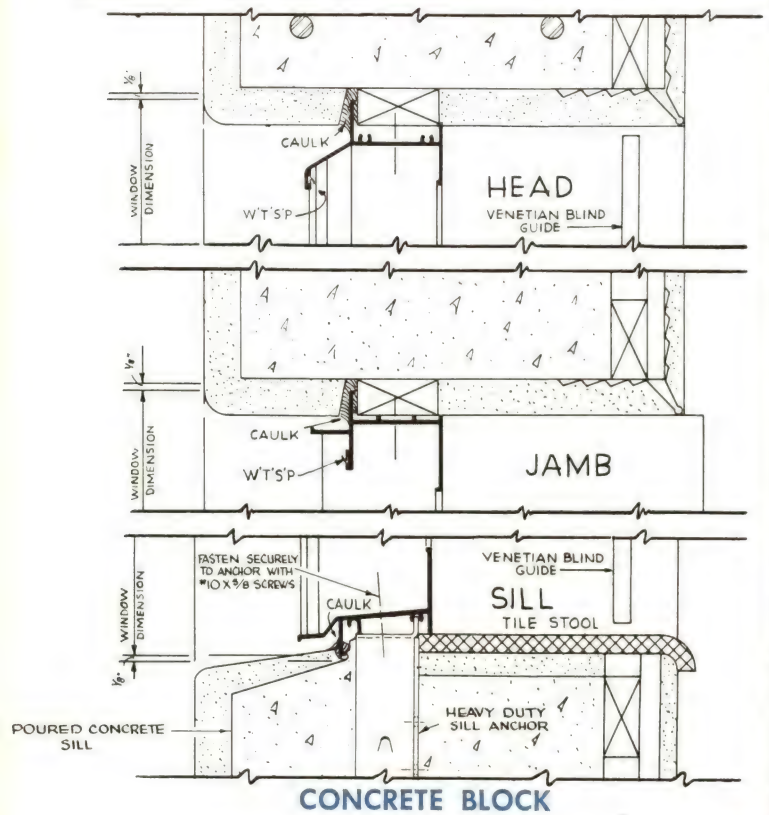


FRAME

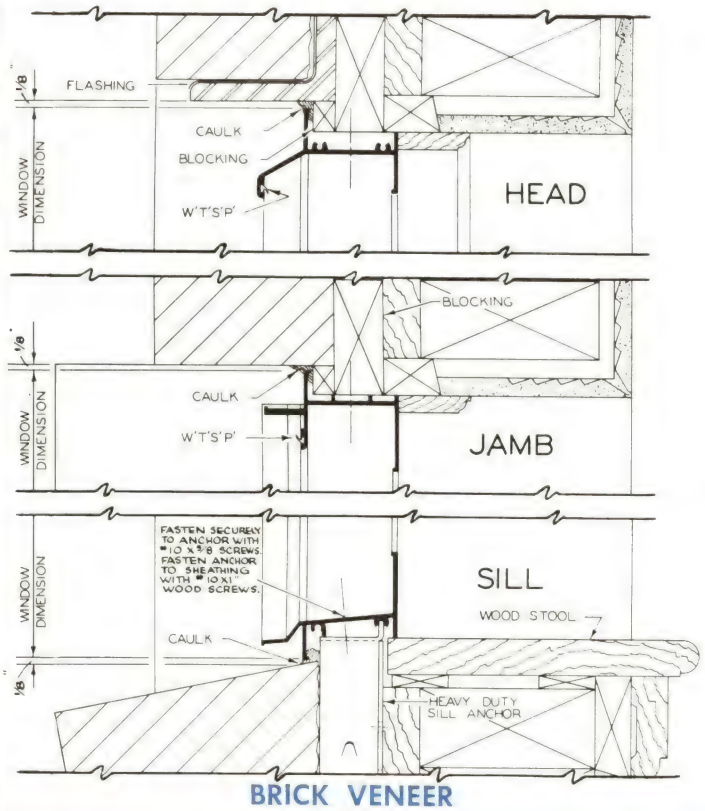


SOLID BRICK

SCALE: 3" = 1'0"



CONCRETE BLOCK



BRICK VENEER

Denison aluminum awning windows come complete with hardware for center, sill operation. Standard Anchor clips are furnished for sill. Extra long length installation screws are furnished and are to be used when Standard Anchor is not used. A special sill anchor is available for poured concrete sills and brick veneer. Be sure to specify when ordering. Standard installation screws for head and jambs are furnished with all sash. Continuous metal fins for head and jambs are available and will be furnished when specified as extras. (Caulking, mastic, flashing, special trim, glass, putty, and glazing are to be furnished by others.) Consult our Sales Engineering Department for assistance on special installation details and problems.

Denison Corporation

General Offices: 1890 N. E. 146th Street, North Miami, Fla.
Plants: Canada • Cuba • Dominican Republic
Warehouses: Houston, Texas • Los Angeles, California

In Florida . . . It's Weathermaster



COPYRIGHT 1954 DENISON CORPORATION

For Gate City WOOD Awning Windows see Sweet's 5c Ga

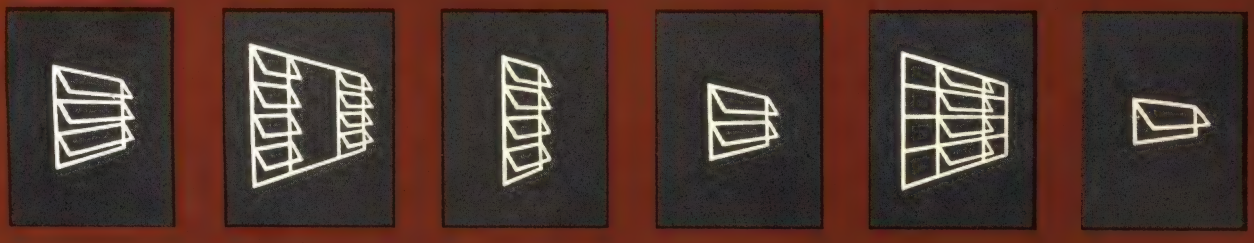


®Gate City

Permanized

ALUMINUM AWNING WINDOWS

...the New Standard for Aluminum Awning Windows!



Feature for Feature, the new Gate City Aluminum Awning Window is SUPERIOR!

"NO-SPLASH" RAIN PROTECTION

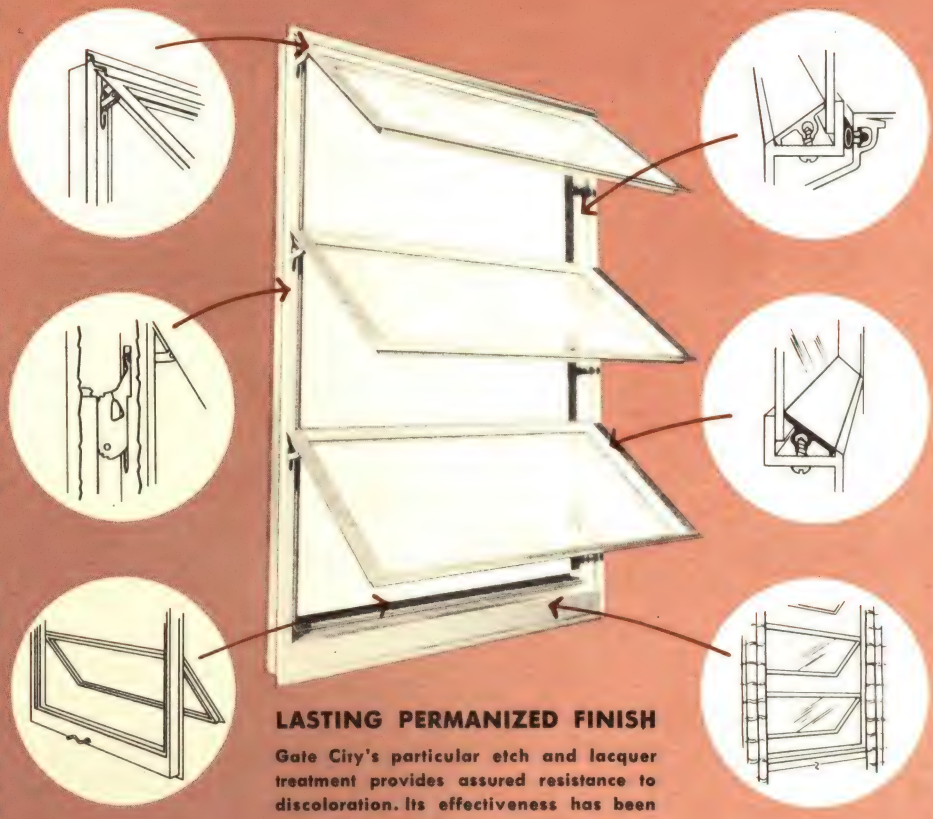
There is no crack above the top vent, for all sash swing out from concealed fixed-hinges. Even during showers *this* awning window can stay open with no danger of back-splash over the top vent.

SELF-ADJUSTING SASH ARMS

Compensating screws and need for manual adjustment have been entirely eliminated by exclusive split-quadrant sash arms enclosed in jambs. Sash are *automatically adjusted* for perfect closure, always.

COMPLETELY ENCLOSED HARDWARE

Open or closed, no unsightly projecting arms, locking devices or operating mechanism mar the clean lines of this window. Easily removed cover plates expose all hardware for inspection and oiling.



COMPLETE WEATHERSTRIPPING

Tough, resilient Vinyl is factory applied at jambs, sill and meeting rails. It is firmly squeezed between sash and frame at *all* points of contact to form a positive, weather-tight seal.

ALUMINUM STRIP GLAZING

The use of *extruded* aluminum glazing strips eliminates putty problems, adds tremendously to the rigidity of the sash, and permits factory glazing before delivery. The strips are secured by hidden, yet easily accessible, screws.

EASY OPERATION

Specially designed gearing in the dual-action hardware equalizes the lifting effort *regardless* of sash angle. The center-located handle is equally suited to over or under stool installation, and in neither case interferes with drapes or blinds.

LASTING PERMANIZED FINISH

Gate City's particular etch and lacquer treatment provides assured resistance to discoloration. Its effectiveness has been proven by exhaustive tests . . . the smooth, satin finish will withstand the elements through the years!

All units will take insulated glass, or storm sash are available if desired. Fixed Sidelight units and Picture Window frames are available for combining with operating windows of all standard sizes. Fixed Sash, with same glass opening and Sight Lines as operating units, are also available.

OPTIONAL MOTORIZED OPERATION WITH PUSH-BUTTON CONTROL

For clerestory or otherwise inaccessible installations in all classes of construction—and for all openings in finer homes and institutional buildings—the Gate City Aluminum Awning Window with motorized operation has no equal. This unit may be controlled at the window opening or from any location in the building.

See page 7 for additional information.

The new Gate City Aluminum Awning Window is the result of extensive research, study and experimentation . . . based on the company's fourteen-year experience in producing the nation's best wood awning window. Gate City's entry into the aluminum field was prompted by the widely expressed need for a really adequate awning type in aluminum, and the Gate City Window now being offered to the national market fully answers that need. On all points of appearance, function and durability, it sets a new standard for Aluminum Awning Windows . . . far superior to any other.

You can specify Gate City with confidence!



The NEW Gate City Aluminum Awning Window was designed to set a standard, *not* to meet a price... and its combination of unique features can be found in *no* other stock metal window anywhere!

HERE'S WHAT THEY MEAN TO YOU AND YOUR CLIENTS...

BEAUTY — Completely enclosed hardware, absence of projecting arms and locking devices, smart design and careful workmanship provide clean architectural lines and pleasing appearance from all angles, inside and out, open or closed.

FUNCTIONAL SUPERIORITY — Fixed-hinge awning-type operation, highly efficient weatherstripping and dependable dual-action hardware provide maximum use advantages and easy operation.

TROUBLE-FREE SERVICE — Exclusive self-adjusting sash arms, extruded aluminum strip glazing and lasting permanized finish assure a lifetime of tight closure, even sash alignment and unblemished appearance . . . without adjustment or undue maintenance.

It is the window for better homes and institutional buildings ... the window that will measure up in every way to the finest plans you will ever draw.





WINDOW SPECIFICATIONS

GENERAL: Aluminum Awning Windows as manufactured by the Gate City Sash and Door Company, Fort Lauderdale, Florida.

MATERIAL: Extrusions shall be specially designed aluminum shapes of 63S-T5 alloy having an ultimate tensile strength of not less than 22,000 p.s.i., with a thickness of .125" for sash members and .095" for supporting frame members. Frame sections shall have a minimum depth of 3-1/16" and sash sections a depth of 1". All dimensions subject to aluminum manufacturer's tolerances. Stainless steel or nylon bushings shall be used at all critical points, and the operating mechanism screws, rivets, etc., within the frame members, shall be of aluminum alloys.

CONSTRUCTION: Sash shall be neatly fitted and peened at each corner. Frame corners shall have reinforcing plates for added rigidity and be connected securely with machine screws. Window frame, sash and working parts shall be completely assembled at factory. Sash shall be glazed at the factory by means of mechanically secured extruded aluminum glazing strips, with glass bedded in a high grade glazing compound or other suitable material. All operating mechanism shall be concealed within the jamb and sill sections of the frame, and all sash shall operate simultaneously.

HARDWARE: Operator shall be center located and easily adapted to installation above or below the stool. The exclusive feature of compensatory adjusting sash arms for automatic tight closure of sash without warping, entirely eliminating compensation screws, shall be standard in all units. All sash shall be hinged at top to swing out, with fixed-hinges concealed in jambs. The operator worm and gears shall be grease packed in an aluminum housing, and shall consist of a hand-crank powered worm gear actuating a large gear within the housing. A gear of smaller diameter, but with greater tooth surface, shall be attached to the same shaft as the large gear and engage the gear racks on each side so that when the worm turns the gear, the racks travel in opposite directions horizontally within the sill. The bearing surface between these racks and the operator housing shall be nylon channels. All operating hardware shall be concealed within the side jambs and sill, and shall apply equal power at both jambs to open and close the sash. Crank shaft shall be of hexagonal aluminum with handle of nylon or other suitable material.

WEATHERSTRIPPING: Weatherstripping shall be resilient vinyl or equivalent, and shall be placed in sash and frame retainer grooves so that closure of sash provides positive weather-break contact. It shall be designed so that it will be easy to apply but difficult to remove. All units shall be completely weatherstripped at the factory in this manner at head, side jambs, sill and meeting rails.

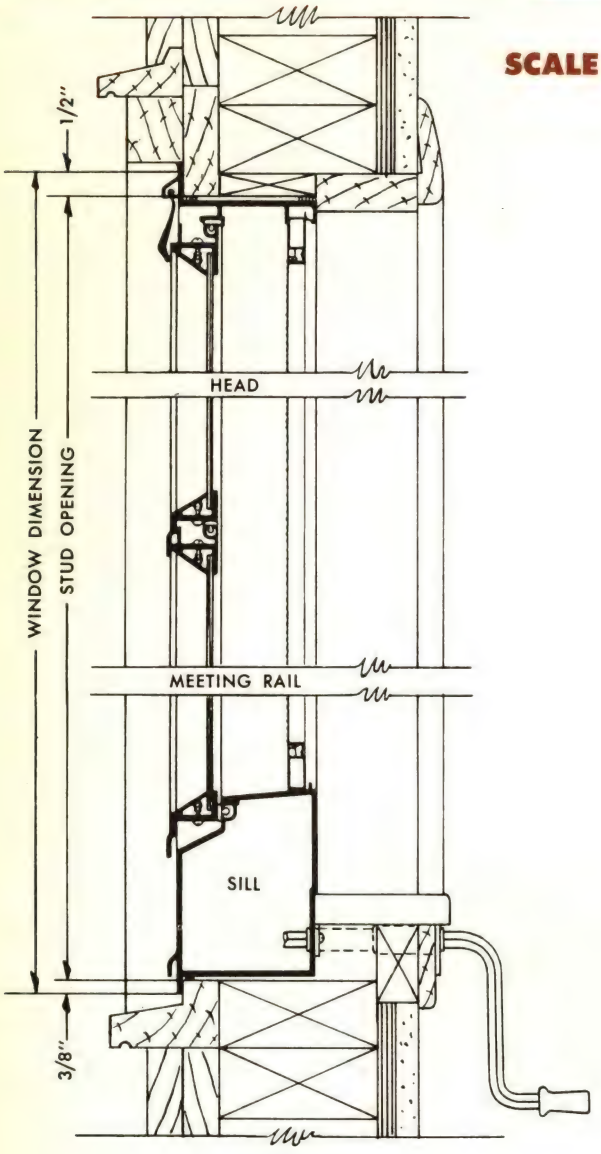
FINISH: After machining, all portions of frame, sash and glazing strips shall be thoroughly cleaned, etched and coated with a clear methacrylate lacquer.

SCREENS: Frames shall be made from rolled aluminum with mitered corners joined with aluminum corner angles. Screen cloth shall be 18-14 aluminum mesh held in place with aluminum or plastic splines. All parts of the screen frame shall be cleaned, etched and lacquered.

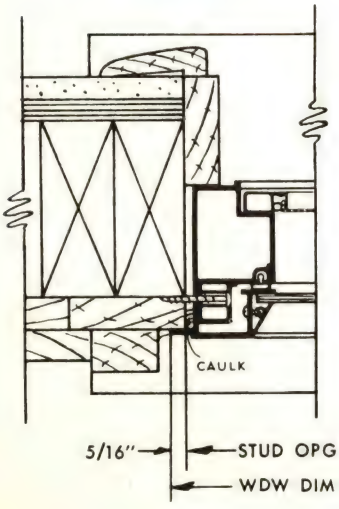
INSTALLATION: All units shall be factory assembled and glazed, to be installed in the walls after masonry work is completed. The windows shall be installed by the building contractor who, prior to actual installation, shall give all window parts which will be in contact with concrete or masonry a heavy coating of bituminous paint. The frames shall be caulked and anchored in place true, plumb and square; shimmed as necessary to prevent distortion.

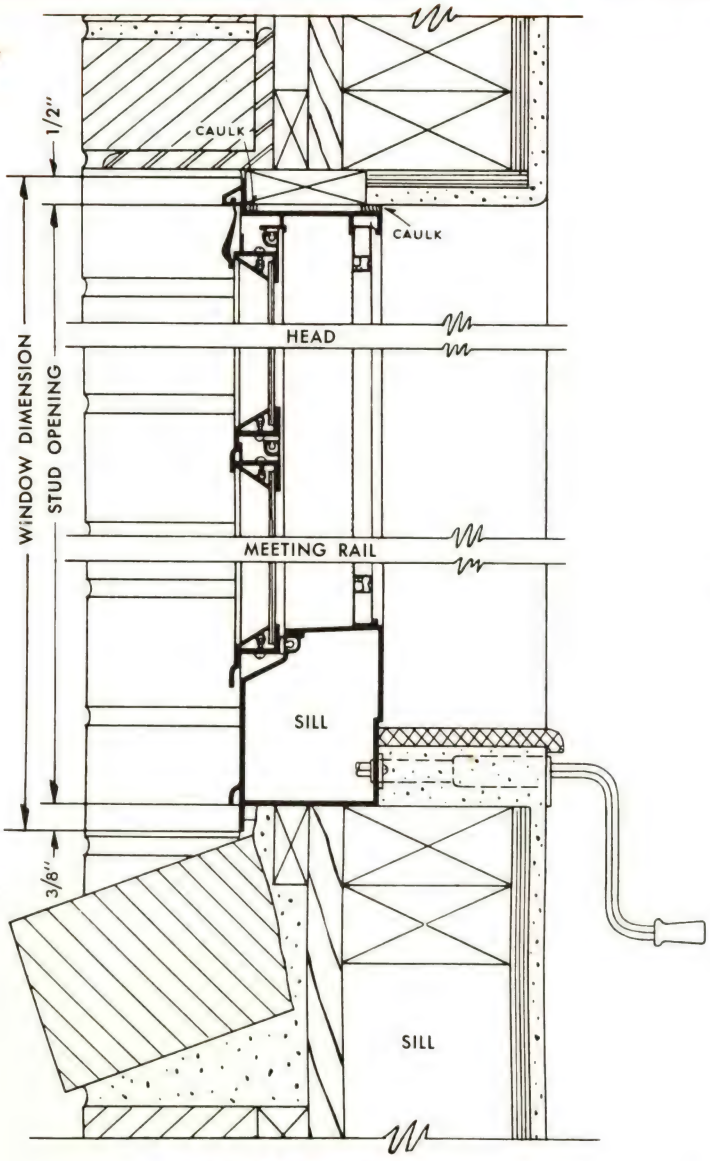
INSTALLATION DETAILS - standard operating unit

SCALE 3"=1'0"

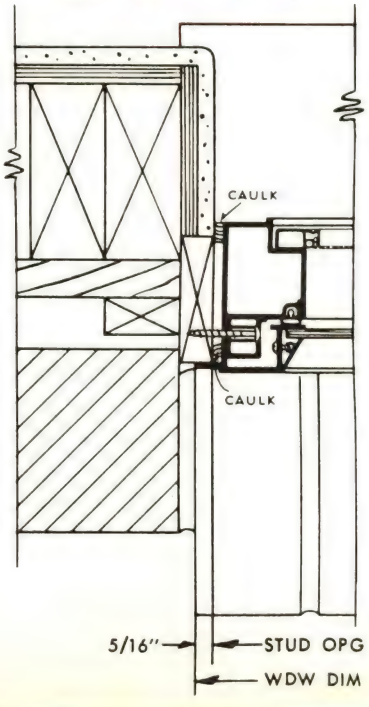


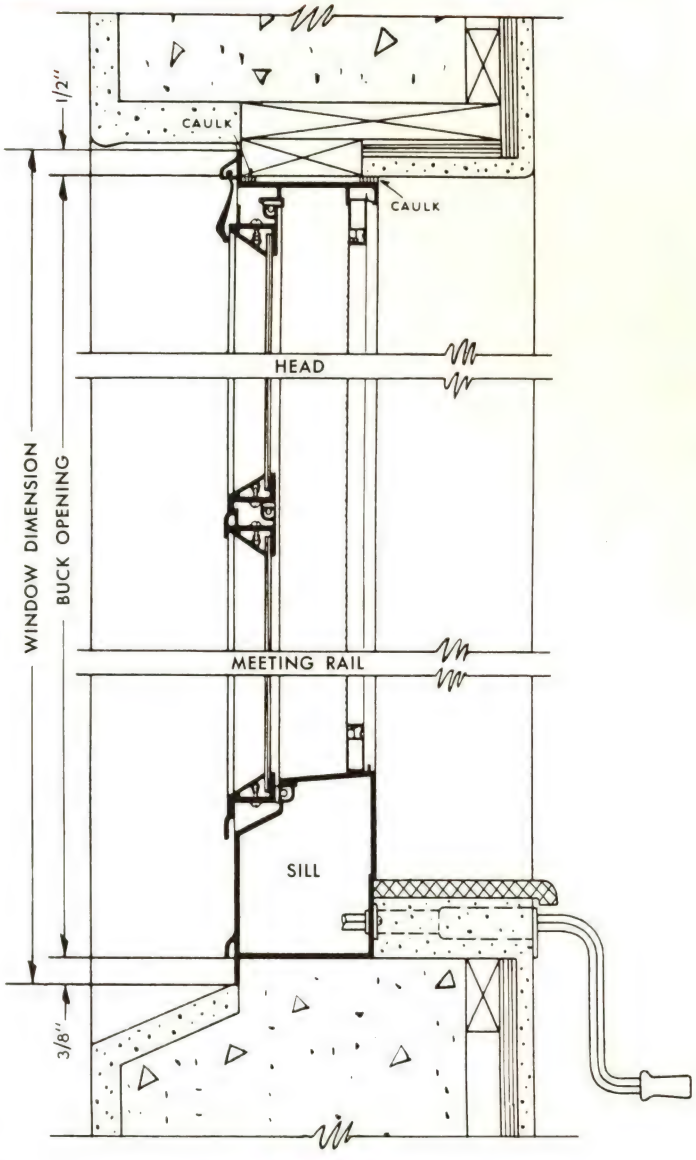
FRAME



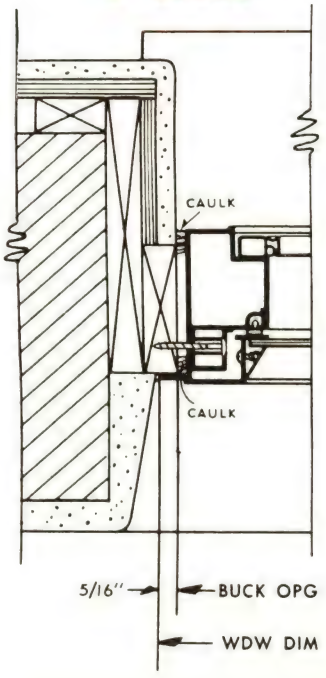


BRICK VENEER

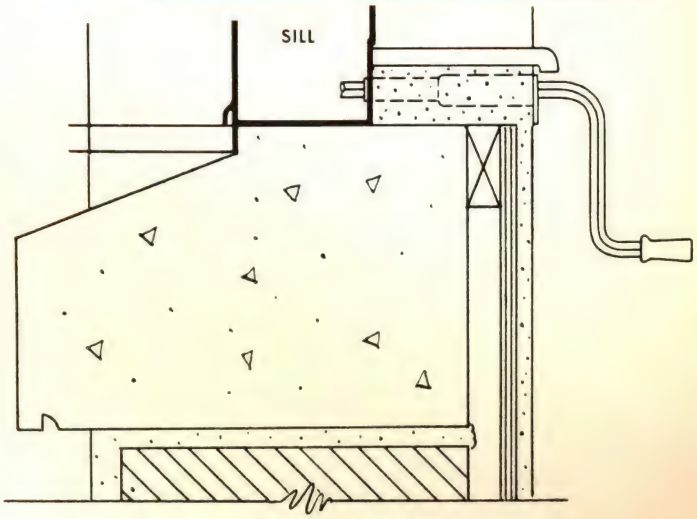




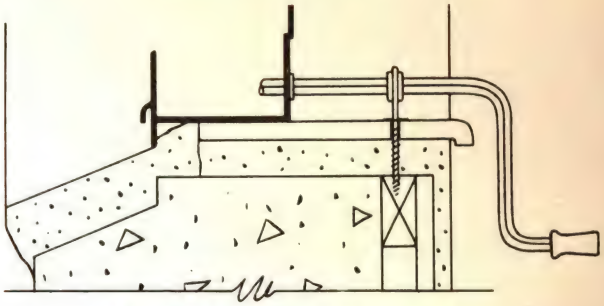
8" BLOCK



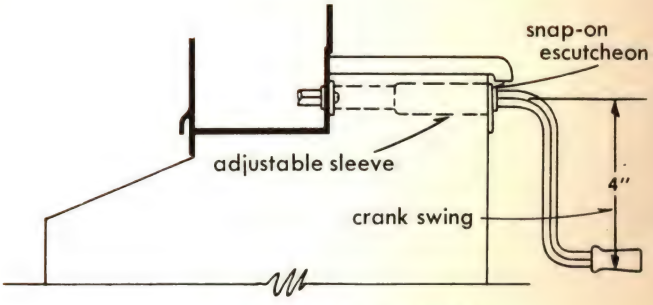
SPECIAL CONDITIONS



PRE-CAST SILL



ALTERNATE SILL DETAIL



ADJUSTABLE SLEEVE

The adjustable sleeve (with snap-on escutcheon) should be specified in all cases where tile or masonry sills are to be used with under-sill operation.

CRANK SWING CLEARANCE

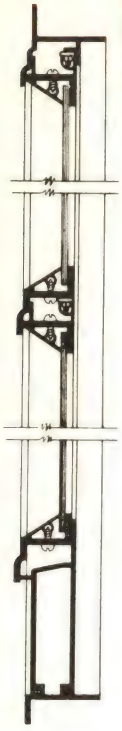
A minimum clearance of 5" should always be allowed below point where operator crank enters sill (actual crank swing measures 4").

FIN INSTALLATION

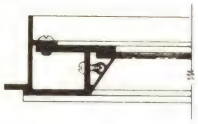
Windows can be furnished with mounting fins when desired according to specifications for the particular situation.

FIXED SASH and SIDE LIGHTS

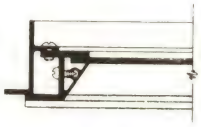
SCALE 3″=1′0″



VERTICAL SECTION
FIXED SASH
and SIDE LIGHT

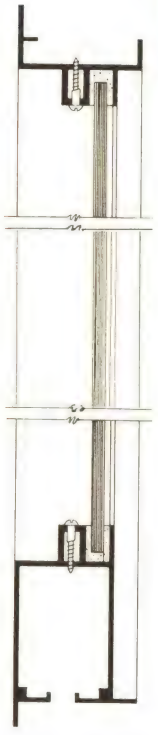


JAMB SECTION
FIXED SASH

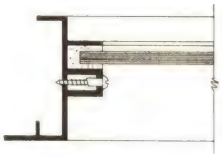


JAMB SECTION
SIDE LIGHT

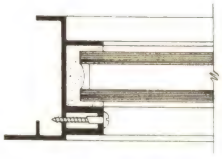
PICTURE WINDOW FRAMES



VERTICAL SECTION
PLATE GLASS FRAME



JAMB SECTION
PLATE GLASS FRAME

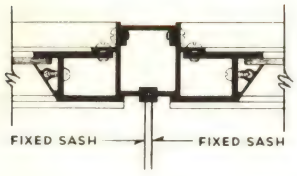


JAMB SECTION
PLATE GLASS FRAME
with 1″ Insulated Glass

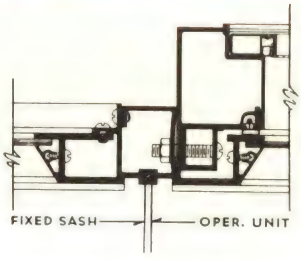


VERTICAL SECTION
PLATE GLASS FRAME
with 1″ Insulated Glass

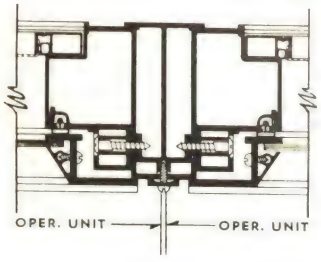
MULLION DETAILS



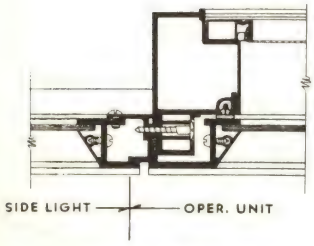
MULLION BETWEEN
FIXED SASH



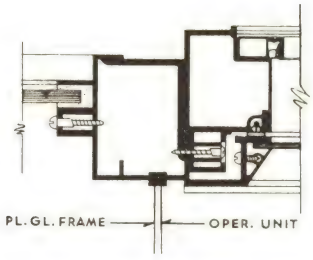
MULLION BETWEEN
FIXED SASH and
OPERATING UNIT



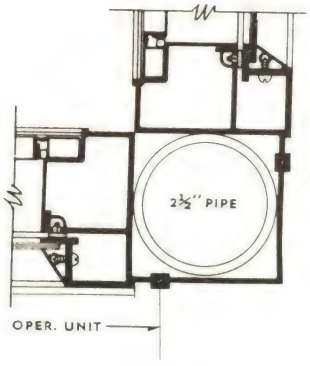
MULLION BETWEEN
OPERATING UNITS



MULLION BETWEEN
SIDE LIGHT and
OPERATING UNIT

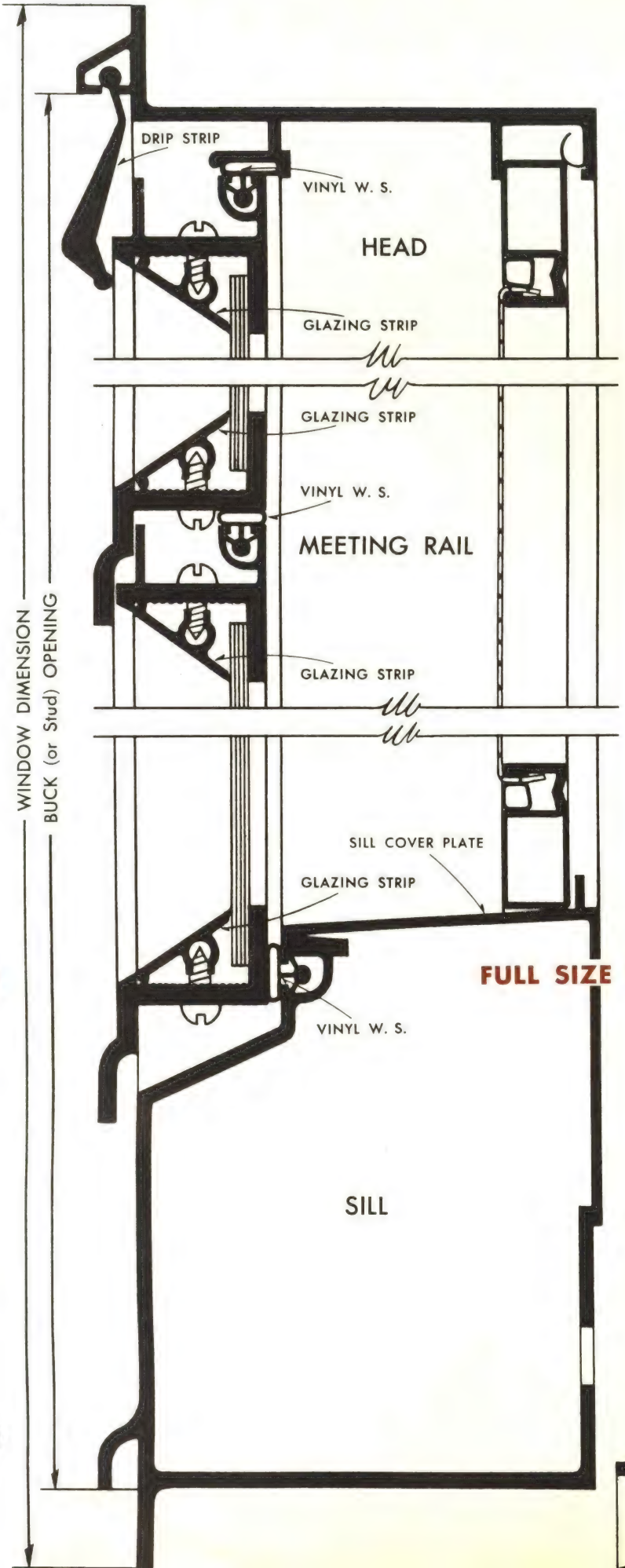


MULLION BETWEEN
OPERATING UNIT and
PLATE GLASS FRAME

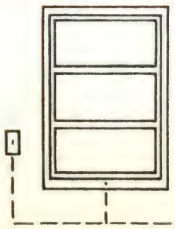


CORNER MULLION

★All standard operating units will take ½″ Insulated Glass, but such intent should be specified even when sash are to be furnished unglazed so that proper glazing strips can be included with order. Picture window units are designed to receive either ¼″ Plate Glass or Insulated Glass up to and including 1″ thickness.



MOTOR OPERATED WINDOWS



Open and close with the flick of a switch!

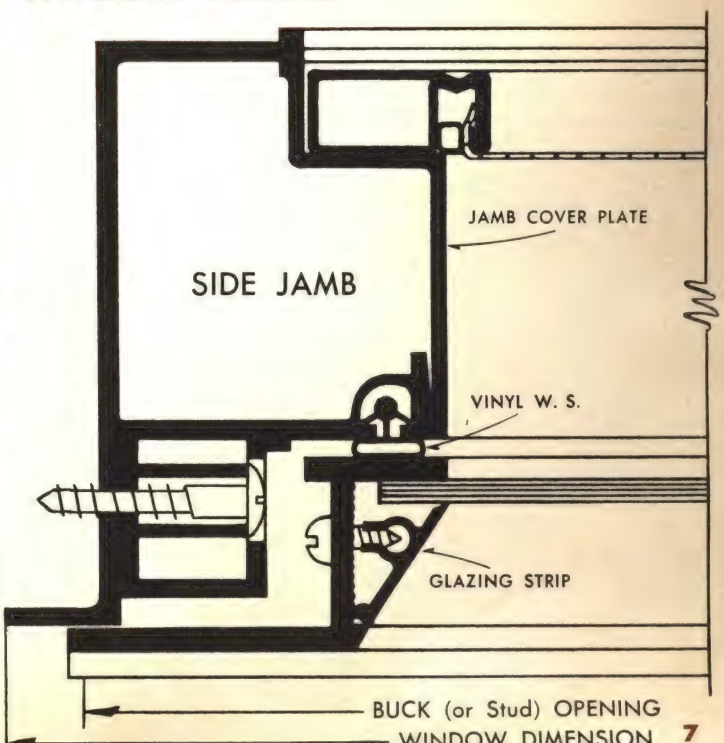
Motor-operated units are available in any of our standard sizes . . . the motor and clutch mechanism are very compact and fit into the same identical frame used for the regular crank-operated model. The control switch may be located at the window opening or in any remote position in the building. It is possible to have master switches installed for controlling all windows on one wall, room, or entire floor. In case the electricity should go off, the clutch disengages the motor drive gears to permit hand-crank operation.

In addition to finer homes and institutions, there are many practical, advantageous uses for the motorized unit . . .

- ★ **Clerestory installations in any structure.**
- ★ **Inaccessible installations over high or deep cabinets.**
- ★ **Windows that go to floor with no room for crank.**
- ★ **Large banks of windows in school gyms and auditoriums.**
- ★ **Hotels, motels and other rental property.**
- ★ **Mental Hospitals, Psychiatric Wards and Penal Institutions.**
- ★ **Sick rooms, where invalids may control own ventilation.**

NOTE: Motorized Units in 20" widths will have crank hole 3" off center. Insulated glass should not be used with motorized units larger than 3-44-15 and 4-32-15.

FULL SIZE WINDOW DETAILS



SCHEDULE OF STANDARD TYPES AND SIZES

SIZES are shown for both Buck (or Stud) Opening and Window Dimension.

TYPES shown indicate in order: number of vents, exact width of glass, and exact height of glass.

1'-11¼"	2'-11¼"	3'-11¼"	5'-11¼"	6'-11¼" ← BUCK (OR STUD) OPENING		
1'-11⅞"	2'-11⅞"	3'-11⅞"	5'-11⅞"	6'-11⅞" ← WINDOW DIMENSION		
1-20-15	1-32-15	1-44-15	1-32-15 S.L.	1-44-15 S.L.	1'-8⅝"	1'-7¾"
2-20-15	2-32-15	2-44-15	2-32-15 S.L.	2-44-15 S.L.	3'-0⅝"	2'11¾"
3-20-15	3-32-15	3-44-15	3-32-15 S.L.	3-44-15 S.L.	4'-4⅝"	4'-3¾"
4-20-15	4-32-15	4-44-15	4-32-15 S.L.	4-44-15 S.L.	5'-8⅝"	5'-7¾"
5-20-15	5-32-15	5-44-15	5-32-15 S.L.	5-44-15 S.L.	7'-0⅝"	6'-11¾"
For MODULAR GRID OPENING add ⅛" to Window Dimension		1-44-23		1-44-23 S.L.	2'-4⅝"	2'-3¾"

NOTE:

Sidelights are furnished separately for convenient handling.

For multiple openings, add Buck Opening dimensions plus ¾" for each mullion.

Fixed Sash and Sidelight Units are available, but are not carried in stock . . . prices and delivery information will be furnished on request. (Fixed Sash have same glass opening and sight lines as standard operating units.)

All details and specifications are subject to change without notice.

ENGINEERING SERVICE

Our engineering department will welcome any opportunity to assist you with difficult window problems and details for special conditions. Full scale window details available on request.

GATE CITY SASH & DOOR CO., BOX 901, FORT LAUDERDALE, FLORIDA

FOR ADDITIONAL INFORMATION WRITE, WIRE OR TELEPHONE

GATE CITY SASH & DOOR COMPANY

BOX 901 — FORT LAUDERDALE, FLORIDA

LITHO. IN U.S.A. 10/54

LUDMAN

aluminum windows



SEALS LIKE A REFRIGERATOR

LUDMAN Auto-lok AUTOMATIC LOCKING



and INTERMEDIATE PROJECTED TYPES

Catalog AW 1955

AUTO-LOK WOOD AWNING WINDOWS

See SWEETS section 5c/Lu

LUDMAN ALUMINUM FRAMED SLIDING GLASS DOORS

See SWEETS section 4a/Lu

LUDMAN LEADS THE WORLD IN WINDOW ENGINEERING

LUDMAN Auto-lok AUTOMATIC LOCKING PATENTED

SEALS TIGHTER THAN A REFRIGERATOR

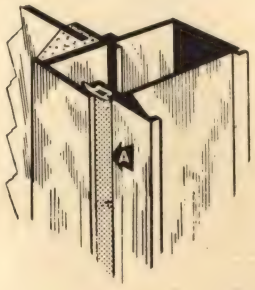
TIGHTEST CLOSING OUTSTANDING

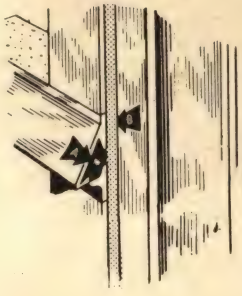


closes ten times tighter than generally accepted standards

Patented Auto-Lok aluminum awning windows with torque bar operation and power light, strip-proof operator are the most versatile on the market for all applications . . . schools, hospitals, factories, hotels, apartments, churches, residences and office buildings, etc.

Patented Auto-Lok operation assures a lifetime of trouble-free service because Auto-Lok hardware eliminates the wear at critical hinge points that results in vents that cannot be closed tight. In all other windows where more than one vent is attached to a common operating bar and actuated by a single operator, force must be applied to the critical hinge points at the top of each vent in order to close the vent tight at the bottom. With patented Auto-Lok operation no destructive force is applied on the hinges. Ludman's torque bar, completely concealed in the sill, is required only to bring in the bottom night vent. Auto-Lok hardware is so perfectly balanced that the weight of the vents aids opening and closing without creating pressure on the operating mechanism. Therefore, the entire operation is friction free, effortless and smooth. Every vent in an Auto-Lok window closes tight automatically — always! There is no wear . . . no maintenance . . . no adjustment necessary.





weatherstripping

Auto-Lok Windows have brought a new meaning to the word "weatherstripped." Because they provide a degree of tight closure heretofore believed impossible, Auto-Lok Windows have established a new standard for window performance. Unique weatherstripping combined with patented self-locking action and double contact seals Auto-Lok just like the door of your refrigerator. Every closing surface is ingeniously weathered with extruded elastromeric vinyl*. When closed, the vents compress the weatherstripping against the frame forming a positive seal.

Auto-Lok provides the most effective closure known against cold winds, dust storms, driving rains and hurricanes. This tight closure eliminates uncomfortable "cold spots" around windows . . . reduces fuel and air conditioning expense.

*Exhaustive laboratory tests reveal that elastromeric vinyl weatherstripping will maintain its effectiveness for the life of the building.

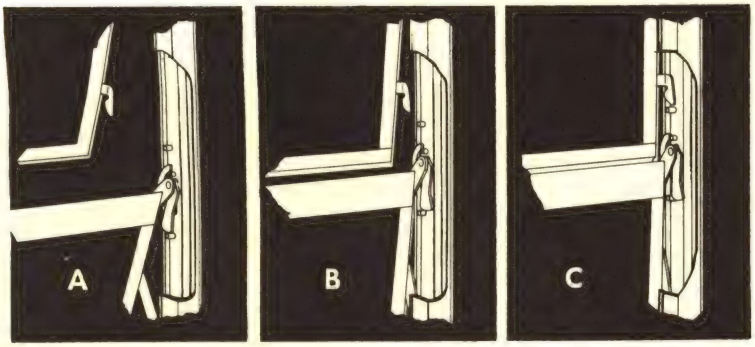
Illustration shows how weatherstripping (A) is compressed when vent is closed against jamb.

Note how horizontal weatherstripping (A) crosses over vertical weatherstripping (B).

WINDOW WITH OPERATING PRINCIPLE

patented Auto-Lok operation

Ludman Auto-Lok Windows are the tightest closing windows ever made. They close ten times tighter than generally accepted standards. Here's why: (A) While vents are swinging in toward the frame, the vertical operating bars at each side of window move up. (B) Note how lugs on operating bars and hooks on vents commence to move into position as the bars continue to move up, so wedging action may be applied to pull the vents in tightly against the frame. (C) The vents are pulled in snug, and pressure against vinyl weatherstripping assures a complete seal (like the door of your refrigerator). Automatic locking has commenced. (D) Final "locked" stage of Auto-Lok operation . . . hooks have moved in, adding extra locking action near the bottom of the vents, on both sides . . . locking all four corners of each vent. This action is entirely automatic and is accomplished during the normal, effortless turning of the operator handle.



WATCH THE "HOOK" AND THE "LUG" PULL IT SNUG!



air infiltration tests

Tight closing is a very important consideration in a window's performance. Unbiased tests at Pittsburgh Testing Laboratory reveal that air infiltration through a standard Auto-Lok window is unbelievably low, only 0.095 cu. ft. per minute.

In terms of effective closure, that amazingly low rate of air infiltration makes Auto-Lok many times tighter than the generally established standards for any other type of window that opens. And, because of patented Auto-Lok design, this tight closure remains effective for the life of the building. ADD this unrivaled tight closure, plus the fact that Auto-Lok is the first and only window to combine the BEST features of ALL window types and you have, indeed, a new STANDARD FOR WINDOW PERFORMANCE.

LUDMAN Auto-Lok AUTOMATIC LOCKING PATENTED

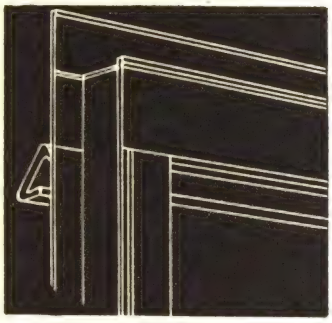
SEALS TIGHTER THAN A REFRIGERATOR

CONSTRUCTION



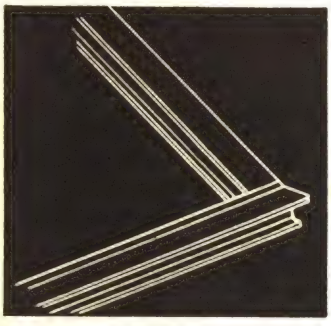
1 extra heavy extruded aluminum construction

The design of Auto-Lok's frame and vent sections provides maximum strength. Fine narrow sight lines are maintained without sacrifice of sturdy construction.



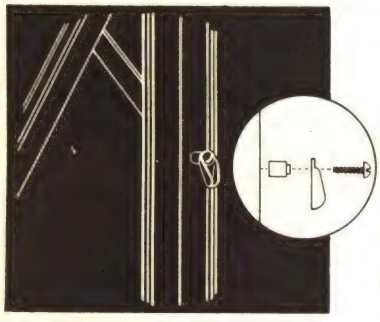
2 drip cap

The drip cap on each vent is designed right into the strong aluminum extrusion. They add a distinctive richness to the architectural styling of Auto-Lok. Drip caps are fully weatherstripped and shed water away from the window.



3 screen clips

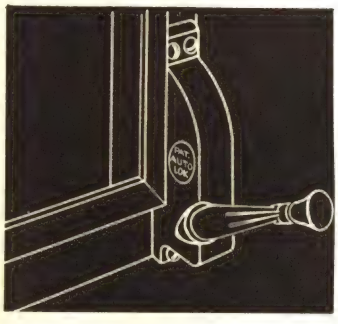
Interchangeable inside screens and storm sash can be placed or removed easily . . . just flip the clips, no tools required. Screen is not exposed to weather . . . remains clean and bright.



4 "angle type" power-light operator

Here is the most beautiful yet practical operator ever designed, because gracefulness has not been sacrificed for extra strength. Combines the non-corrosive features of high strength cast aluminum in the arm proper, and integral strength of coined and sintered steel in the gear teeth. Feather touch operation is the result of the smooth working contact of "oil impregnated" gear with "rolled thread" worm. Maximum gear teeth engagement is assured by both the breadth of gear (nearly 5/16 of an inch) and the roll shaped worm (almost 3½ teeth in direct drive contact). With a few effortless turns of the handle even the largest ventilators open easily and quickly without effort.

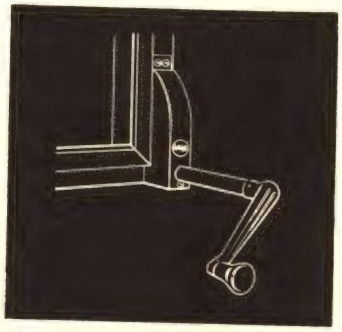
Does not interfere with venetian blinds. Operator normally furnished for right hand operation. When left hand operator is desired, please specify.



ENGINEERED AND MANUFACTURED BY LUDMAN

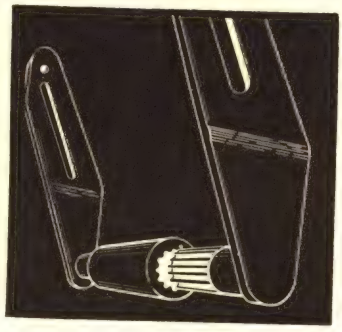
5 "over the sill" power-light operator

Incorporates all the features of Ludman's "Angle Type" power-light operator. Designed to meet various diversified architectural requirements. Shank length can be varied to meet any sill condition.



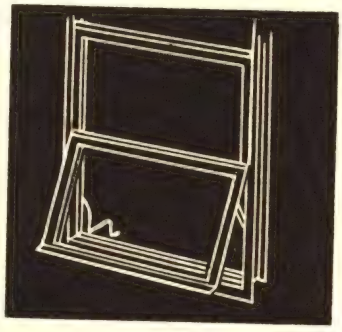
6 torque-bar assembly

Ludman's torque bar assembly is radially splined, which eliminates welding, pinning or other devices that may be subject to breakage.



7 delayed action opening

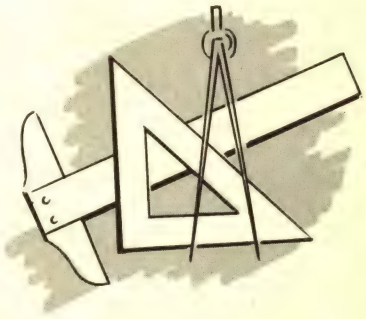
Bottom vent opens for partial ventilation while upper vents remain securely locked. Only Auto-Lok gives you "delayed action" opening and controlled ventilation from a slight crack of the bottom vent to a complete opening of all vents. Ideal for night ventilation, and for ventilation during extremely cold weather.



8 cleaning angle

Auto-Lok windows are the easiest to clean. There is nothing to lift out . . . no gadgets to disengage. Simply open wide and clean all glass conveniently and comfortably entirely from the inside . . . top vent too!





LUDMAN LEADS THE WORLD IN WINDOW ENGINEERING

Ludman window products in a few short years have forged into national dominance, as a result of unrivaled research, design and craftsmanship. A huge new plant emphasizes Ludman's proven window leadership and provides facilities for continued product creation and perfection, and production . . . without equal.

Ludman employs a large staff of experienced engineers second to none in the industry. Research always has been — and is — the foundation of all Ludman operations. We are constantly researching new designs and better ways to produce both windows and jalousies.

Research engineers test every Ludman product before releasing it for production and they are further tested by recognized independent testing laboratories for advertising and endorsement purposes.

During 1954 alone, our service engineers designed window installations for hundreds of large schools and hospitals and many other major building installations throughout the country.

Leading architects and designers make constant use of the experience and research facilities of Ludman's engineering staff. This department is always at your service to supplement your own facilities for any type installation, large or small.



LUDMAN Auto-lok AUTOMATIC LOCKING PATENTED

SEALS TIGHTER THAN A REFRIGERATOR

CONTROL BAR



the only window designed to meet all school window requirements . . . for hospitals, commercial, industrial and public buildings, too!

The design of the Auto-Lok Control Bar Window retains all of the advantages of the remarkable performance of the Standard Auto-Lok Window and at the same time withstands the abuse windows are generally subjected to when used in schools. The advantages of Auto-Lok Windows for schools are better, and more easily controlled ventilation . . . fresh air all the time . . . even when it's raining . . . positive tight closure to eliminate the "cold zone" around windows . . . **plus a sturdy control bar for the simplest push-out operation.**

(A) CONTROL BAR—The simplest operating device ever designed! Will withstand the severest usage. Quick, safe, effortless opening and closing can be accomplished by the youngest child. Handsome, smooth aluminum alloy bar takes the place of the slower turning operator . . . reduces window operation to absolute minimum. No maintenance, no adjustments ever!

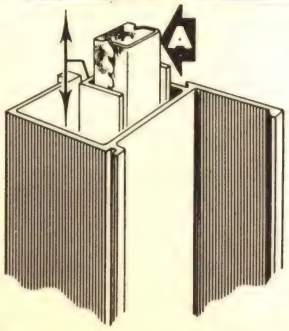
(B) SAFETY-LOK—An improved locking feature that securely locks the bottom vent. Center position makes it handier, more accessible. Extra protection against intruders.



friction pad for control bar window

The friction pad used in Ludman's Control Bar Window consists of the highest quality felt available and provides the required amount of friction to assure perfect operation.

Arrow in illustration indicates how hardware channel moves up and down in the jamb. Pressure against friction pad holds vents open to any position desired. Note how felt is held in special aluminum retainer with crimped edges. See A.



ENGINEERED AND MANUFACTURED BY LUDMAN

WINDOW

aluminum windows

control bar operation

operational ease!

Now, windows so simple and easy to close, the youngest child can manage them. Just push-out or pull in. Opened fully or only a fraction, vents stay put in any position.

instantaneous weather control!

All vents can be opened fully or closed as tight as a refrigerator door, in less than one second. Nothing to crank . . . the Control Bar opens and closes all vents.

absolutely injury-proof!

Completely concealed and enclosed Ludman Auto-Lok operating mechanism provides "weightless balance" for every vent. Nothing to jam fingers or catch clothing. No straining.

vandal protection!

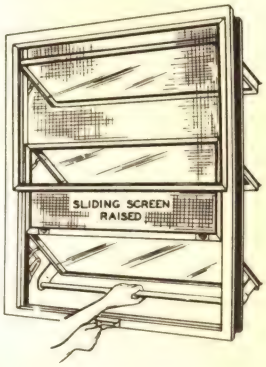
Patented, automatic-locking Ludman Auto-Lok hardware locks each vent separately and independently. Center Latch locks bottom vent after all other vents lock automatically. Auto-Lok Windows cannot be forced open from the outside!

maintenance economy!

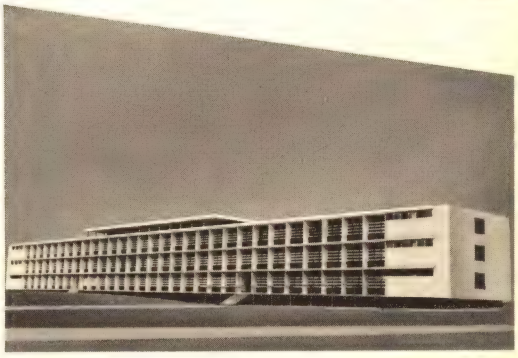
Now, windows that are positively "student-proof!" No parts to work loose . . . no operator handles to become bent or broken . . . no gears to become stripped. No adjustments or replacement of any part of the Ludman Auto-Lok operating mechanism necessary ever!

lifetime trouble-free operation!

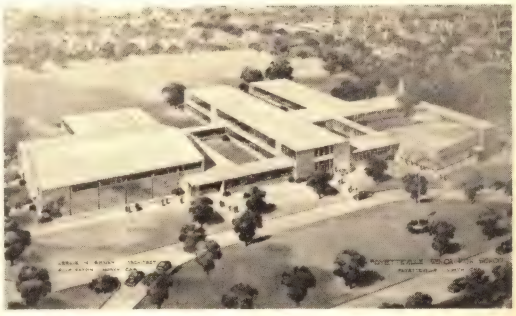
Auto-Lok Windows are the finest windows ever made for schools. They are the result of years of special research and study of school window problems, and are designed to last a lifetime under the most severe school usage.



screens-*The screen for the Control Bar Window consists of an upper fixed screen and a lower sliding screen. When vents are closed sliding screen remains up. When vents are open screen is lowered. Easily installed completely from the inside.*



Girl's High School
Partilla, Panama City, R. of P.
Ernesto de la Guardia, III, Architect



Fayetteville Senior High School
Fayetteville, North Carolina
Leslie N. Boney, Architect



New Hanover High School
Gymnasium and Class Room Addition
Wilmington, North Carolina
Leslie N. Boney, Architect

Leading architects throughout the country have specified Auto-Lok Windows for many hundreds of school installations.

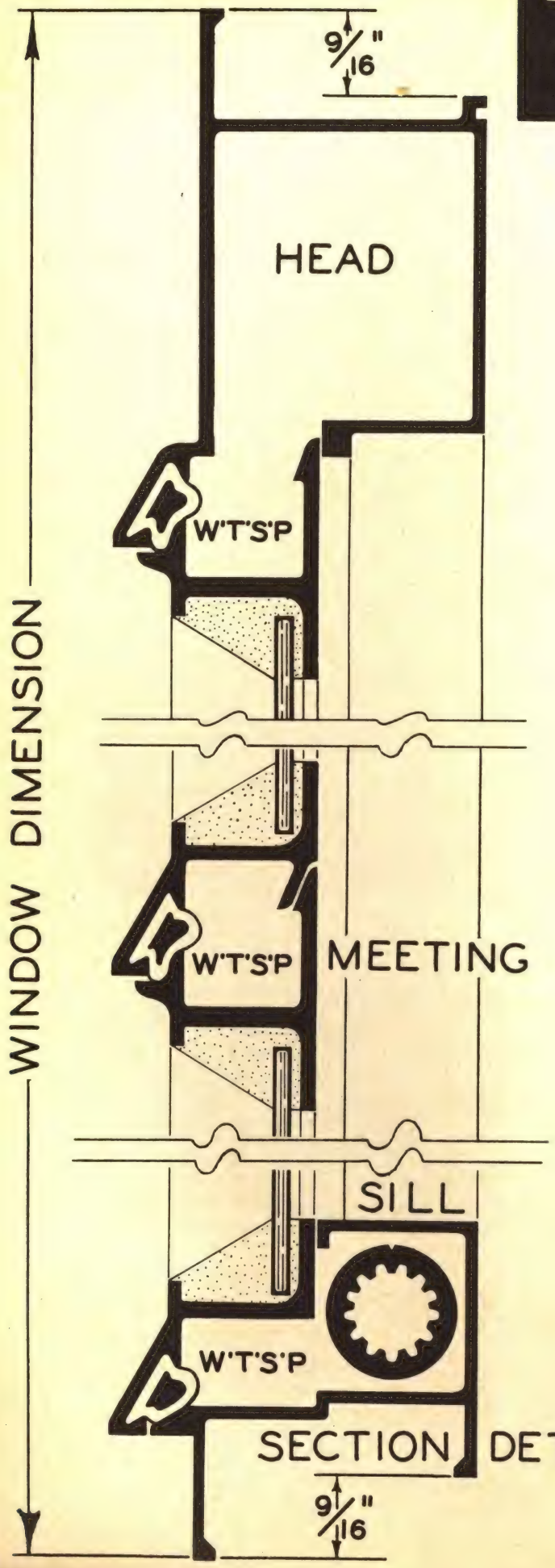
LUDMAN Auto-Lok AUTOMATIC LOCKING

SEALS TIGHTER

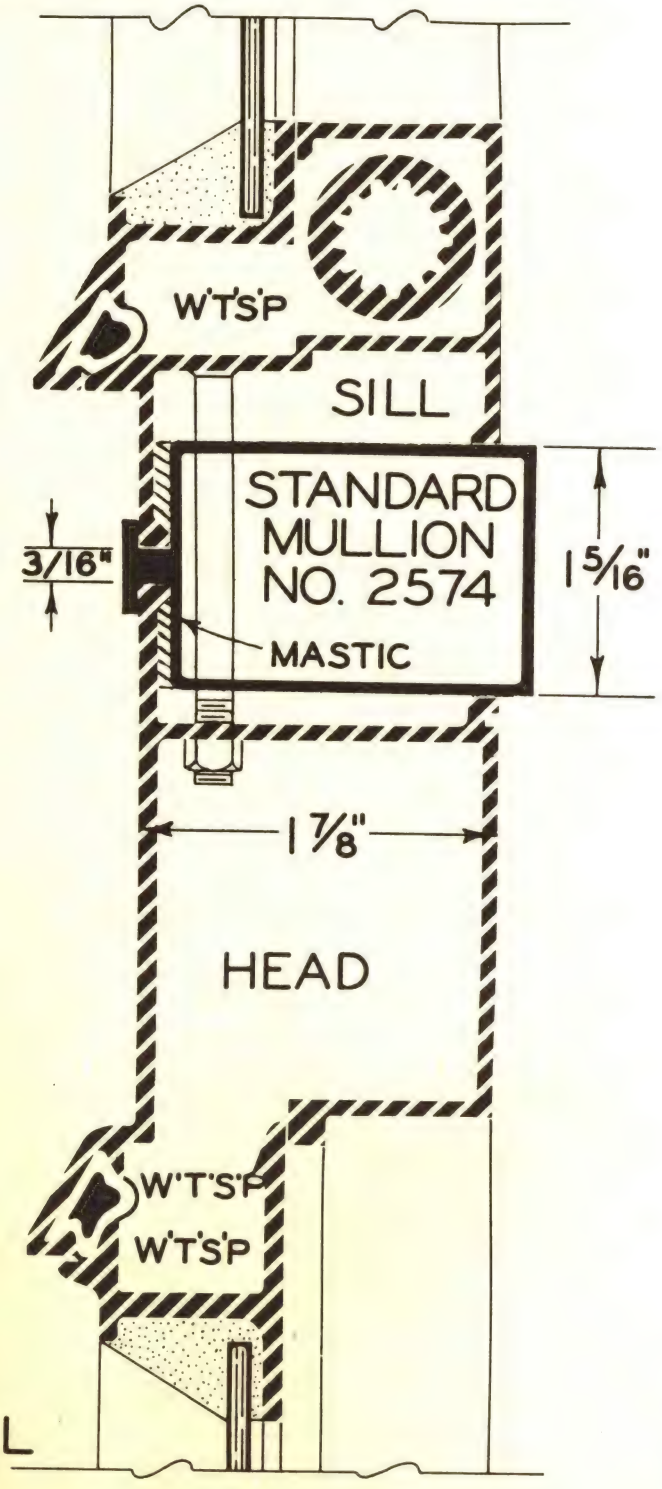
These full size details illustrate the well-balanced horizontal and vertical extruded aluminum sections used in Auto-Lok Aluminum Windows.

Strength, combined with architectural style and superb craftsmanship, are apparent in all the details and methods illustrated.

vertical frame section

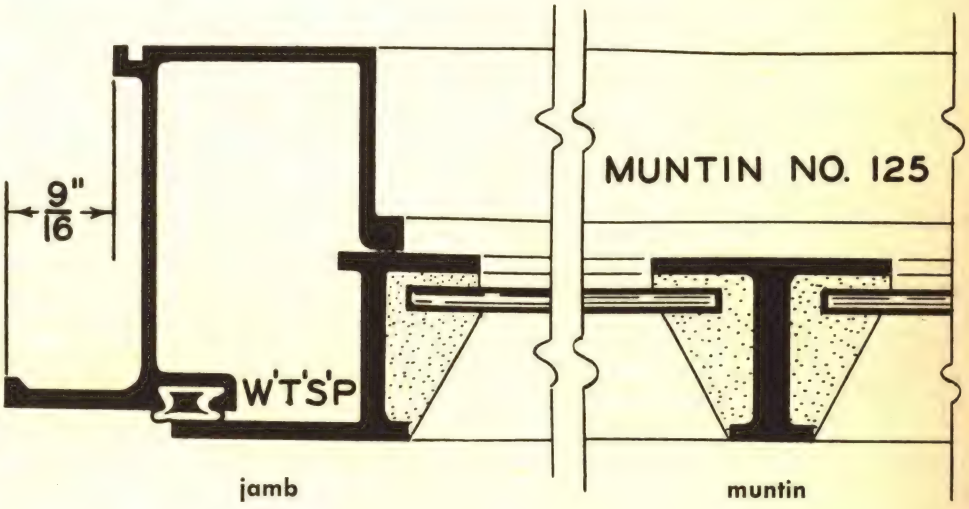


horizontal mullion



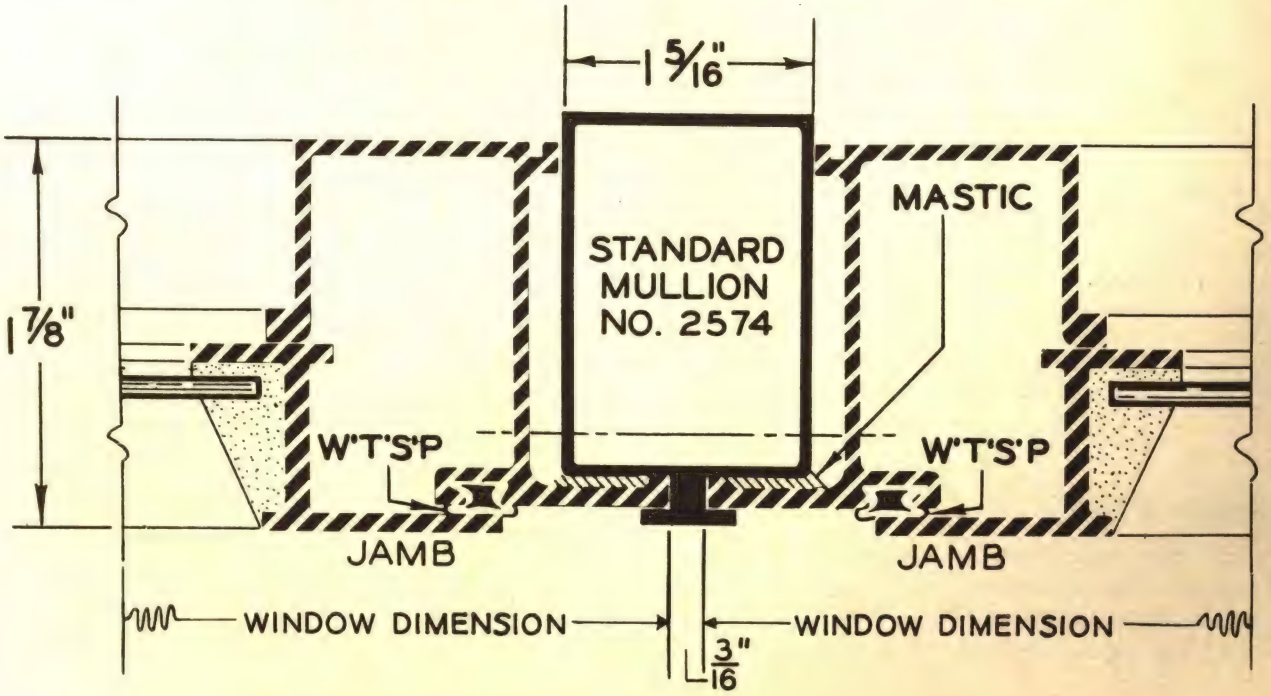
jamb and muntin

Characteristic of the meticulous Ludman engineering design is the extruded aluminum jamb sections. Note recess that accommodates weatherstripping. MUNTINS are furnished at slight extra cost for any standard Auto-Lok window. Use of muntin makes possible various architectural effects; for example, using smaller panes of glass will give a Colonial effect. Muntin No. 125 is a heavy muntin used in operating and fixed vents and picture windows, with or without glazing bead.



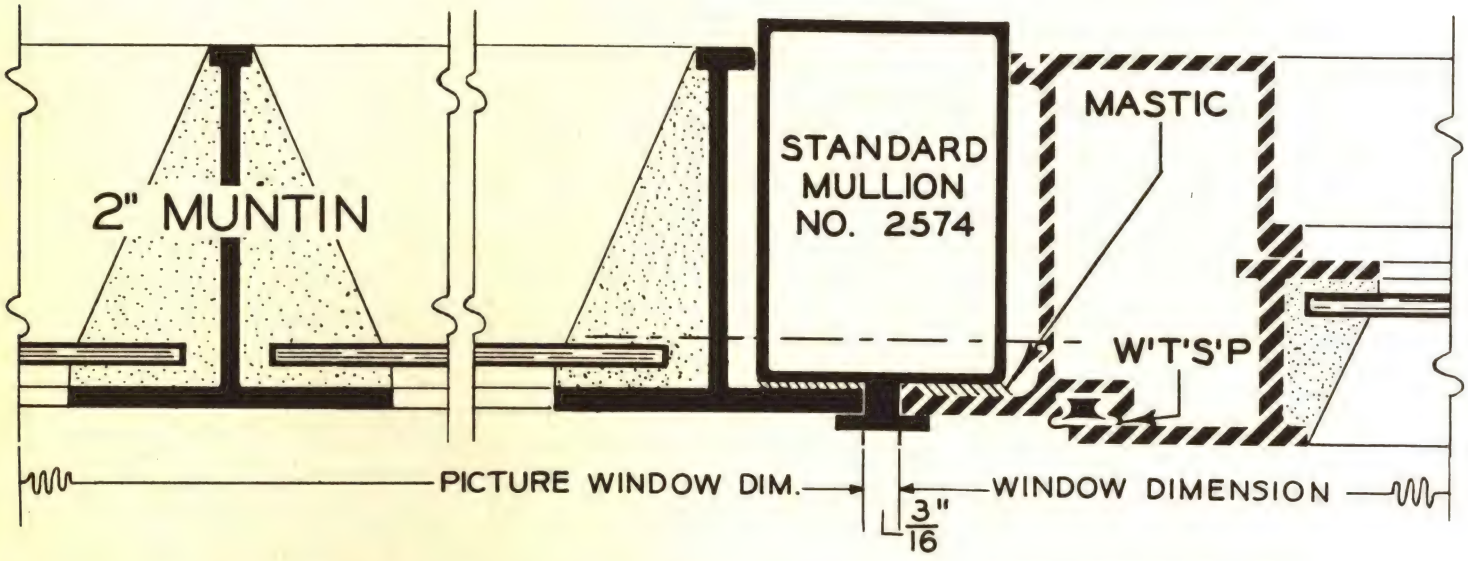
standard mullion for multiple windows

Standard Mullion No. 2574 for general use in all combinations of two or more Auto-Lok windows or Auto-Lok and picture window combinations. To determine overall width when two or more windows are used with this mullion, ADD 3/16" for each mullion to sum of window widths. Mullion bolt holes on all standard jambs and mullions are factory matched for easy installation. Note: These mullions may also be used in combinations with Ludman Auto-Lok Windows and Ludman Jalousies.



picture window frame and mullion

full size sections (continued)



Note full 2" heavy picture window frame section No. 2661 (inside glazing shown) for use with all Auto-Lok window types. May be glazed with glazing compound (as shown) or glazing bead (see page 17); designed to take either ¼" plate glass or 1" Thermopane. This section also available for outside glazing.

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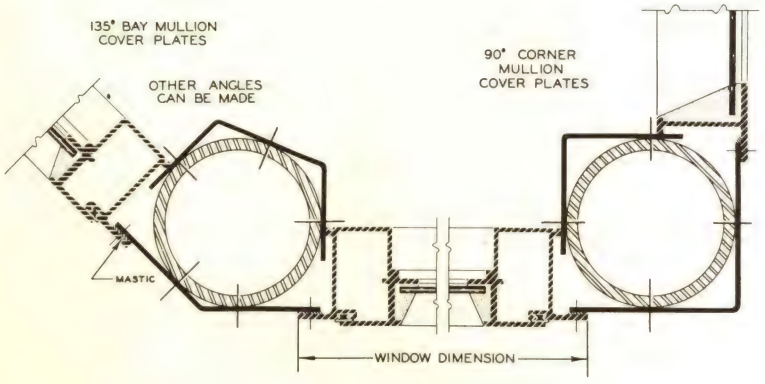
cover plates

angles for bay and corner installation

scale 3" = 1'-0"

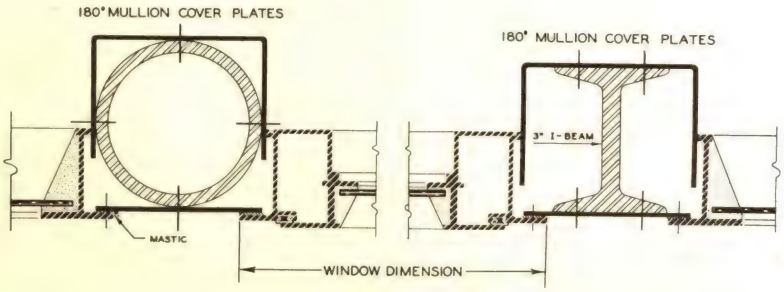
Shown here are typical standard details for bay and corner installation using Auto-Lok inside and outside Cover Plates for pipe columns. Cover Plates (connecting plates for joining two windows) can be used for various multiple, corner and bay window combinations.

When ordering inside and outside Cover Plate it is necessary to specify the outside diameter of the pipe and the degree of the angle. Unless angle is specified, 90 degree Cover Plates will be furnished. Cover plates will be furnished as a set (inside and out) unless otherwise specified.

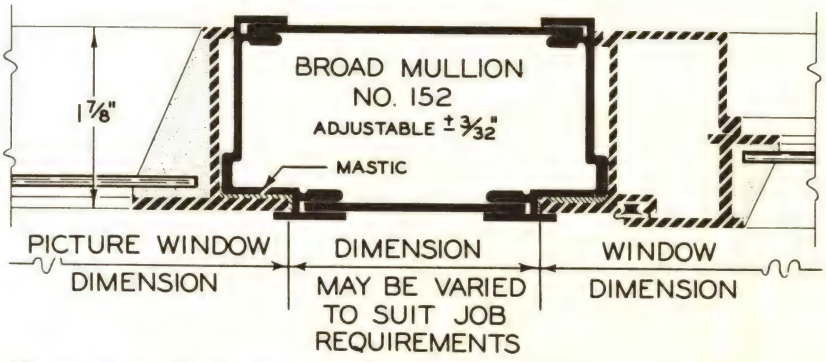


180 degree cover plate

Auto-Lok Cover Plates may be adapted to various 180 degree mullion conditions. Shown here are typical adaptations. When specifying please indicate exact outside dimensions of mullion used.

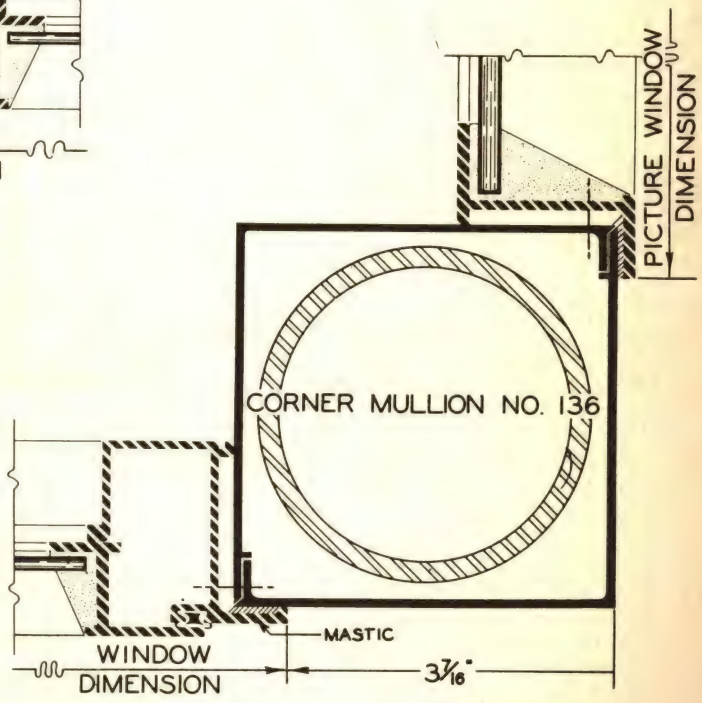


special mullions ½ size



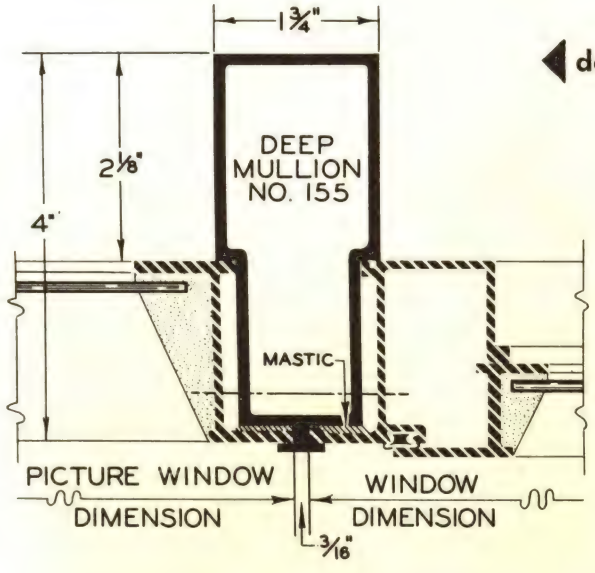
▲ adjustable broad mullion

Adjustable Broad Mullion No. 152 is multi-purposed. It permits exceptional flexibility in opening sizes and will provide for such architectural treatments as partitions, long window runs, etc. This mullion is made up on order to any width and is then adjustable on the job, plus or minus 3/32" from specified dimension.



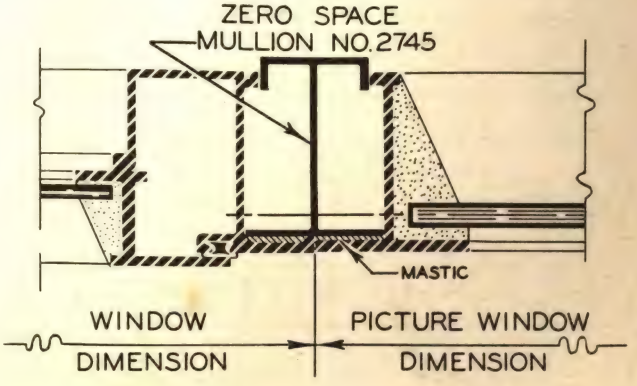
4" square mullion ▶

Corner windows are easily installed by using Auto-Lok Square Mullion No. 136. This standard item is made up of two like pieces which join to form a 4" square tube. Will enclose any size pipe (by others) up to 3½" O.D.
Where cantilever construction is used this corner mullion serves without lolly column.
The use of this 4" square mullion eliminates the possibility of interference with operating hardware.



◀ deep mullion

Auto-Lok Deep Mullion No. 155 may be used where depth of section is required for additional strength or for various architectural effects. May be used as vertical and horizontal mullion in conditions where a bank of windows rests on a bank of windows, such as a stair well. Opening sizes required are same as for standard mullions. For other applications consult factory.

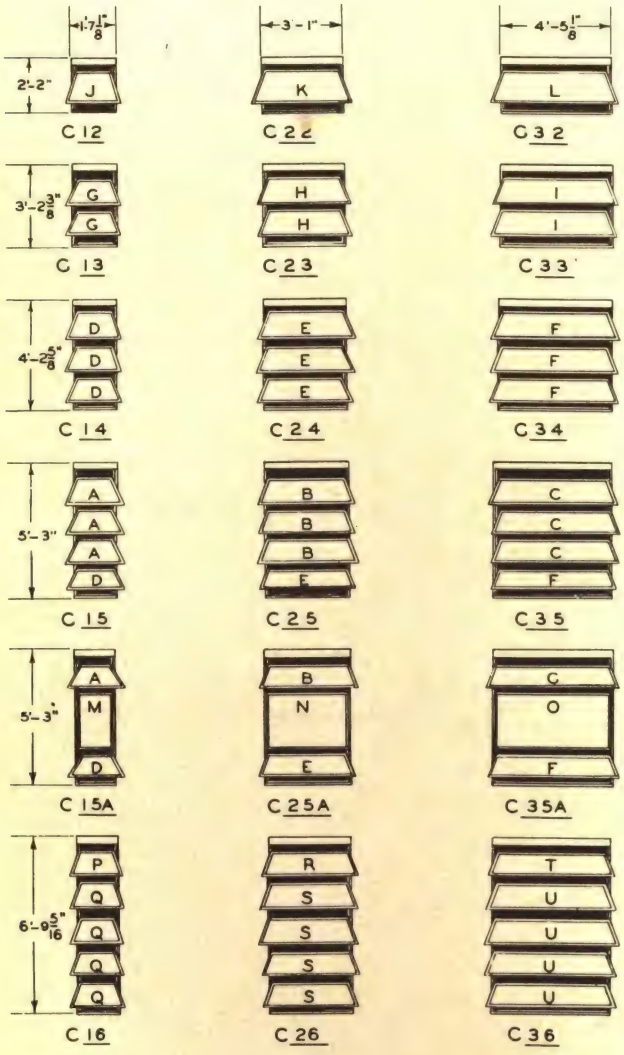


zero space mullion ▶

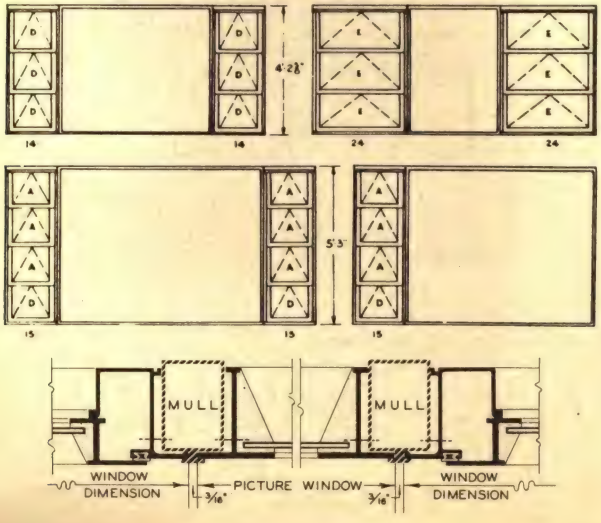
Auto-Lock Zero-space Mullion No. 2745, allows the flanges of Auto-Lok windows, flanged Ludman Jalousies and/or picture windows to touch, wherever such flexibility is desired.

standard commodity

These sizes are as standardized by the Metal Window Institute for casement windows. Sizes are OVERALL from outside of flange to outside of flange.



All picture windows are made of extra heavy full 2" sections. Shown below are a few of the many combinations made possible by combining Auto-Lok units with picture windows in various arrangements.



LUDMAN Auto-Lok
AUTOMATIC LOCKING
PATENTED

SEALS TIGHTER THAN A REFRIGERATOR

glass sizes

COMMODITY TYPES

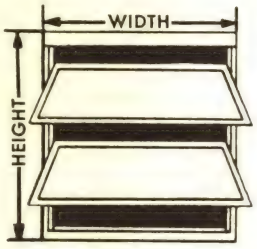
A — 14¾" x 12⅞"
B — 32⅝" x 12⅞"
C — 48¾" x 12⅞"
D — 14¾" x 13⅞"
E — 32⅝" x 13⅞"
F — 48¾" x 13⅞"
G — 14¾" x 15½"
H — 32⅝" x 15½"
I — 48¾" x 15½"
J — 14¾" x 20⅛"
K — 32⅝" x 20⅛"
L — 48¾" x 20⅛"
M — 14¾" x 27 5/16"
N — 32⅝" x 27 5/16"
O — 48¾" x 27 5/16"
P — 14¾" x 11 7/16"
R — 32⅝" x 11 7/16"
T — 48¾" x 11 7/16"
Q — 14¾" x 14 7/16"
S — 32⅝" x 14 7/16"
U — 48¾" x 14 7/16"

combinations

CM = commodity width, modular height

MC = modular width, commodity height

Combinations of any commodity width with a modular height or any modular width with a commodity height may be ordered as standard sizes. This offers a wide variety in the range of Auto-Lok standard sizes. When ordering please indicate "CM" or "MC" with the size desired.

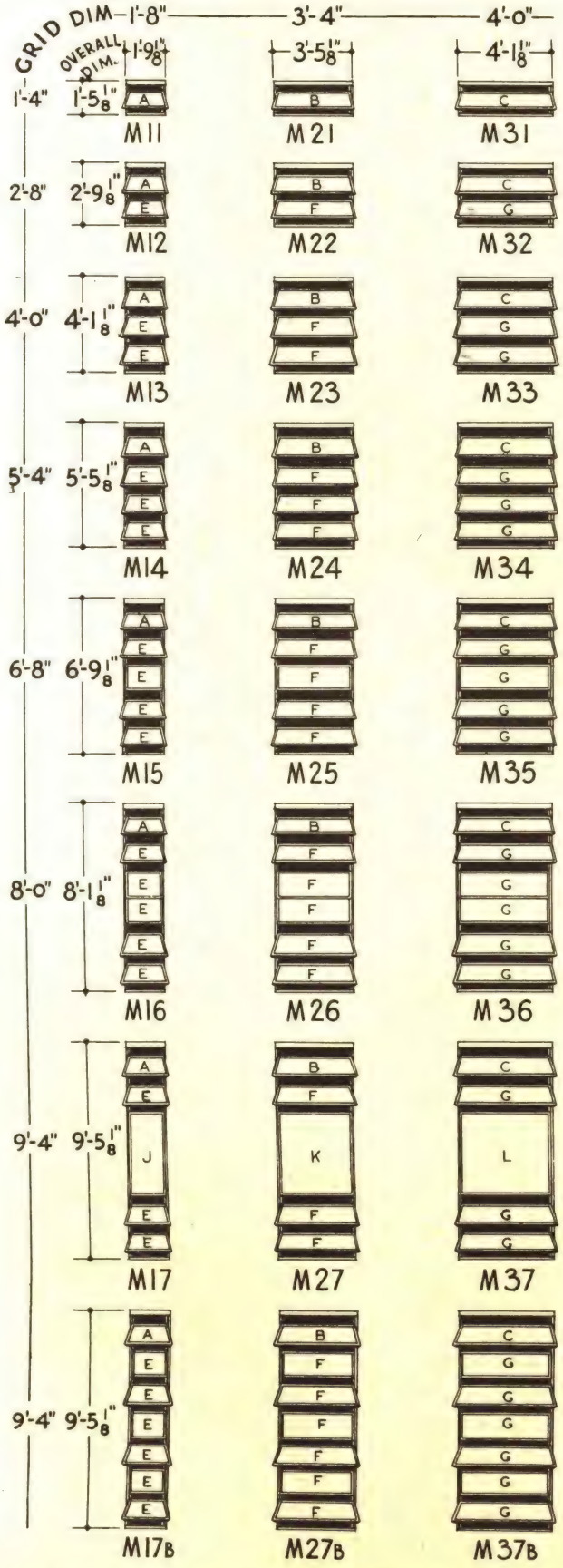


See Page 14 for Special Types and Sizes

aluminum windows

types and sizes

modular architectural *



*All Ludman Modular Window Sizes are recommended by the AIA (American Institute of Architects) Modular Coordination Office.

glass sizes

MODULAR TYPES

A — 16¾" x 11¼"
B — 36¾" x 11¼"
C — 44¾" x 11¼"
E — 16¾" x 14⅞"
F — 36¾" x 14⅞"
G — 44¾" x 14⅞"
J — 16¾" x 46⅞"
K — 36¾" x 46⅞"
L — 44¾" x 46⅞"

HOPPER VENT OF MODULAR SIZES

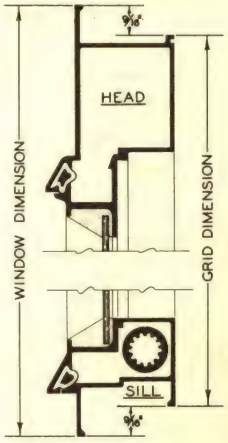
M-1 Wide Hopper Vent
15⅝" x 13⅞"
M-2 Wide Hopper Vent
35⅝" x 13⅞"
M-3 Wide Hopper Vent
43⅝" x 13⅞"

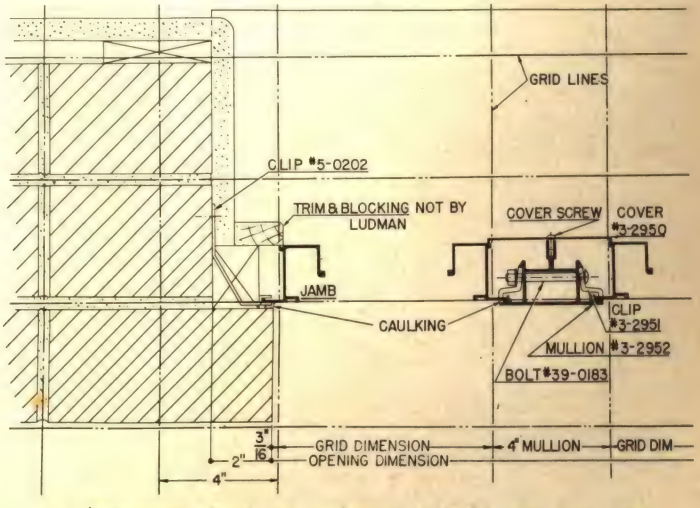
to determine window sizes

Window dimensions shown are to outside flanges of window.

modular grid dimensions on Auto-Lok standards

Modular grid dimensions shown represent inside or buck dimensions. For buck opening size use modular grid dimension allowing for clearance. Modular grid dimensions equal window width minus 1⅛"; window height minus 1⅛".



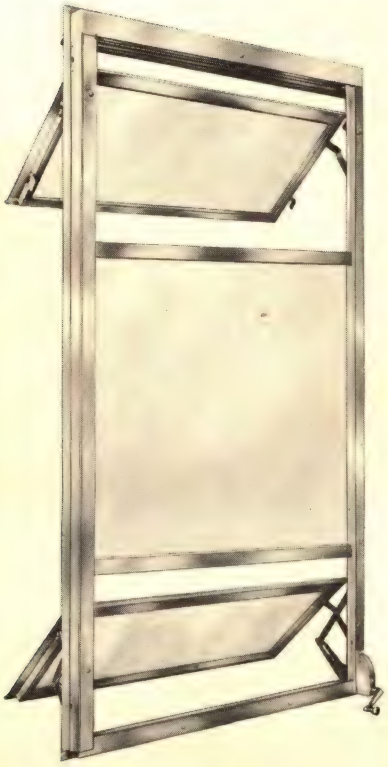


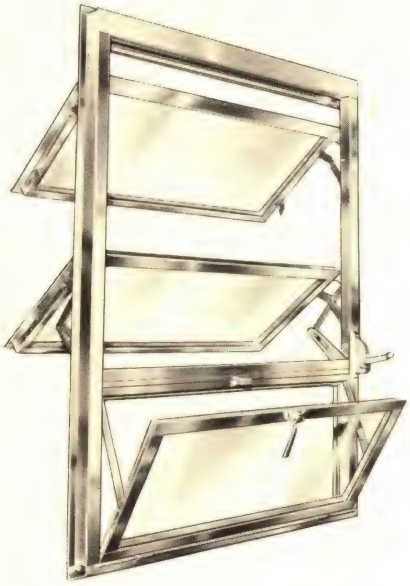
Arrangement of vents may be changed on special order. Fixed vents on 5 light high windows can be operated if desired provided, the total glass area to be operated does not exceed 30 square feet. Center fixed panels on 6 light high windows can be supplied as one large panel without meeting rail.

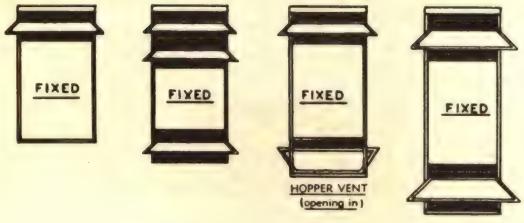
LUDMAN Auto-lok AUTOMATIC LOCKING PATENTED

SEALS TIGHTER THAN A REFRIGERATOR

SPECIAL TYPES AND SIZES

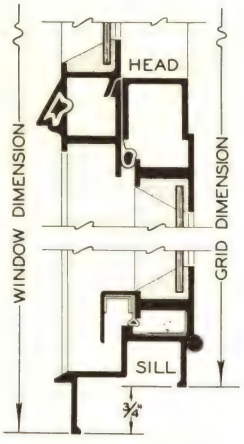






Hopper Vents

Hopper vents (open-in) can be supplied in place of the bottom vent on any modular height window. The hopper vent is fully weatherstripped and operates independently of other vents by means of an attractive cam latch handle. Removable outside screens can be replaced by storm sash. All work is done from the inside.



Extended Drive

Windows having one large fixed section below the operating vent can be operated with an extended drive operator at normal sill level.

Special Sizes

widths

Windows may be ordered to any specified width up to 5'0" on engineering basis.

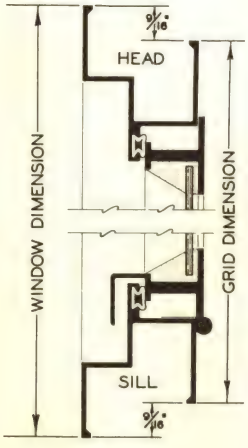
heights

Available on engineering basis only on orders of 100 units or more for each special height.

venting

Any operating vent on any window except the bottom vent on commodity height windows may be fixed stationary at the factory at no extra cost. Vents shown fixed may be ordered operating on special order.

NOTE: Factory reserves the right to limit the degree of opening of all non-standard windows.



Transom Type Units

Transom type units are single vent, bottom hinged, open-in units. Available in all commodity and modular widths. Heights are standard one vent heights. Supplied with cam latch or spring catch for pole operation when out of reach.

aluminum windows

typical installations



Infirmary for Jewish Aged
Buffalo, New York
Milton Milstein, Architect

HOSPITALS, SCHOOLS, HOTELS, RESIDENCES, COMMERCIAL and INDUSTRIAL BUILDINGS



Auto-Lok Residential Installation
Coral Gables, Florida



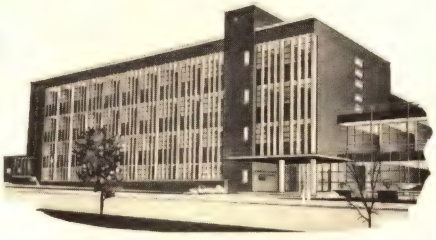
Auto-Lok Residential Installation
Billings, Montana



Western Hills Hotel Fort Worth, Texas
Charles Dilbeck, Architect
Carlos Schoeppl, Consultant



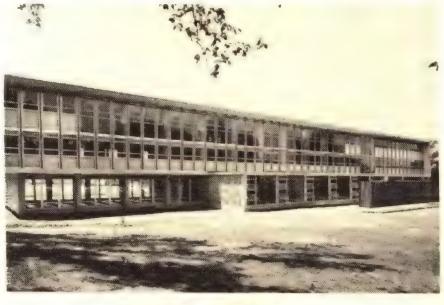
The Alabama Agricultural Center Coliseum
Montgomery, Alabama
Sherlock, Smith & Adams, Architects



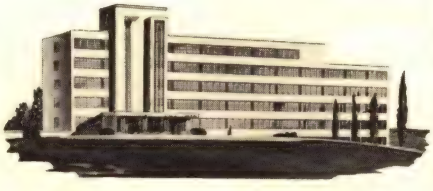
Burlington Protestant Hospital
Burlington, Iowa
Morgan-Gelatt & Associates, Architects



Brown Shoe Company
St. Louis, Missouri
Russell, Mullgardt, Schwarz, Van Hoefen, Architects



Law School Building
University of Arkansas
Paul Young, Jr., Architect



Manatee Veterans Memorial Hospital
Bradenton, Florida
Bail, Horton & Associates, Architects & Engineers



India Supply Mission
Washington, D. C.
A. R. Clas, Architect



Lubbock Public Library
Lubbock, Texas
James Atcheson & Atmar Atkinson, Architects



City Health Center
Toledo, Ohio
Peterson, Hoffman & Grow, Architects



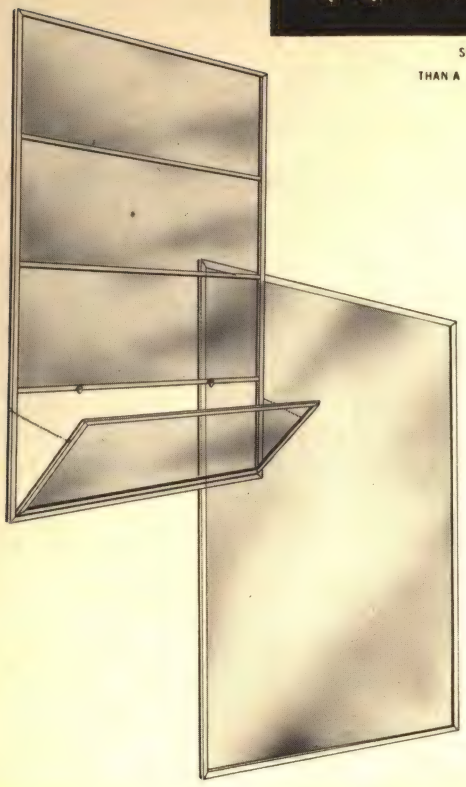
Wheaton Research Laboratory,
Millville, New Jersey
Norman N. Rice, Architect.

for all types of construction — *in any climate*

Ludman Corporation

LUDMAN Auto-lok
AUTOMATIC LOCKING
PATENTED

SEALS TIGHTER
THAN A REFRIGERATOR



LUDMAN STORM SASH

Outstanding in design and construction, Ludman storm sash are manufactured of the highest quality materials to the same exact standards as Auto-Lok windows. They feature a tight fitting weather seal between the glass and frame and between the frame and window, for perfect sealing and maximum insulation. Exposed corner locks facilitate assembly or disassembly. Installed completely from the inside, Ludman storm sash are interchangeable with screens . . . do not interfere with operator. Available in solid sash and solid sash with narrow muntins to achieve horizontal architectural effects. Both styles also available with weather sealed ventilating hopper if desired.

LUDMAN SCREENS

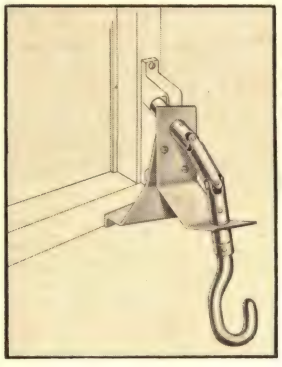
Sturdy, trim, light weight, lifetime aluminum screens are available in either box or inset types. Box type screens can be ordered with either rolled or extruded sections. Inset type screens are available with rolled sections only.

The same high quality which has made Ludman windows and jalousies the recognized leader in the industry is maintained in Ludman screens.

Order by window types and sizes as shown on pages 12 and 13

overhead operation

Auto-Lok windows are easily operated when installed in clerestory or high, inaccessible openings by means of Auto-Lok pole type adaptors for overhead operation. Mechanical operation for continuous windows is also available. For complete information contact our Engineering Department.

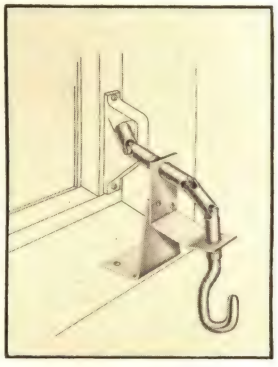


close coupled

No. P. O. Pole type adaptor for use only where sill depth is less than 4 inches.

poles

Order pole length to suit. Suitable length pole is approximately 3 feet less than sill height from floor.



extension type

Pole extension type adaptor for use where sill depth is greater than 4". Specify as follows:

Operator Adaptor No.	Depth of Sill
P-2	for 4" to 5½"
P-4	for 5½" to 7½"
P-6	for 7½" to 9½"
P-8	for 9½" to 11½"

For sill depth greater than 11½" consult factory.

ENGINEERED BY LUDMAN

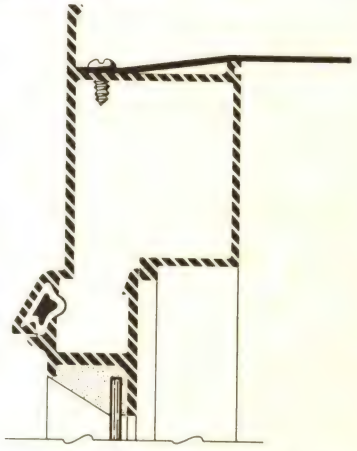
aluminum windows

accessories, glazing details

erection accessories ½ full size

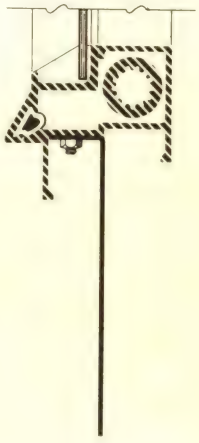
anchor clips

head and jamb



Ludman Universal Clip is shown here in typical attachment to head of window. Jamb attachment similar.

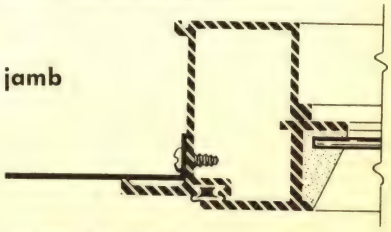
sill



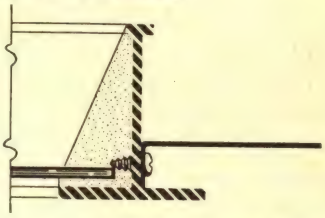
Ludman Universal Clip for mounting to wood or masonry. Clip is screwed to window and bent on job to suit requirements.

continuous metal fin

jamb



picture window

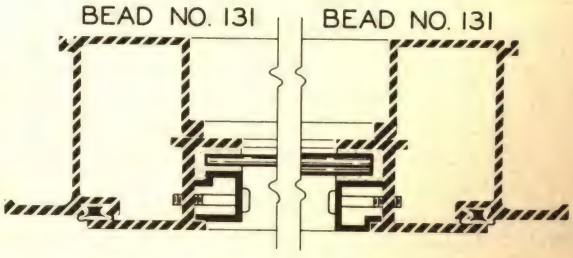


Ludman Universal Continuous Metal Fin can be turned either way to suit job requirements. Jamb installation shown above; picture window section below. Head Fin is similarly installed.

glazing details ½ full size

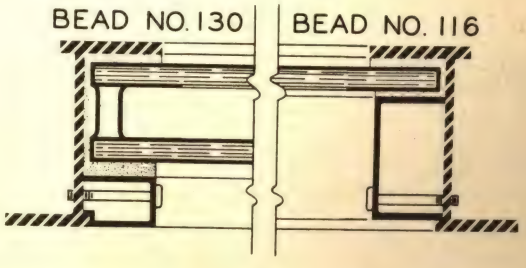
universal glazing beads

Auto-Lok Bead No. 131 is universal for glazing vents with either ¼" or ⅛" glass. Note how bead reverses to accommodate either size glass. Furnished to be drilled and tapped on the job, unless otherwise specified.



picture window glazing bead

Glazing Bead No. 116 for use with ¼" or ⅛" glass in 2" Picture Window Frame. Glazing Bead No. 130 for use with 1" Thermopane or Twindow in 2" Picture Window Frame.



double glazing

All Auto-Lok sections will accept either Thermopane or Twindow double glazing. Vents will accept only ½" Thermopane or Twindow.

snap in glazing bead

Available on request.



SNAP IN
GLAZING BEAD

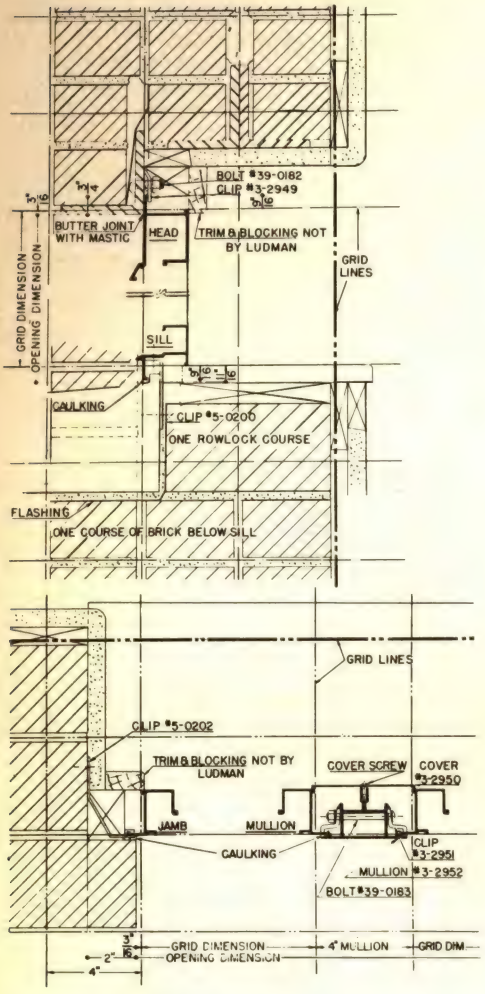
Glazing Clips furnished by others.

note: Auto-Lok Aluminum Windows come complete with hardware for sill operation. (Caulking, mastic, flashing, structural steel, trim, glass, putty and glazing to be furnished by others.) Anchor clips are furnished for head, jambs and sill with all sash when requested. Continuous metal fins at head and jambs are furnished when specified as extras. Auto-Lok Windows are easily adapted to any type of construction. Consult our Engineering Department for assistance and details of special conditions.

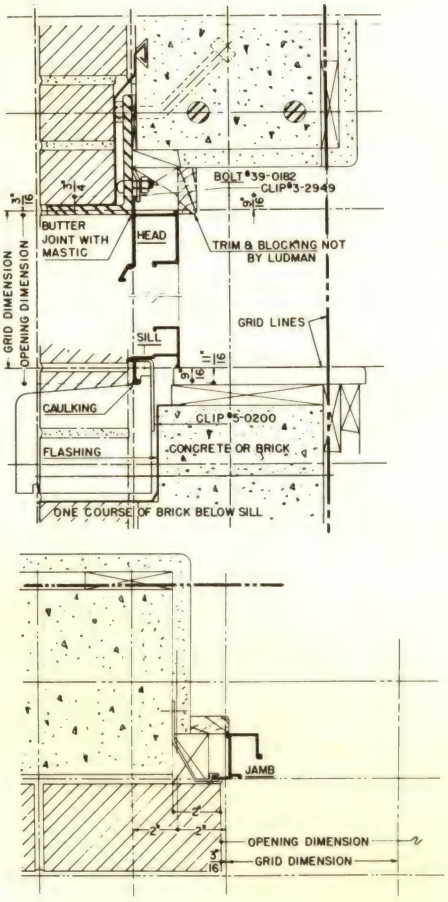
installation details
1½" — 1'-0"

MODULAR

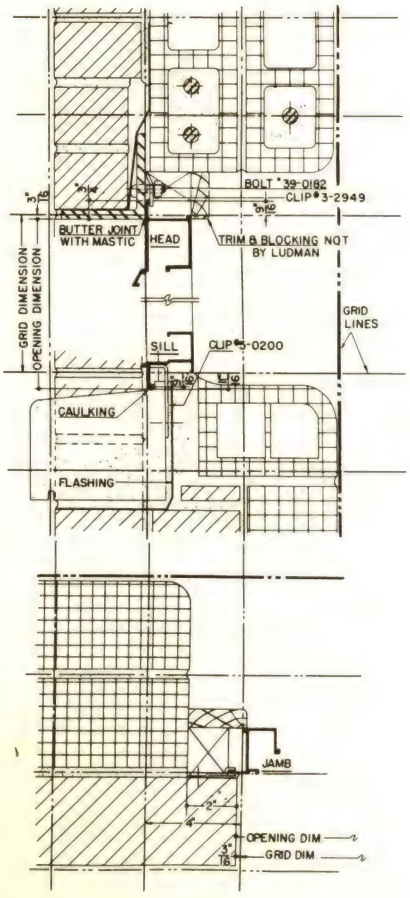
solid brick



brick on concrete

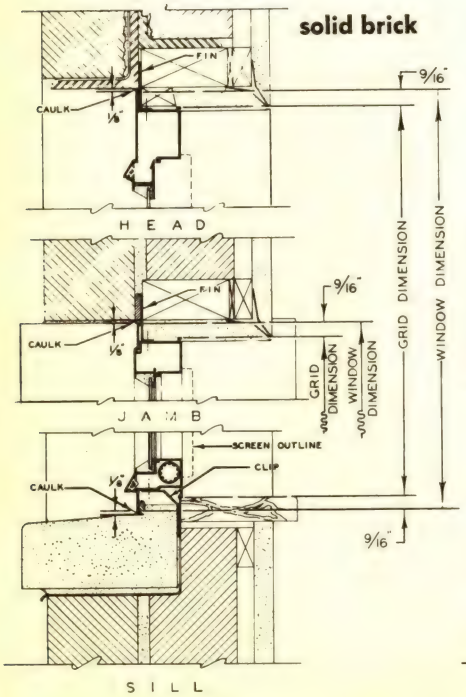


brick on tile

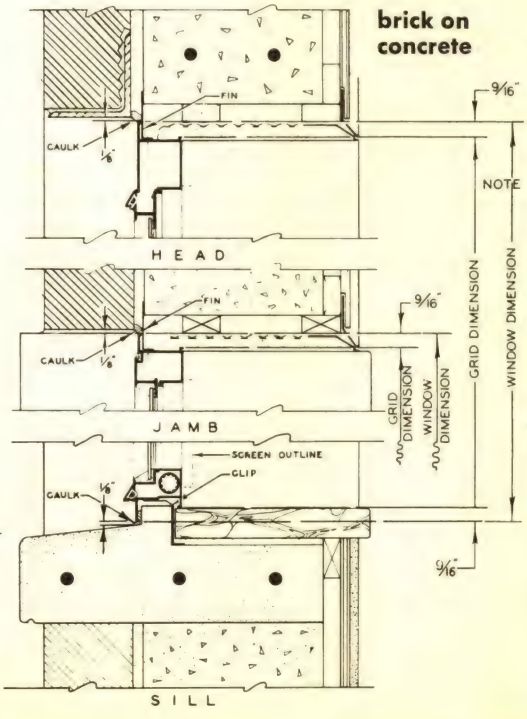


COMMODITY

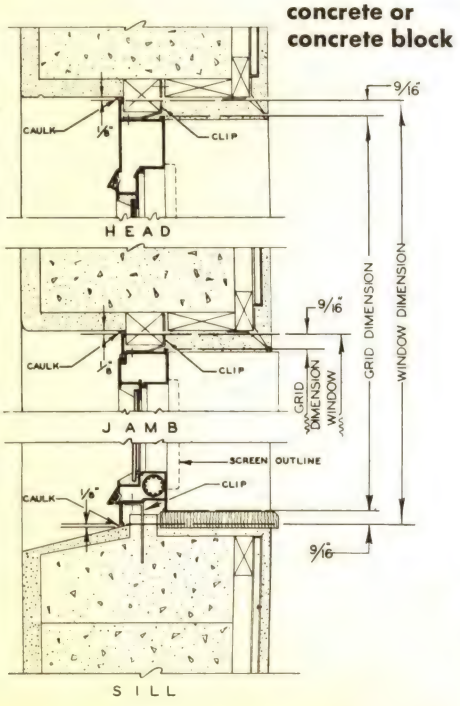
solid brick



brick on concrete



concrete or concrete block



aluminum windows

installation details, specifications

specifications

GENERAL — Windows are to be AUTO-LOK weatherstripped Aluminum Windows as manufactured by Ludman Corporation, North Miami, Florida, in sizes as shown on drawings.

MATERIAL — All window members shall be 63S-T5 or suitable aluminum alloy. The aluminum alloy shall contain no more than 0.4% copper. All frame members shall have a minimum depth of 1⅞". Head and sill sections of the vents shall have a minimum depth of 1¼". Operating hardware shall be a suitable hard aluminum alloy. Roto-type "Power-Light" operator in either angle or over the sill types shall be standard as manufactured by Ludman Corporation and shall provide smooth and easy operation, furnish maximum power and give lifetime satisfaction.

CONSTRUCTION — The window shall be assembled in a secure and workmanlike manner to assure neat weathertight construction. When window is in closed position there shall be two weathering contacts around the entire perimeter of all vents, one of which shall be weatherstripped. Locking devices shall be fastened to the vents to seal them against the weatherstripping when window is closed. The sill of each vent shall have a weatherstripped drip cap to cover vent underneath.

OPERATION, STANDARD SIZE WINDOWS — All outward opening vents of standard size windows shall open to more than 80 degrees. Top vent shall drop-down a minimum of 6" to permit easy cleaning from inside without disengagement of hinges. Bottom vent shall open for partial ventilation while upper vents remain closed. All vents except night vent shall be locked at all four corners of each vent automatically without any undue stress at pivot points. A radially splined torque bar assembly, completely concealed in the sill, shall be employed to bring in the bottom night vent. All opening sash shall have continuous compressed weatherstrip contact around entire perimeter of each vent when locked. Operation of special window shall be in accordance with drawings supplied by manufacturer. All modular sizes shall be approved by the AIA, (American Institute of Architects) Modular Coordination Office.

HARDWARE — Interior hardware shall be AUTO-LOK as manufactured by Ludman Corporation. All hardware except operator and latch shall be attached at point of manufacture. Roto operator shall be a standard "Power-Light" AUTO-LOK operator. Control bar windows with AUTO-LOK hardware shall be operated by an aluminum alloy bar as manufactured by Ludman Corporation in place of roto type operator.

WEATHERSTRIPPING — Windows shall be completely weatherstripped at all outside contacts with Koroseal or elastromeric vinyl or equal. Rubber or rubber composition shall not be used. Weatherstripping shall be inserted in grooves provided therefor and shall be so bonded so it will not leave these grooves under severe usage. When windows are closed, weatherstripping shall be compressed by a load equal to a ten pound minimum; when windows are open, weatherstripping shall return to normal shape.

AIR INFILTRATION — Upon request, the manufacturer shall supply a copy of air infiltration test results by Pittsburgh Testing Laboratory or other recognized testing laboratory on a stock window showing air infiltration not exceeding 0.095 cubic feet per minute per lineal foot of crack perimeter when subjected to a static air pressure equal to that exerted by an outside air velocity of 25 miles per hour.

NOTE: Italicized portions in parentheses are architect's option.

MULLIONS — Mullions for standard AUTO-LOK windows shall be extra heavy tubular sections with outside flange for complete weathering. For special window sizes, mullions shall be as shown on drawings, as furnished by Ludman Corporation.

FINISH — Windows shall have a standard metal finish. *(Special lacquers or anodizing where specified.)*

SCREENS — Where specified, screens shall be included in the sash contract. Screens shall be, as furnished by Ludman Corporation, aluminum frames and aluminum mesh unless otherwise specified. Screen cloth shall be 14 x 18 mesh per inch. Screens shall be retained by special swivel clips to permit easy and quick removal of screens without tools.

DRAWINGS AND INSTALLATION DETAILS — Upon request, the window manufacturer shall furnish standard details showing recommendations for the installation of the windows. *(If called for in these specifications, the manufacturer will furnish shop drawings or special installation details.)*

ERECTION — The erection contractor shall securely anchor windows in place to a straight, plumb and level condition, without distortion of the windows. Special attention shall be given to anchoring of sill and mullions. Erector shall use a suitable mastic at all window and mullion joints and shall place erection screws so they will not interfere with operating hardware, or distort frame. Erector shall make final adjustment for proper operation of ventilating units after glazing.

CAULKING — Window openings shall be properly caulked by others with a suitable compound to accomplish a thorough weathertight condition around the perimeter of the window frame and wall opening.

GLAZING — The glazing contractor shall use a glazing compound which shall have a composition particularly adapted for use with aluminum windows and shall not require painting to protect it from drying out or deterioration. Windows shall be glazed in a closed and locked position. Glass shall be bed puttied, clipped and face puttied in a workmanlike manner. Where bead glazing is specified, the glazing bead shall be as shown on drawings and as supplied by the window manufacturer. Glazing compound shall be used with bead glazing to secure against leakage.

STORM SASH — Storm sash will be as furnished by Ludman Corporation for AUTO-LOK Windows and shall be interchangeable with screens. Storm sash shall be vented or fixed as shown on drawings.

CLEANING AFTER ERECTION — All exposed portions of the window shall be cleaned by others after the painting and finishing of the building is completed.

INTERMEDIATE PROJECTED ALUMINUM WINDOWS



TRUE MODULAR ARCHITECTURAL SIZES OR MANUFACTURERS' STANDARD SIZES*

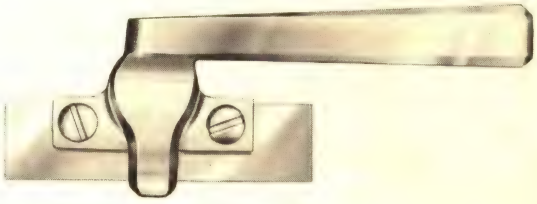
Ludman Intermediate Projected Aluminum Windows are engineered for performance perfection and are produced to the highest quality standards in the industry. From raw materials to the finished product, their quality is controlled at every step in production. Heavy gauge aluminum extrusions are produced from Ludman's own giant extrusion presses. Operating hardware is precision manufactured under the critical eyes of a large staff of inspectors. Ludman Intermediate Projected Windows, the result of years of research, offer a lifetime of trouble-free instantaneous weather control. The greatest care is exercised throughout to make every unit matchless in beauty and performance. They are suited for churches, public buildings, hospitals, schools . . . for any type commercial construction.

Muntins may be omitted.

only LUDMAN OFFERS ALL THESE FEATURES!

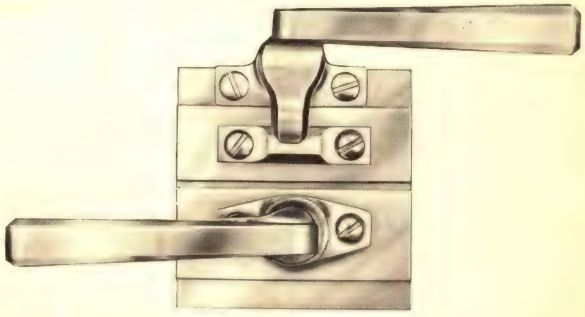
*True modular architectural sizes as recommended by the AIA (American Institute of Architects) Modular Coordination Office. Also available in manufacturers' standard sizes.

- White bronze corner braces for rigid corner vent construction.
- Non-metallic friction shoes and adjustable compression spring for smooth operation
- Vent arms securely attached to jambs through threaded inserts embedded in jamb sections for extra strength. Vents easily removed if necessary.
- Outside or inside mastic or bead glazing for use with standard or double glazing
- Mastic glazing retaining lips to eliminate feathering of glazing compound.
- Hardware screws are threaded into embedded grommets to prevent stripping.
- Projected-in and projected-out screens can be attached or removed from the inside. Cam handle with concealed strike for projected-in vent permits application of projected out screens without hardware interference.
- Stops in weatherstrip slides to limit vent openings to 50° and will prevent overtravel and locking of vents.
- Mullion bars that provide a caulking pocket for weathertight seal.
- All overlapping flanges form straight attractive sight lines. Hardware Bars have 3/16" web and added metal forming 45° angle to prevent vents from distorting when operated.
- Specially designed glazing bead in vents that do not require unsightly hold down screws.
- Vinyl weatherstripping for greater comfort . . . smaller fuel bills.
- 5/8" wall bearing to hold windows securely in openings.
- Adjustable mullions for expansion and contraction . . . for greater design flexibility.
- Vertical flutes designed in mullion bars and covers to match vertical lines of windows.
- Entire window can be easily cleaned from the inside.
- White bronze locking hardware polished to a beautiful satin finish.
- No draft ventilation. Vents scoop air in and up for even distribution. Vents may remain open even when it's raining . . . fresh air comes in but rain can't.
- Two point 1/4" contact around entire perimeter.
- Sections are milled to form hair line joints.
- Intersecting muntin joint securely locked by screw for added rigidity and proper glass clearance.



PROJECTED-OUT VENT CAM LOCK ASSEMBLY

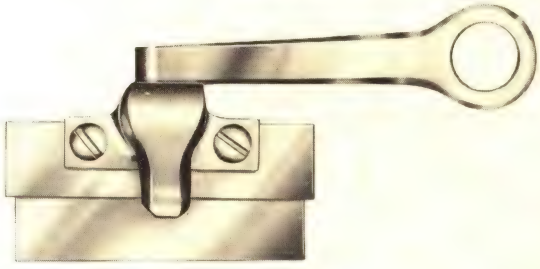
Part No. 59-0005
use with flat strike assembly No. 59-0006



PROJECTED-OUT VENT CAM LOCK ASSEMBLY
Part No. 59-0005
use with flat strike assembly No. 59-0006

PROJECTED-IN VENT CONCEALED CAM LOCK ASSEMBLY
Part No. 59-0007

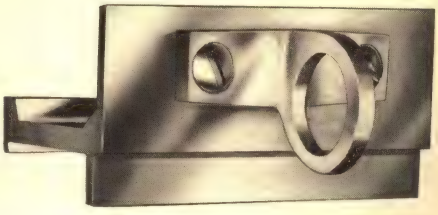
PROJECTED-IN VENT CONCEALED KEEPER ASSEMBLY
Part No. 59-0008

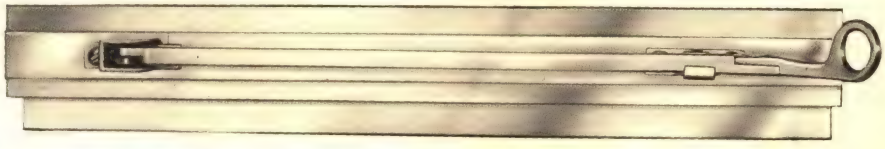


PROJECTED-OUT VENT CAM LOCK ASSEMBLY

Pole Operated
Part No. 59-0004
use with flat strike assembly No. 59-0006

POLE RING ASSEMBLY
Part No. 59-0001





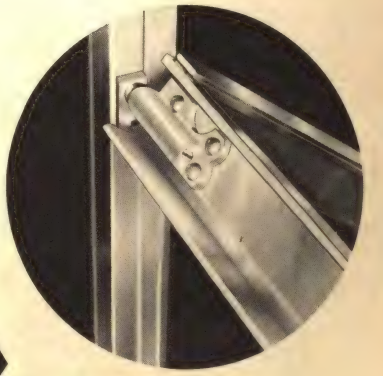
UNDER SCREEN OPERATOR ASSEMBLY

One light vent part No. 59-0000
Two light vent part No. 59-0003

FRICTION SHOE HOUSING ASSEMBLY

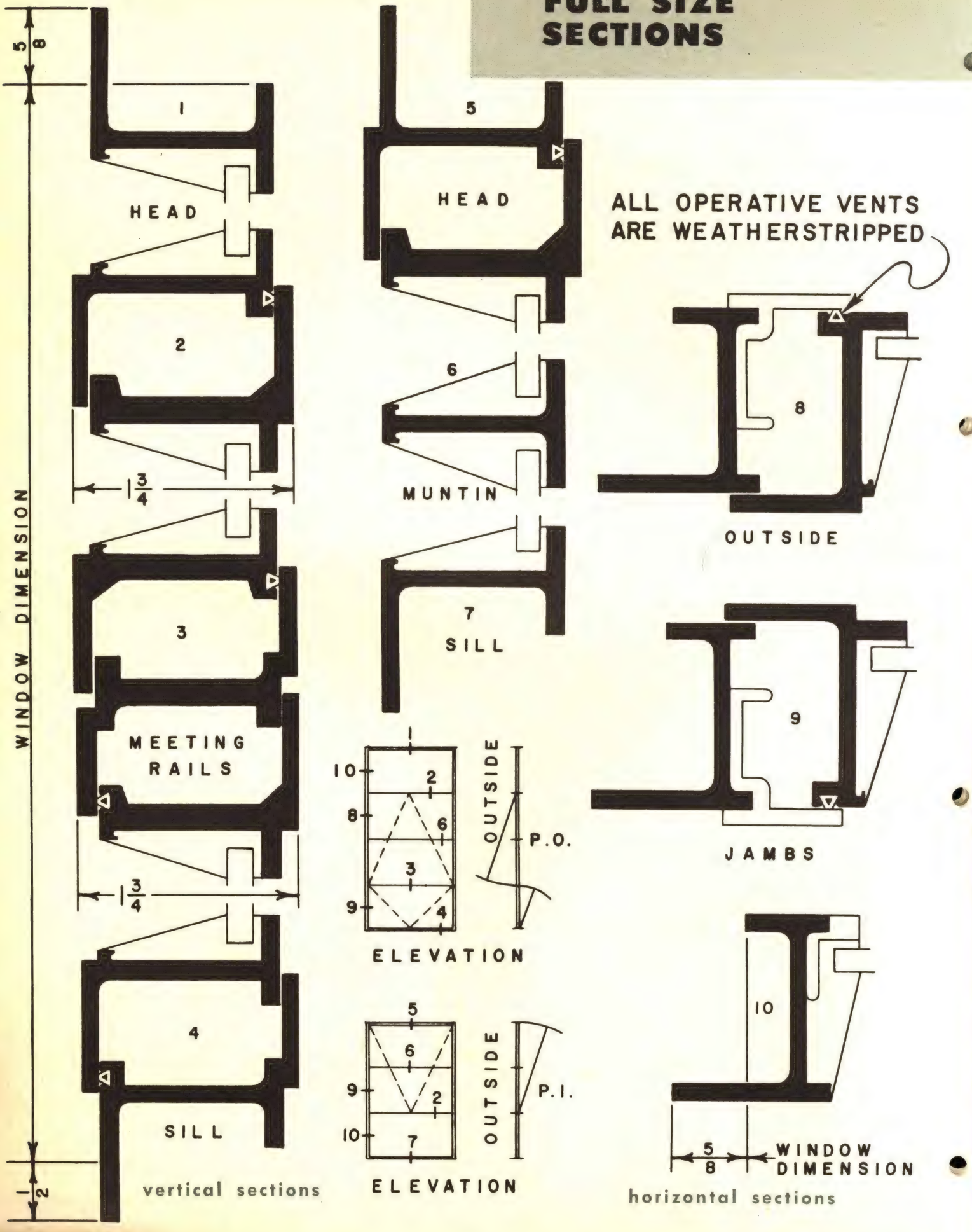
Right hand part No. 59-0012
Left hand part No. 59-0013

Note: Spring catch assembly No. 59-0002 can be supplied when required for projected-in vents.
Specify keeper No. 59-0008.



The ventilator corner reinforcement on a Ludman Intermediate Projected Window is cast of white bronze and includes housing for adjustable friction pivots. Friction pivots have non-abrasive friction shoes and concealed adjustable compression springs. Ventilators are connected to jamb bars by ventilator balance arms. All fasteners are aluminum or stainless steel. Friction shoes are limited in travel by a stop in the weatherstrip slide for a 50° ventilator opening.

FULL SIZE SECTIONS



specifications short form

Aluminum Projected Windows are to be as manufactured by the Ludman Corporation of North Miami, Florida in modular sizes as shown on drawings and as recommended by the AIA (American Institute of Architects) Modular Coordination Office.

specifications long form

GENERAL — All windows shall be Aluminum Intermediate Projected as manufactured by Ludman Corporation, North Miami, Florida. They shall conform to modular sizes and types as shown on drawings and as recommended by the AIA (American Institute of Architects) Modular Coordination Office. Windows shall be designed for outside or inside mastic glazing or inside bead. Windows shall include all hardware and erection fittings.

SECTIONS—All extruded aluminum shapes shall be 63S-T5 aluminum alloy. Frame members shall have a minimum thickness of ⅛", designed for outside or inside mastic or bead glazing. Frame members shall be of unequal leg type 1⅝" and 1½" deep horizontally and shall provide ⅝" anchorage. Frame and ventilator depth shall be 1¾".

CONSTRUCTION — Frame and ventilators shall be joined at the corners by a mortise and tenon joint for rigid connections. The projected-out ventilators shall project-out at the bottom and the projected-in ventilators shall project-in at the top. All ventilators shall have ¼" two point weathering contact. All ventilators shall have two adjustable friction pivots with non-abrasive friction shoe and concealed adjustable compression spring mounted in a combination white bronze corner brace and housing. All vents shall have two aluminum balance arms. Maximum vent opening shall be 50°. Ventilators over 2'8⅞" wide must have a vertical muntin when vents are pole operated.

MULLIONS — Mullions for manufacturers' standard sizes shall be adjustable from 3⅛" to 2⅝" wide and shall provide for expansion and contraction. Ludman modular mullions shall be adjustable from 3⅝" to 2⅞" wide. Mullions and mullion covers shall be fluted vertically for strength and appearance. Mullion bars shall provide a caulking pocket.

HARDWARE — All hardware shall be as manufactured by Ludman Corporation and shall be polished white bronze. All hardware shall be hand operated to securely lock ventilators. Pole operated hardware furnished when specified.

FINISH — Frame and ventilators shall be as extruded and fabricated and shall be free from serious mars and blemishes. Alumilite finish 204E or Alodized finish shall be furnished when specified. All windows shall have a coating of water-clear lacquer.

ANCHORS AND CLIPS — Anchors and clips shall be cadmium plated or zinc chromate painted steel. Bolts shall be furnished.

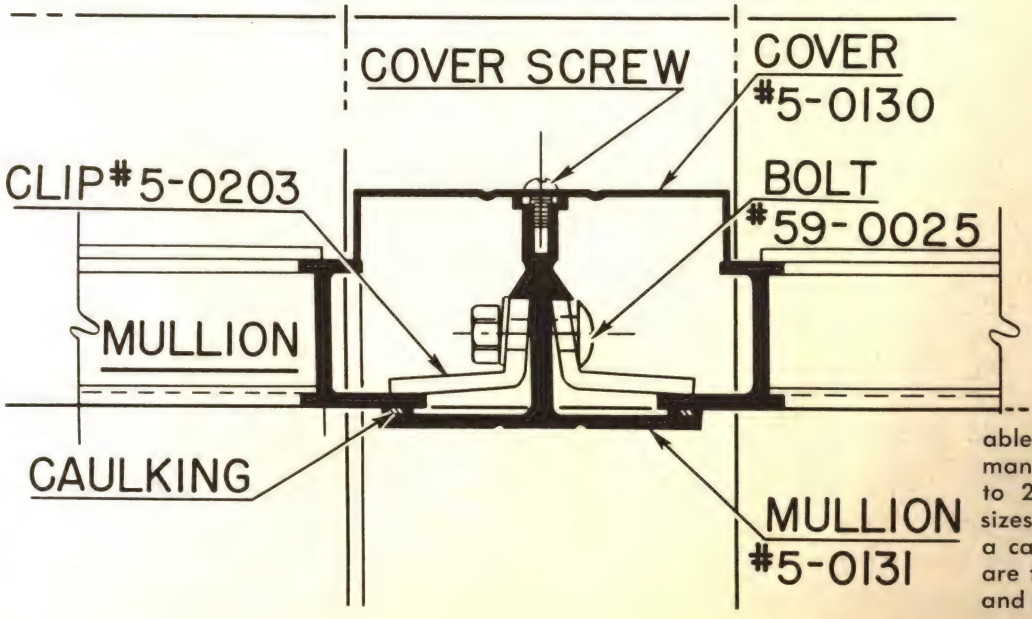
WEATHERSTRIP — Ventilators shall be weatherstripped around their entime perimeter with a vinyl extrusion of special design to give a minimum of air infiltration.

SCREENS — All windows shall be prepared to receive Ludman extruded screens when specified and screens shall be supplied only when specified. Screens for projected-out ventilators shall be mounted inside and shall be of the sliding wicket type unless under screen operators are specified. Screens for projected-in ventilators shall be of the fixed type mounted outside and removable from the inside. Screen cloth shall be of aluminum 14x18 mesh .0126 diameter aluminum wire. Frames shall be of extruded 63S-T5 aluminum and shall have welded corners. Finish shall be as extruded. Splines shall be of plastic material and shall be removable. Clips and screws are included with screens.

GLAZING AND CAULKING — All vents shall be squared. Glaze only with a quality compound. Do not use putty. Cut all glass square to catalog sizes and back bed all glass. After glazing place vents in locked position. Do not operate under 48 hours. Glazing clips furnished by Ludman Corporation. Glass, glazing and caulking furnished by others.

ERECTION — The erection contractor shall set windows plumb and level and shall securely anchor them in accordance with standard installation details or shop drawings as supplied by Ludman Corporation. Erector shall make final adjustments for proper operation of window.

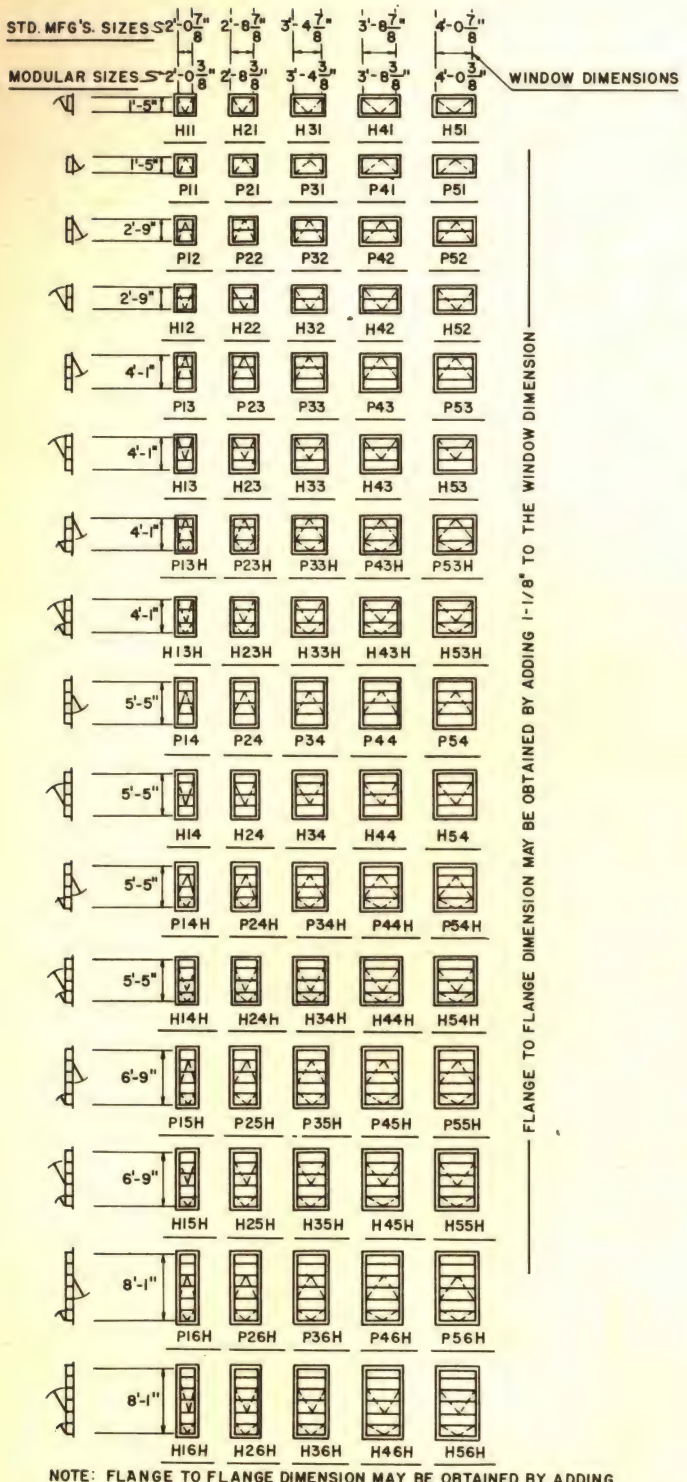
mullions ½ full size



MULLIONS

Mullion assembly permits two way expansion and contraction and is adjustable from 3⅛" to 2⅝" on standard manufacturers' sizes and from 3⅝" to 2⅞" on Ludman true modular sizes. Mullion bars also provide for a caulking pocket. Bars and covers are fluted vertically for appearance and strength.

modular architectural



NOTE: FLANGE TO FLANGE DIMENSION MAY BE OBTAINED BY ADDING H/4" TO THE WINDOW DIMENSION.

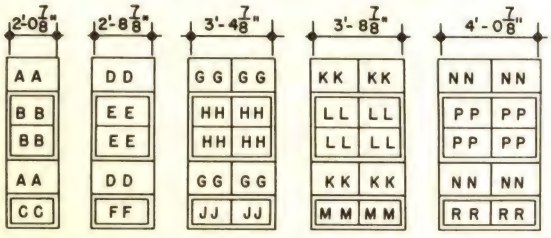
DESIGNED AND ENGINEERED BY LUDMAN

glass sizes—std. mfg's. type

AA- $23\frac{1}{2}$"X$15\frac{5}{8}$" BB-$21\frac{5}{8}$"X$14\frac{5}{8}$" CC-$21\frac{5}{8}$"X$13\frac{5}{8}$"
DD- $31\frac{1}{2}$"X$15\frac{5}{8}$" EE-$29\frac{5}{8}$"X$14\frac{5}{8}$" FF- $29\frac{5}{8}$"X$13\frac{5}{8}$"
GG- $19\frac{1}{2}$"X$15\frac{5}{8}$" HH-$18\frac{5}{8}$"X$14\frac{5}{8}$" JJ-$18\frac{5}{8}$"X$13\frac{5}{8}$"
KK- $21\frac{1}{2}$"X$15\frac{5}{8}$" LL-$20\frac{5}{8}$"X$14\frac{5}{8}$" MM-$20\frac{5}{8}$"X$13\frac{5}{8}$"
NN- $23\frac{1}{2}$"X$15\frac{5}{8}$" PP-$22\frac{5}{8}$"X$14\frac{5}{8}$" RR- $22\frac{5}{8}$"X$13\frac{5}{8}$"

Glass sizes are for reference only and should be verified on the job site.

typical glass sizes for std. mfg's. type windows

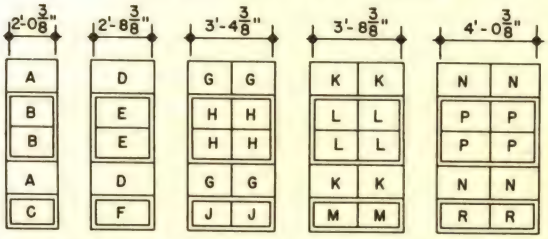


note: Window opening dimension widths shown. Heights typical.

Modular sizes shown are true modular sizes as recommended by the AIA (American Institute of Architects) Modular Coordination Office. Also available in manufacturers' sizes as shown.

note: Standard manufacturers' size type numbers as shown. Example: H11. For modular size type numbers add "M" to numbers—example: MH11. Where vertical muntins are desired use suffix "V"—example: MH11V.

Typical glass sizes for modular type windows.

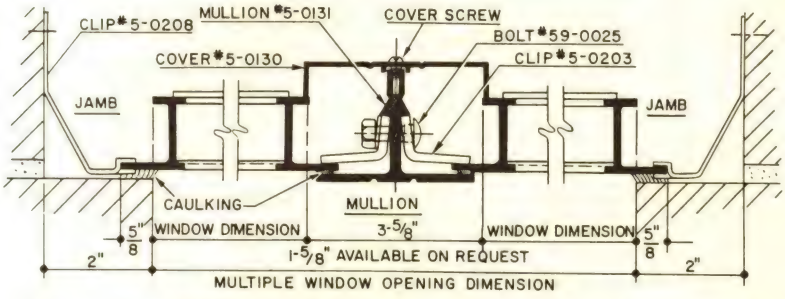


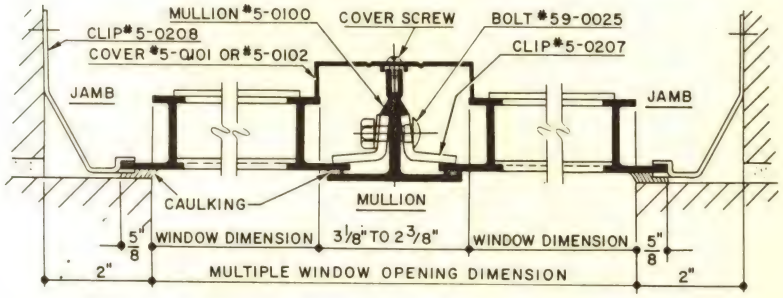
Note: window opening dimension widths shown. Heights typical.

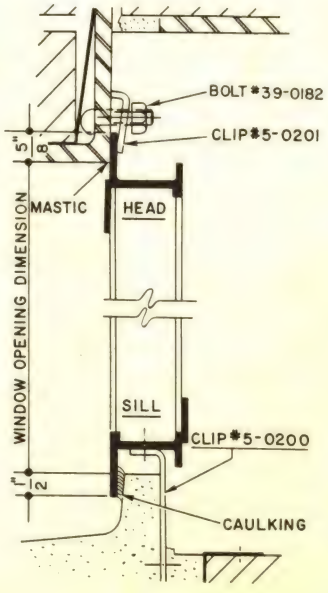
glass sizes—modular type

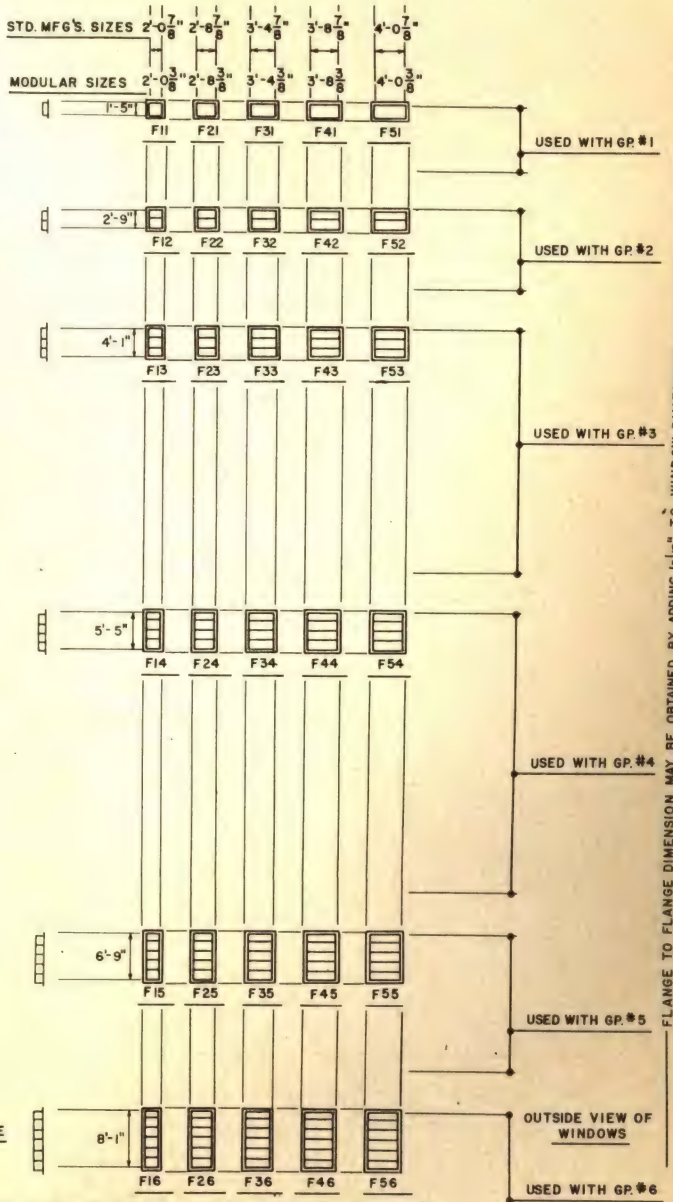
A- 23"X15 5/8" B-21 1/8"X14 5/8" C-21 1/8"X13 5/8"
D- 31"X15 5/8" E-29 1/8"X14 5/8" F-29 1/8"X13 5/8"
G- 19 1/4"X15 5/8" H-18 3/8"X14 5/8" J-18 3/8"X13 5/8"
K- 21 1/4"X15 5/8" L-20 3/8"X14 5/8" M-20 3/8"X13 5/8"
N- 23 1/4"X15 5/8" P-22 3/8"X14 5/8" R-22 3/8"X13 5/8"

glass sizes are for reference only and should be verified on the job site.









NOTE: FLANGE TO FLANGE DIMENSION MAY BE OBTAINED BY ADDING 1-¼" TO WINDOW DIMENSION.

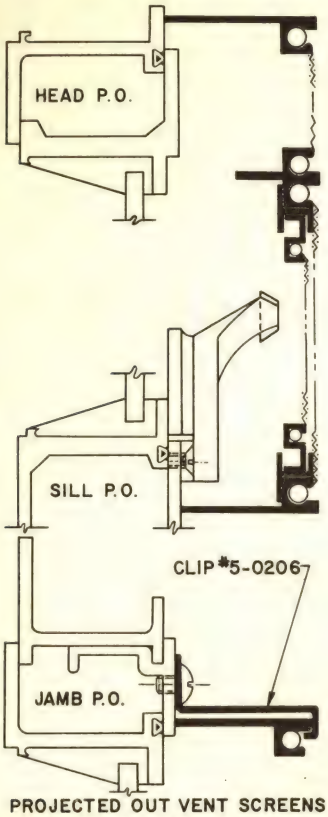
NOTE: STANDARD MANUFACTURERS SIZE TYPE NUMBERS AS SHOWN.— EXAMPLE: F11

FOR MODULAR SIZE TYPE NUMBERS ADD "M".— EXAMPLE: MF11

LUDMAN ALUMINUM PROJECTED WINDOW SCREENS

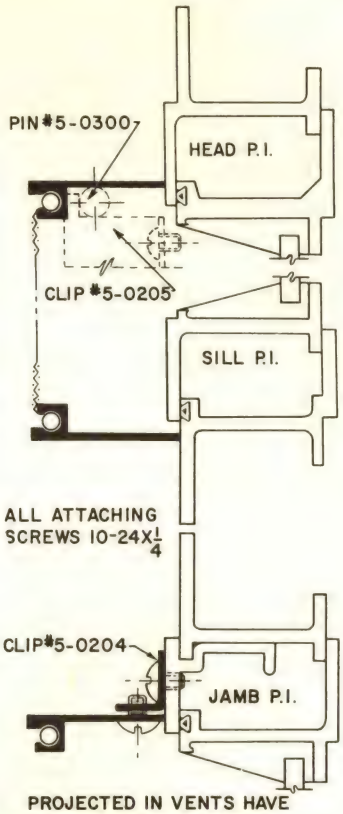
½ full size

PROJECTED OUT VENTS

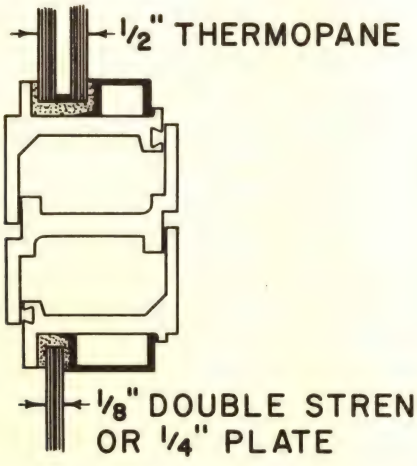


PROJECTED OUT VENT SCREENS
HAVE INSIDE SLIDING WICKETS

PROJECTED IN VENTS



PROJECTED IN VENTS HAVE
OUTSIDE FIXED SCREENS



TYPICAL BEAD GLAZING

glazing bead

½ full size

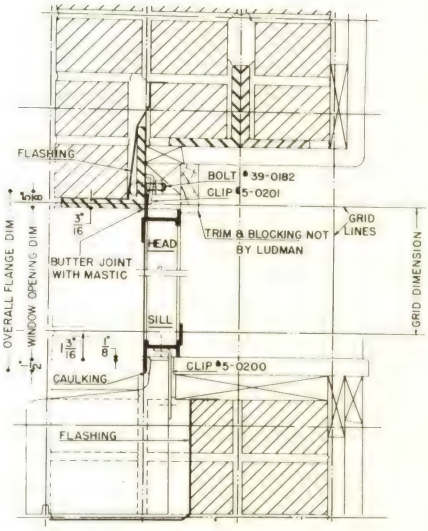
Ludman Intermediate Projected Aluminum Windows can be glazed with inside or outside metal bead if desired. Bead is available for use with ⅛" and ¼" glass or when specified, ½" double glazing.

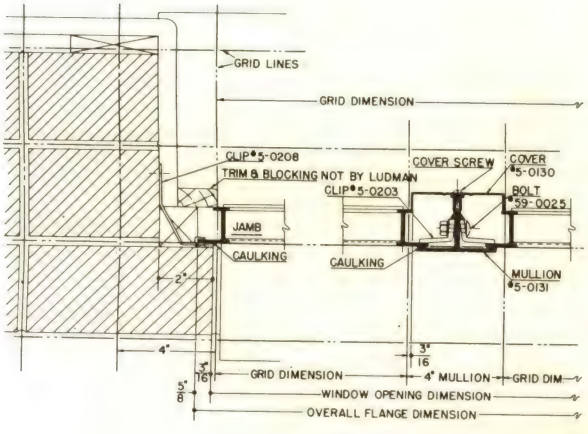
ENGINEERED AND MANUFACTURED BY LUDMAN

installation details

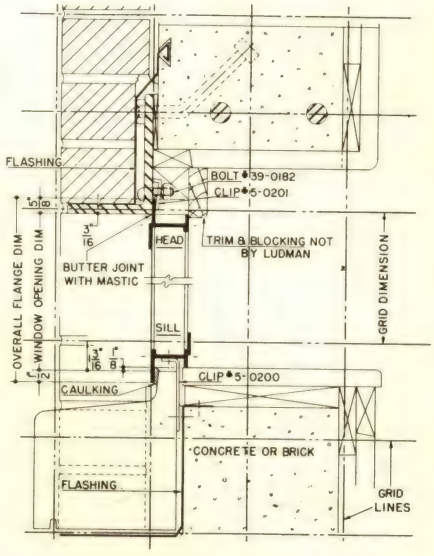
1½" – 1'-0"

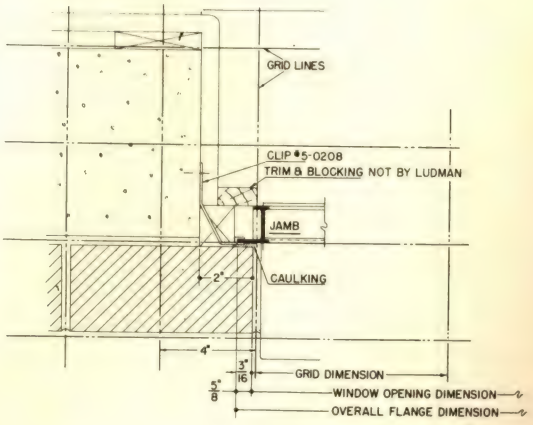
solid brick



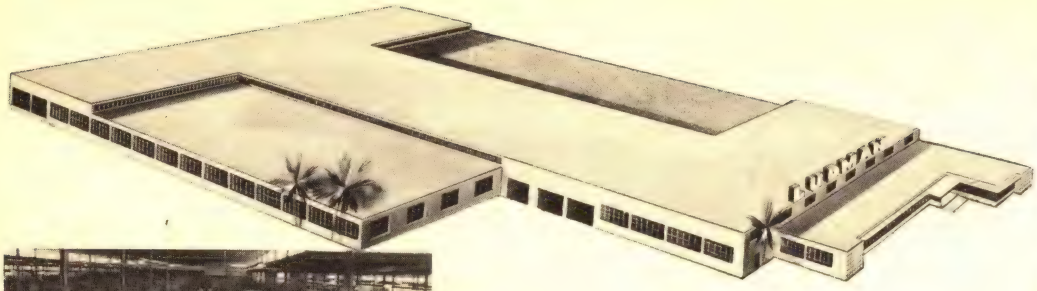


structural concrete





LINTEL NOTE—Installations shown are true modular opening as recommended by the AIA (American Institute of Architects) Modular Coordination Office. Face brick should be held ½" clear of the lintel angle to allow installation of the lintel bolt from the inside. The lintel angle should be punched with 7/16" diameter holes, 18" on center, at 15/16" gauge dimension.

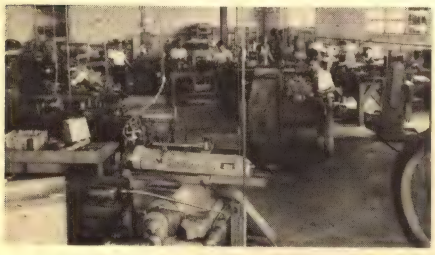




Small parts fabrication section



Ludman's 1250 ton extrusion press



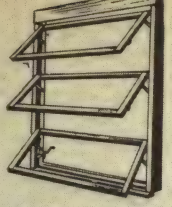
Tool and die shop



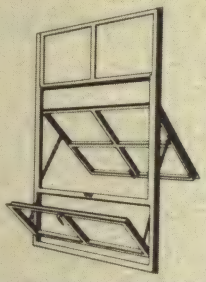
Section of press department

Wherever you go — all over the world — you'll find LUDMAN the foremost name in awning windows, projected windows, jalousies, shower door tub enclosures and aluminum framed sliding glass doors. Ludman's advanced design, engineering skill and unrivaled craftsmanship have earned for its products an enviable reputation for high-standard quality.

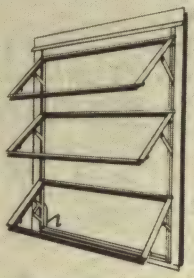
LUDMAN products are produced in the largest plant of its kind in the world . . . where complete quality control is maintained from raw material to finished products.
In value, in quality, in performance, in exclusive features . . .
Ludman products have no equal!



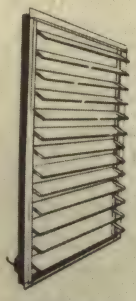
Auto-Lok Wood Windows



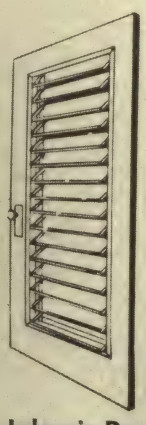
Ludman Projected Window



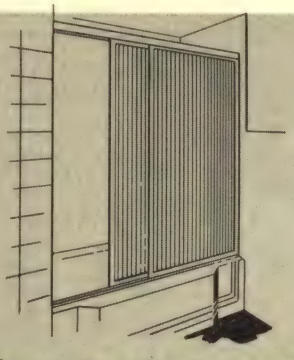
Auto-Lok Aluminum Window



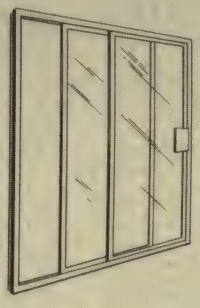
Jalousies



Jalousie Doors



Shower Door Tub Enclosures



Aluminum Framed Sliding Glass Doors

LUDMAN CORPORATION
North Miami, Florida

offices

Atlanta
New York
Chicago
St. Louis
Washington, D.C.
Los Angeles
San Francisco
Houston

MIAMI

ALL-ALUMINUM

AWNING WINDOW



MIAMI WINDOW ®

SERIES "54"

SERIES "6400"

BALANCE BAR

PROJECTED

PUSH-OUT AWNING

MIAMI WINDOW CORPORATION

5200 N. W. 37th AVENUE, MIAMI, FLORIDA

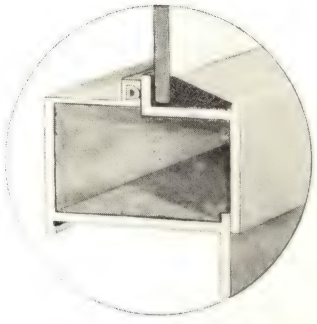
MIAMI WINDOW CORPORATION OF MISSISSIPPI—Key Field, Meridian, Miss.
MIAMI WINDOW CORPORATION OF PANAMA — Panama, Canal Zone
MIAMI WINDOW CORPORATION OF OHIO — 323 W. Spring Street, Columbus, Ohio
MIAMI WINDOW CORPORATION OF HAWAII—(Lewers & Cooke)—P.O. Box 2930, Honolulu, Hawaii
MIAMI WINDOW CORPORATION OF CUBA—(Panam Products)—10 De Octubre 1155, Havana, Cuba

features

Miami All Aluminum Awning Windows offer:

- Slim, graceful lines to blend with architectural design.
- A large variety of standard sizes to fit any need.
- A variety of optional features.
- Installation which is quick and easy in frame, brick veneer, solid brick and concrete block construction.
- Heavy all aluminum construction which never needs painting—cannot stain, tarnish or rust—stays smooth and clean year after year.
- Outside glass can be cleaned quickly and easily from the inside.
- All moving parts are precision made to insure free and easy opening and closing.
- Full summertime ventilation admitting fresh air and light yet keeping rain out.
- Positive weathertight closing.
- Interchangeable screen and storm windows from inside.
- Window automatically locks in any position.

Engineering service is available upon request.



Triple Weathering of Ventilator and Frame



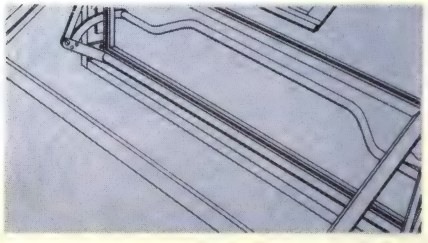
Triple Weathering of Top Sash and Frame Members



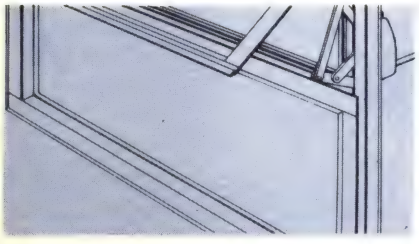
Triple Weathering Between Ventilators

optional features

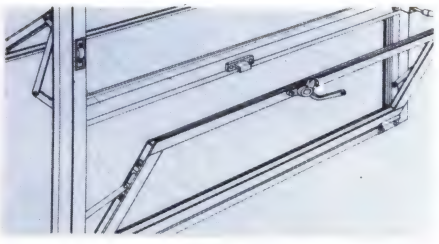
BALANCE BAR



FIXED VENT

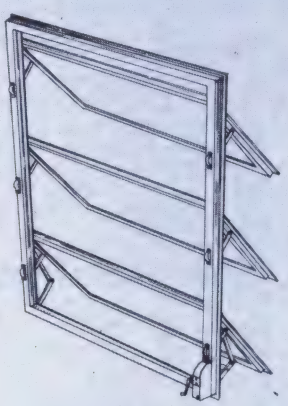


HOPPER



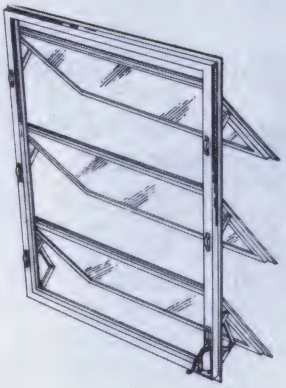
OPTIONAL OPERATORS

Balance Bar, Projected Bar, Handle, Offset Operator, Clerestory Pole, Chain Type and Multiple Bank.
See pages 6-7 for details.



SERIES 54—

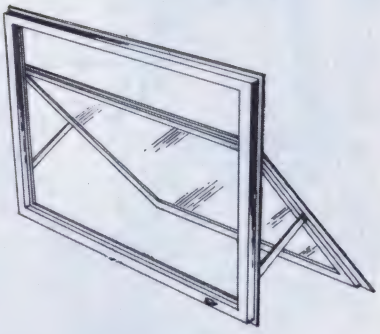
The Series 54 Miami Awning Window is a versatile awning window engineered for top quality and heavy extruded aluminum. It features a concealed torque shaft actuating both sides of the vents with equal pressure giving smooth balanced operation. Slanted vents give full ventilation along with awning protection from rain while open.



SERIES 6400—

The new 6400 series Miami Awning Window has received wide acclaim and universal acceptance. Designed primarily for those who could use a slightly lighter weight window than the Miami 54, it embodies all of the superior quality features of the famous 54 series, at a considerably lower cost.

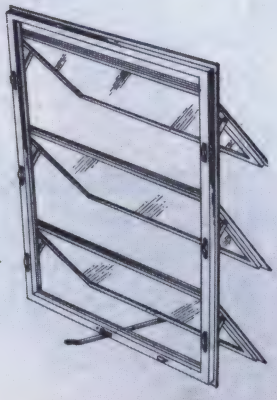
See page 4 for details.



PROJECTED WINDOW—

The Miami Window Corporation has now designed an all aluminum projected type window, suitable for schools, public and monumental buildings. Features: (1). A unique adjustable friction device of everlasting nylon, (2). Optional operation by projected bar or handle, (3). Fully weatherstripped, (4). Simplicity of design, (5). Available in a variety of sizes and combinations.

See pages 10-11 for details.

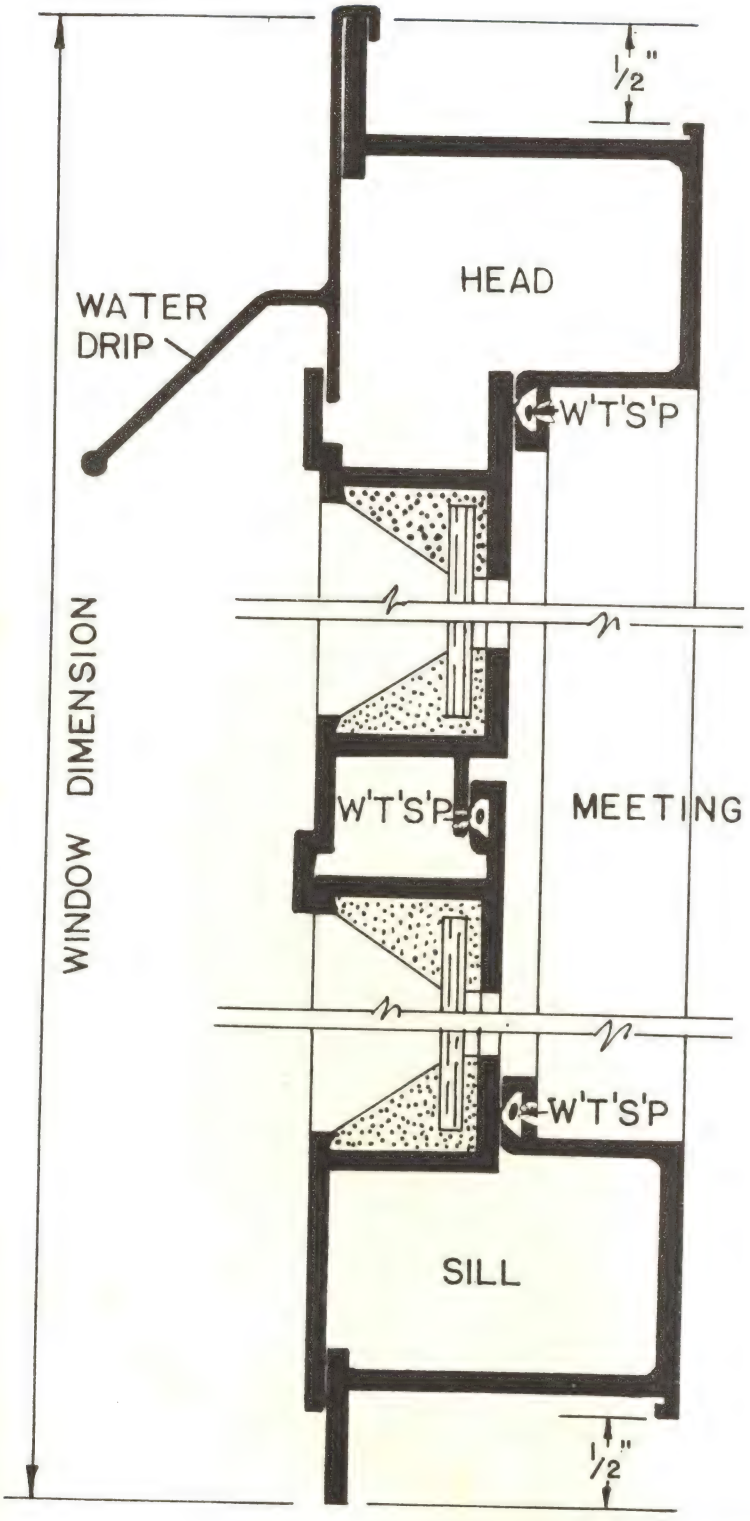


PUSH-OUT AWNING—

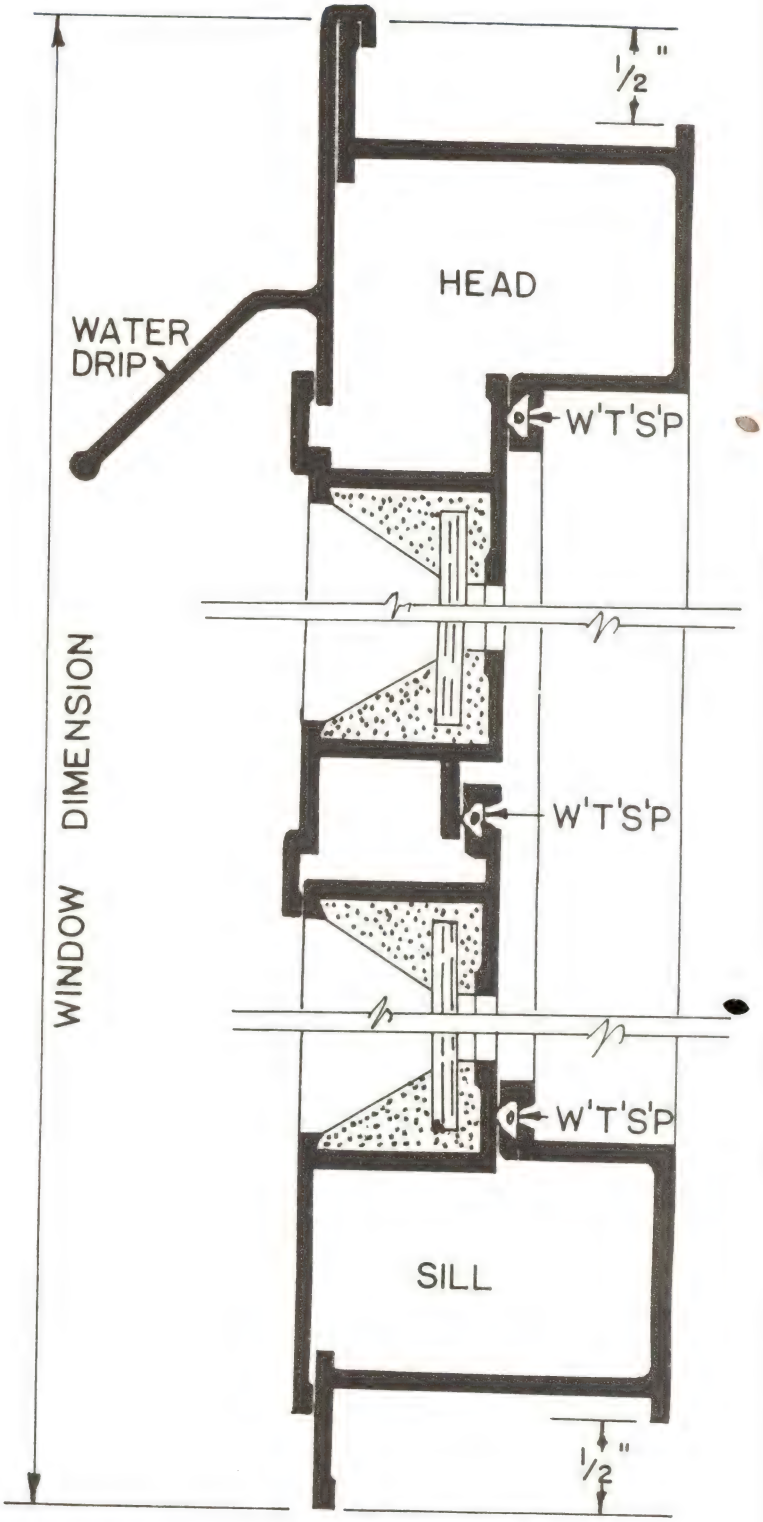
The push-out awning window was developed after much demand for a window such as a projected type, but with a multiple of vents opening with a single push-out bar or handle. Using our basic design plus other features we have been able to fulfill the architect's, builder's and home owner's demand.

full size sections

SERIES "54"

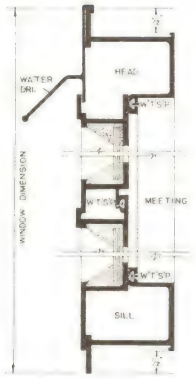


SERIES "6400"



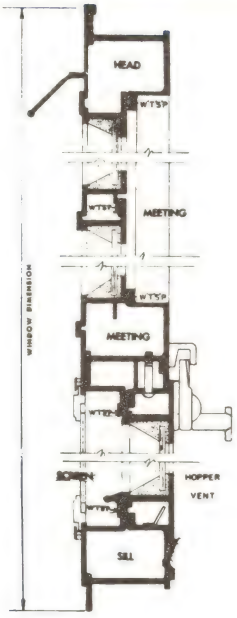
JAMB SECTION IS SIMILAR TO SILL SECTION

3"=1'0" sections



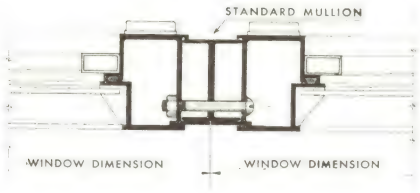
Standard Awning Type Window

This cross-section is typical for all windows except the projected type.



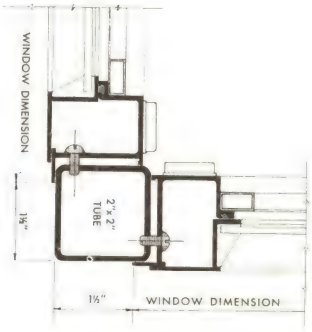
Awning Type Window with Hopper Bottom

Hopper is removable and the space may be used as a fixed vent or for an air-conditioning unit.



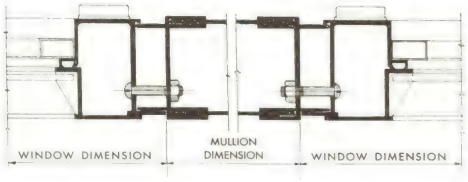
Standard I Mullion

The standard I mullion is used where two windows are to be joined with no spacing between windows. Part No. IM-E-50.



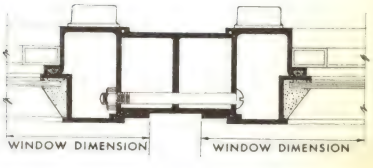
2x2 Corner Mullion

This 2"x2" tube mullion may be used either as a 90° or a 180° mullion. TM-E-26.



Adjustable Type Mullion

The adjustable type mullion is used where a spacing ranging from 1¾" to 5¾" between windows is desired. Part No. AM-E-29.

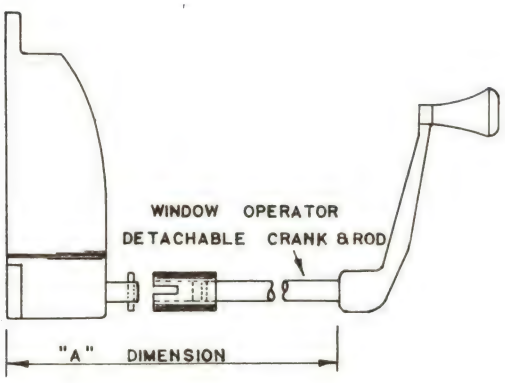


Wide Type I Mullion

The wide type I mullion is used where two windows are to be joined together with a spacing of 1" between windows. Part No. WM-E-51.

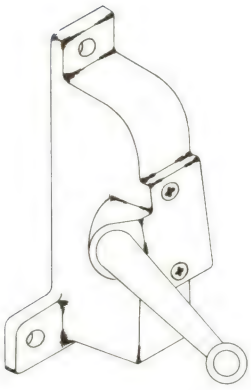
optional operators

detachable crank detail



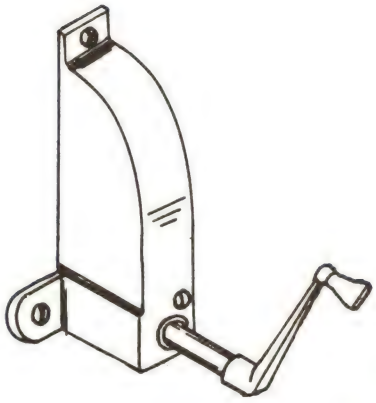
NO. 1000
Standard operator with a detachable crank. Specify "A" dimension.

series 54 operator



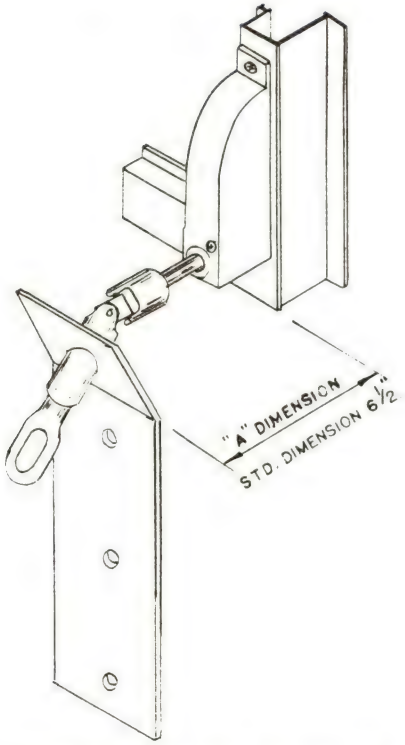
NO. 1500
SERIES 54 OPERATOR
Available in right or left hand operation.

STANDARD OPERATOR



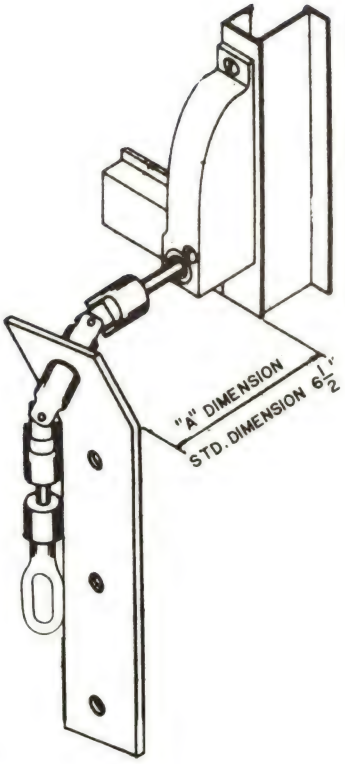
NO. 1000
OPERATOR
Available in right or left hand operation.

45° clerestory adaptor

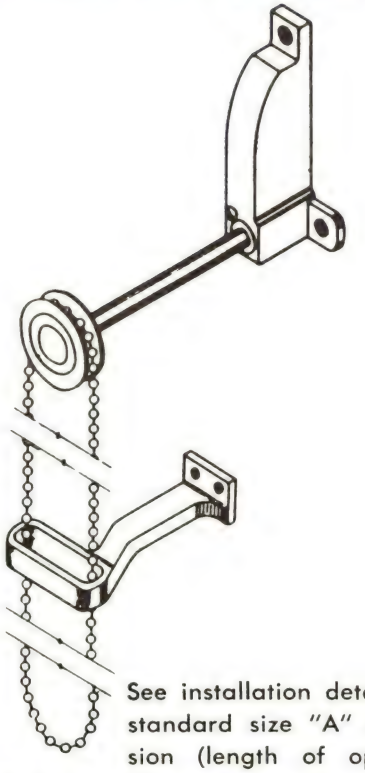


These adaptors are for use with clerestory pole shown on opposite page.

90° clerestory adaptor

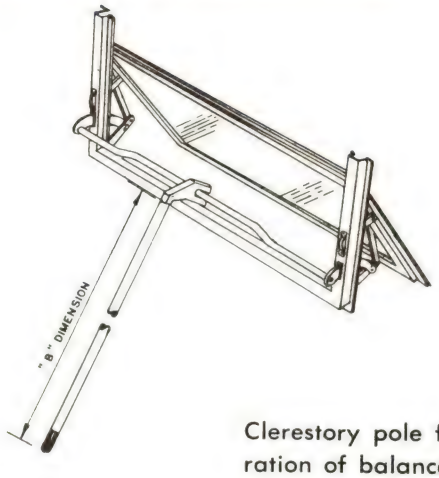


chain operation



See installation details for standard size "A" dimension (length of operator shaft). "A" dimension 6½ inches. Other sizes may be specified at slight additional cost.

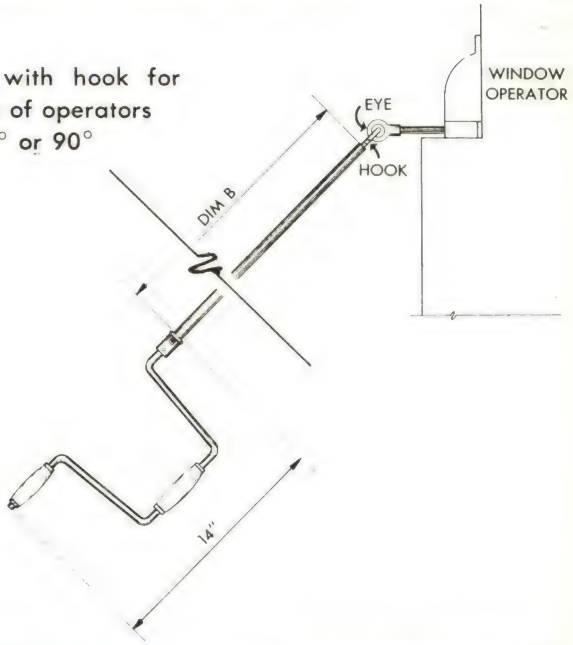
balance bar clerestory operation



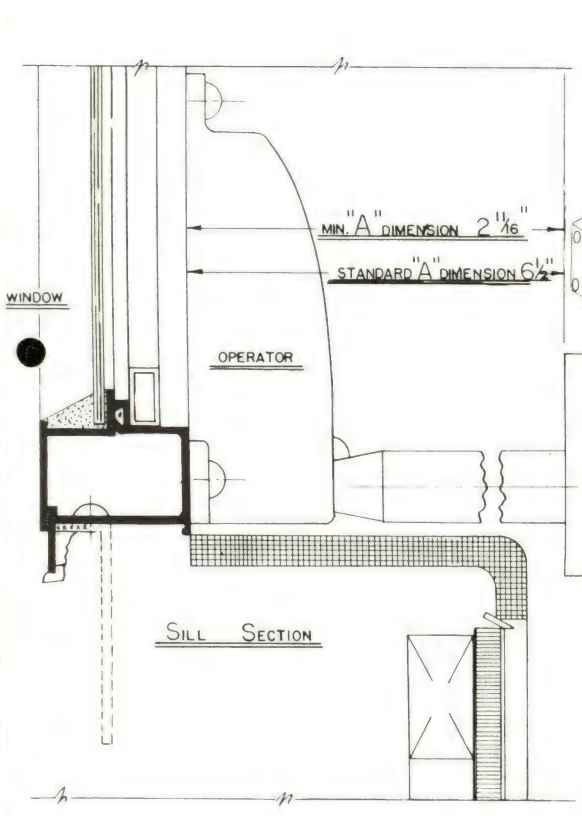
Clerestory pole for remote operation of balance bar windows. Specify "B" dimension. 8 ft. maximum.

clerestory operation

Clerestory pole with hook for remote operation of operators with straight, 45° or 90° adaptors.

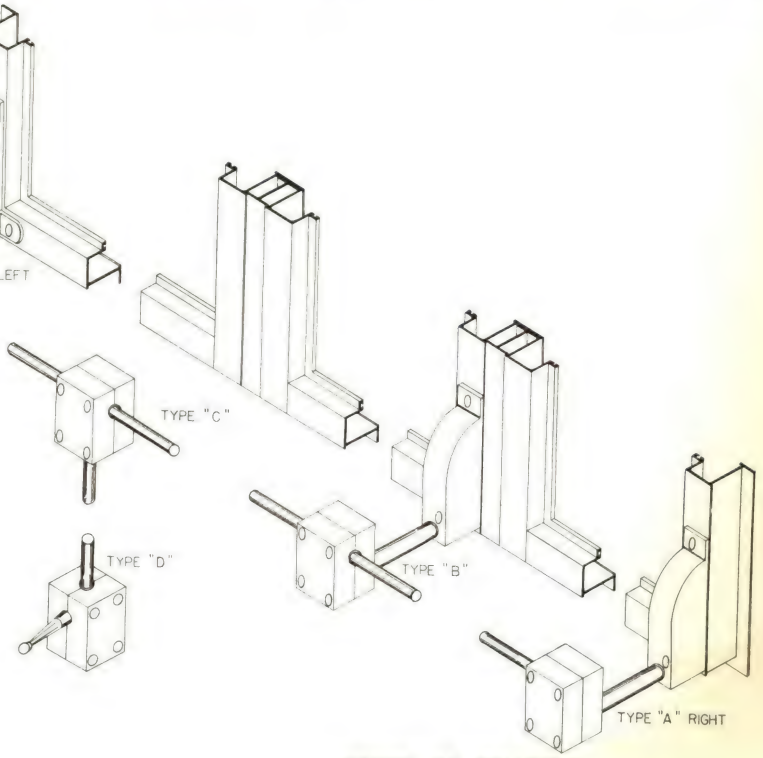


typical remote installation



Typical installation of remote operator. Specify "A" dimension. "A" dimension is location of remote box to inside of window.

window group operation



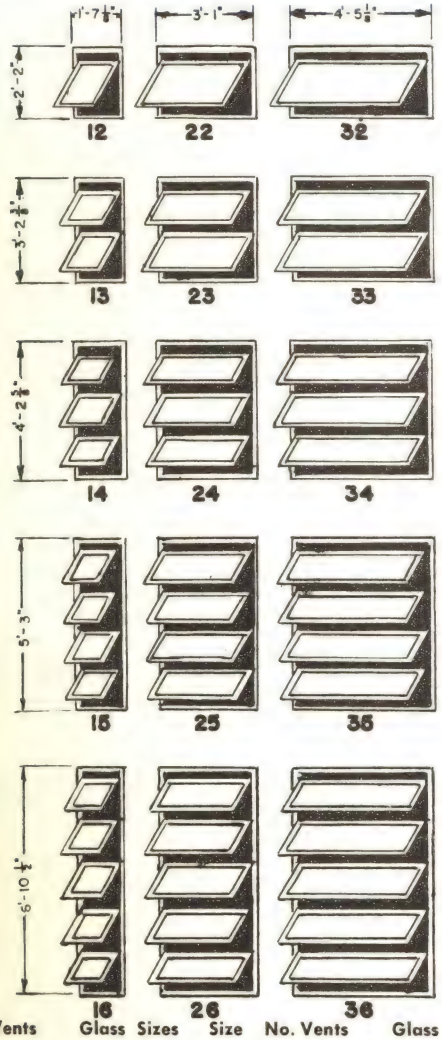
SERIES 55 REMOTES

Remote operation with bank of windows operating simultaneously from one station. (One system will operate a maximum of 4 windows not exceeding 12 vents.)

type & sizes

SERIES 54
SERIES 6400
AND PUSH-OUT

standard

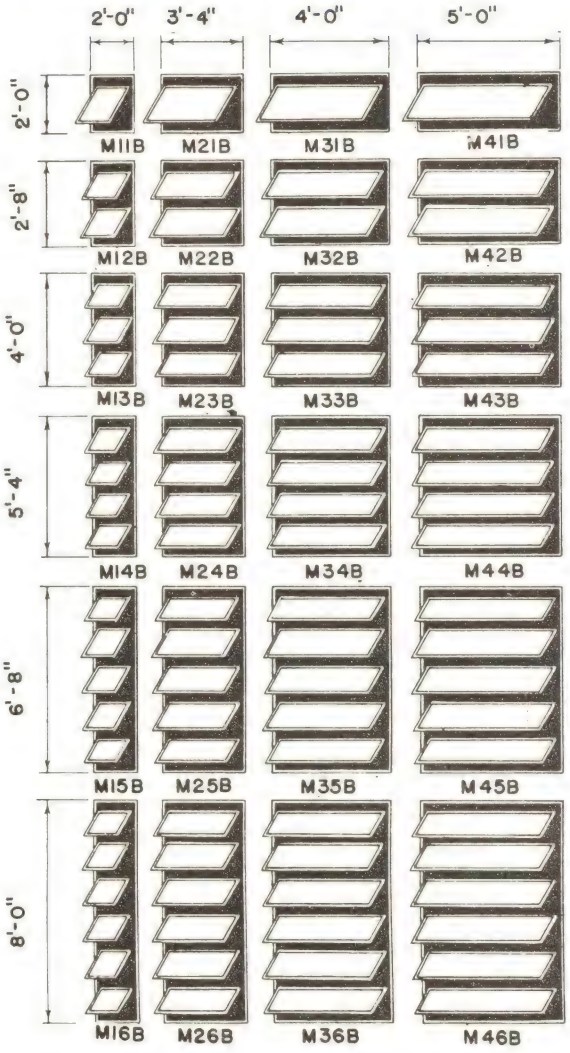


Size	No. Vents	Glass Sizes	Size	No. Vents	Glass Sizes
12	1	15-3/16 x 21- 7/16	25	4	33-1/16 x 13-27/32
13	2	15-3/16 x 16-13/32	26	5	33-1/16 x 14-23/32
14	3	15-3/16 x 14-23/32	32	1	49-3/16 x 21- 7/16
15	4	15-3/16 x 13-27/32	33	2	49-3/16 x 16-13/32
16	5	15-3/16 x 14-23/32	34	3	49-3/16 x 14-23/32
22	1	33-1/16 x 21- 7/16	35	4	49-3/16 x 13-27/32
23	2	33-1/16 x 16-13/32	36	5	49-3/16 x 14-23/32
24	3	33-1/16 x 14-23/32			

Aluminum Inside Storm Sash—Series 54. 6400. 51—Miami Awning Windows

Size	STANDARD Glazed List	KD List	Size	MODULAR MB Glazed List	KD List
			M11B	$10.00	$ 5.10
12	$ 9.40	$ 4.85	M12B	11.60	6.10
13	11.60	6.10	M13B	16.00	7.70
14	14.00	7.40	M14B	20.00	9.60
15	16.40	9.00	M15B	*29.20	*14 00
16	*24.40	*13.10	M16B	*33.00	*15.80
17	*28.60	*15.40			
			M21B	14.00	6.70
22	13.40	6.60	M22B	16.00	7.70
23	16.40	8.15	M23B	20.00	9.60
24	20.90	9.60	M24B	24.00	11.50
25	24.20	11.10	M25B	*37.50	*18.00
26	*36.30	*18.40	M26B	*41.00	*19.70
27	*43.00	*20.00	M27B		
			M31B	16.00	7.70
32	17.50	8.60	M32B	18.00	8.60
33	22.00	10.10	M33B	22.00	10 50
34	28.30	11.55	M34B	26.00	12.50
35	*37.00	*15.40	M35B	*41.20	*19.80
36	*52.10	*23.45	M36B	*45.00	*21.60
37	*58.10	*24.90			
			M41B	19.00	9.10
42	24.20	11.10	M42B	21.00	10 10
43	29.40	12.60	M43B	25.00	12.00
44	34.60	14.00	M44B	*43.00	*20 60
45	*57.80	*24.20	M45B	*47.00	*22.50
			M46B	*51.00	*24.50

modular



GLASS SIZES SERIES 54-B MODULAR

	Glass Size			Glass Size	
11-B	2'0"x2'0"	20"x19 7/16"	M-31-B	4'0"x2'0"	44"x19 7/16"
12-B	2'0"x2'8"	20"x13⅛"	M-32-B	4'0"x2'8"	44"x13⅛"
13-B	2'0"x4'0"	20"x13¾"	M-33-B	4'0"x4'0"	44"x13¾"
14-B	2'0"x5'4"	20"x14"	M-34-B	4'0"x5'4"	44"x14"
15-B	2'0"x6'8"	20"x14 3/16"	M-35-B	4'0"x6'8"	44"x14 3/16"
16-B	2'0"x8'0"	20"x14 5/16"	M-36-B	4'0"x8'0"	44"x14 5/16"
21-B	3'4"x2'0"	36"x19 7/16"	M-41-B	5'0"x2'0"	56"x19 7/16"
22-B	3'4"x2'8"	36"x13⅛"	M-42-B	5'0"x2'8"	56"x13⅛"
23-B	3'4"x4'0"	36"x13¾"	M-43-B	5'0"x4'0"	56"x13¾"
24-B	3'4"x5'4"	36"x14"	M-44-B	5'0"x5'4"	56"x14"
25-B	3'4"x6'8"	36"x14 3/16"	M-45-B	5'0"x6'8"	56"x14 3/16"
26-B	3'4"x8'0"	36"x14 5/16"	M-46-B	5'0"x8'0"	56"x14 5/16"

Other sizes available upon request.

A variety of combinations with fixed vents and hopperbottoms are also available.

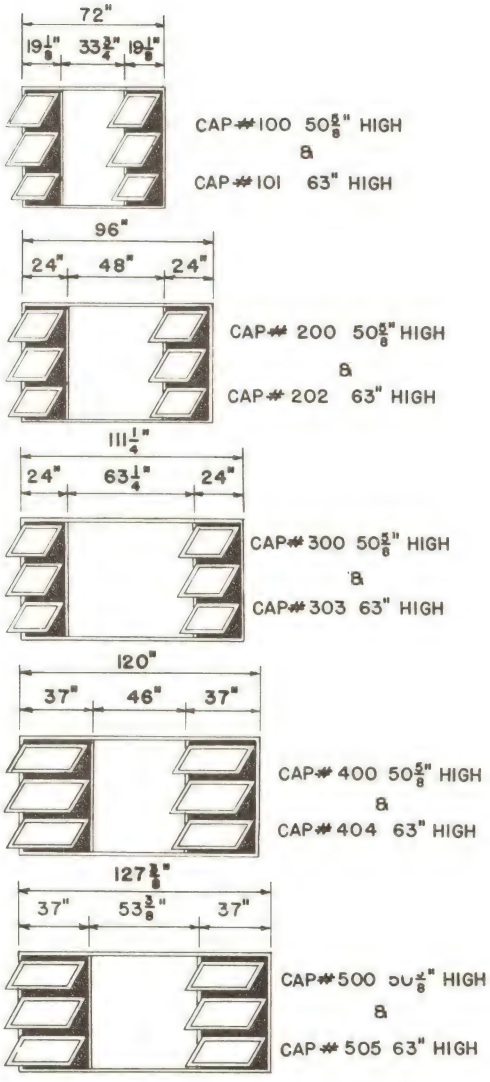
* 2 Panels and 1 Meeting Rail Required, Price Includes All.

VENTILATORS (Slide-O-Vent or Tilt-In)
1 - Wide $6.10 — 2 - Wide $8.50 — 3 - Wide $10.80

CRATING CHARGE ON ORDERS FOR 5 PANELS OR LESS:
Glazed Storm Sash $5.00
K.D. Storm Sash $2.00

ALL PRICES: F.O.B. COLUMBUS, OHIO AND SUBJECT TO CHANGE WITHOUT NOTICE.
October 1, 1954

CAP sizes



	ATW GLASS SIZE	PICTURE WINDOW GLASS SIZE
A P #100	15 3/16" x 14 11/16"	33¼" x 46 1/16"
A P #101	15 3/16" x 13 13/16"	33¼" x 58 7/16"
A P #200	20" x 14 11/16"	47½" x 46 1/16"
A P #202	20" x 13 13/16"	47½" x 58 7/16"
A P #300	20" x 14 11/16"	62¾" x 46 1/16"
A P #303	20" x 13 13/16"	62¾" x 58 7/16"
A P #400	33 1/16" x 14 11/16"	45½" x 46 1/16"
A P #404	33 1/16" x 13 13/16"	45½" x 58 7/16"
A P #500	33 1/16" x 14 11/16"	52⅞" x 46 1/16"
A P #505	33 1/16" x 13 13/16"	52⅞" x 58 7/16"

Two awning type and a picture window combination made as one integral unit, not mulled together.

series 54 & 6400 specification

SPECIFICATIONS

1. GENERAL: Windows shall be awning type as manufactured by Miami Window Corporation, Miami, Florida.

*2. MATERIAL: All frame and sash members shall be extruded 6063 T-5 Aluminum Alloy (architect insert desired wall thickness as noted below). Frame members shall have a minimum depth of 1⅞". Ventilator, Sill, Head and Jamb members shall have a minimum depth of 1". Cross Shaft shall be of aluminum alloy 6061 T-6.

3. CONSTRUCTION: Windows shall be coped to a true fit and riveted at all corners. All ventilators shall have three metal weathering contacts and one weatherstripped contact. Weatherstripping shall be sealed in special self-locking groove extruded integrally in frame and ventilator members. Weatherstripped contact shall be concealed on inside away from outside weathering elements.

4. OPERATION:
   (a) Worm-gear operator shall be type as manufactured by Miami Window Corporation or for Miami Window Corporation under its specifications.
   (b) Power from operator to be transferred to both sides of ventilators through a concealed torque tube. Top of vents to drop down approximately 4" enabling outside glass to be cleaned from inside.
   (c) Operator to compress ventilator against weatherstripping without the use of auxiliary latches or keepers.

5. HARDWARE: Concealed operating mechanism shall be as manufactured by Miami Window Corporation. All mechanism shall be easily removable before or after erection.

6. WEATHERSTRIPPING: Weatherstripping shall be elastomeric vinyl, koroseal or equal.

7. FINISH: Windows shall be manufactured with a standard mill finish, special finish when specified.

8. SCREENS: Screens shall be as furnished by Miami Window Corporation and included in window contract when specified. Screens shall have aluminum frames and 14-18 aluminum mesh, and vinyl plastic splien so rescreening can be easily done if necessary.

9. ERECTION: The windows shall be erected by the erecting contractor. Windows shall be erected plumb, level and true. Windows shall not be distorted by erection screws or fittings and screws shall not interfere with operating mechanism of windows.

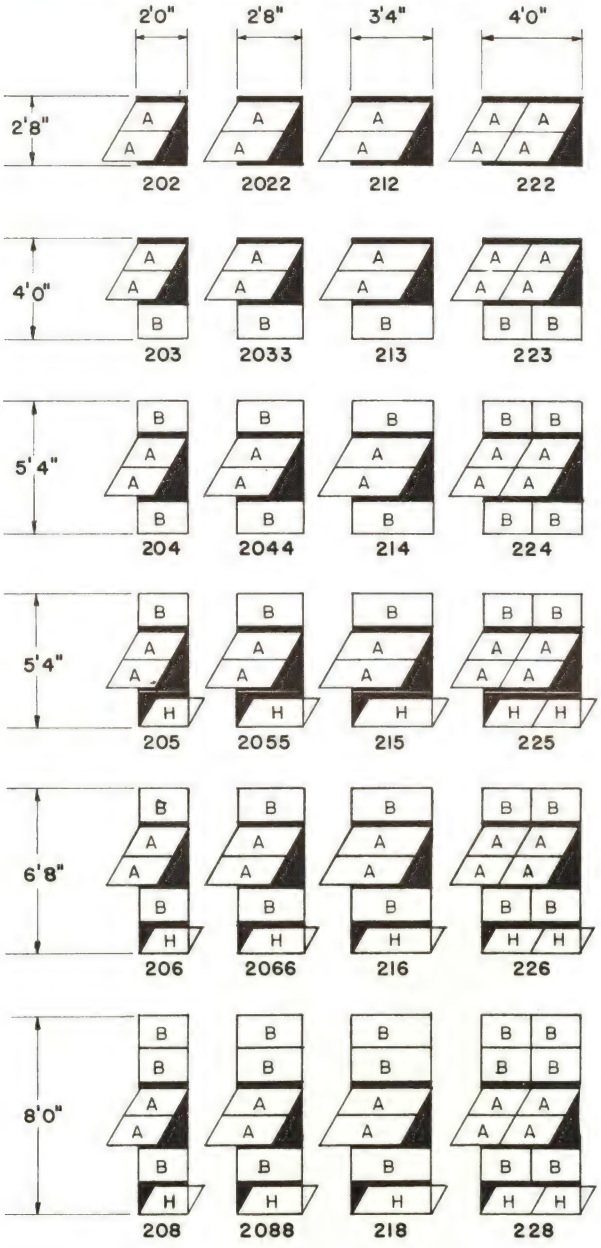
10. GLAZING: The glazing contractor shall glaze windows with an aluminum type putty or glazing Compound as specified by architect. Glazing bead shall be furnished by Miami Window Corporation when specified. All windows shall be glazed in closed position and kept closed for 48 hours after glazing.

*54 Series shall have a wall thickness of not less than .094 inches.

6400 Series shall have a wall thickness of not less than .064 inches.

PROJECTED

sizes



specifications

1. GENERAL: Windows shall be projected type as manufactured by Miami Window Corporation, Miami, Florida.

2. MATERIAL: All frame and sash members shall be extruded 6063 T5 aluminum alloy and shall conform or exceed minimum thickness as specified and approved by the Aluminum Window Manufacturers Association. Frame members shall have a minimum depth of 1⅞". Ventilator, sill head and jamb members shall have a minimum depth of 1".

3. CONSTRUCTION: Windows shall be coped to a true fit and riveted at all corners. All ventilators shall have three metal weathering contacts and one weatherstripped contact. Weatherstripping shall be sealed in special self-locking groove extruded integrally in frame and ventilator members. Weatherstripped contact shall be concealed on inside away from outside weathering elements.

4. OPERATION:
   (a) By handle attached to vent using a friction device for holding vent open.
   (b) By projected bar to push vent open.

5. HARDWARE:Concealed friction device shall be furnished by Miami Window Corporation.

6. WEATHERSTRIPPING: Weatherstripping shall be elastomeric vinyl, koroseal or equal.

7. FINISH: Windows shall be manufactured with a standard mill finish.

8. SCREENS: Optional, if specified, shall be furnished by Miami Window Corporation and included in window contract. Screens shall have aluminum frames and 14-18 aluminum mesh. Rescreening can be easily done if necessary.

9. ERECTION: The windows shall be erected by the erecting contractor. Windows shall be erected plumb, level and true. Windows shall not be distorted by erection screws or fittings and screws shall not interfere with operating mechanism of windows.

10. GLAZING: The glazing contractor shall glaze windows with an aluminum type putty or glazing Compound as specified by architect. Glazing bead shall be furnished by Miami Window Corporation when specified. All windows shall be glazed in closed position and kept closed for 48 hours after glazing.

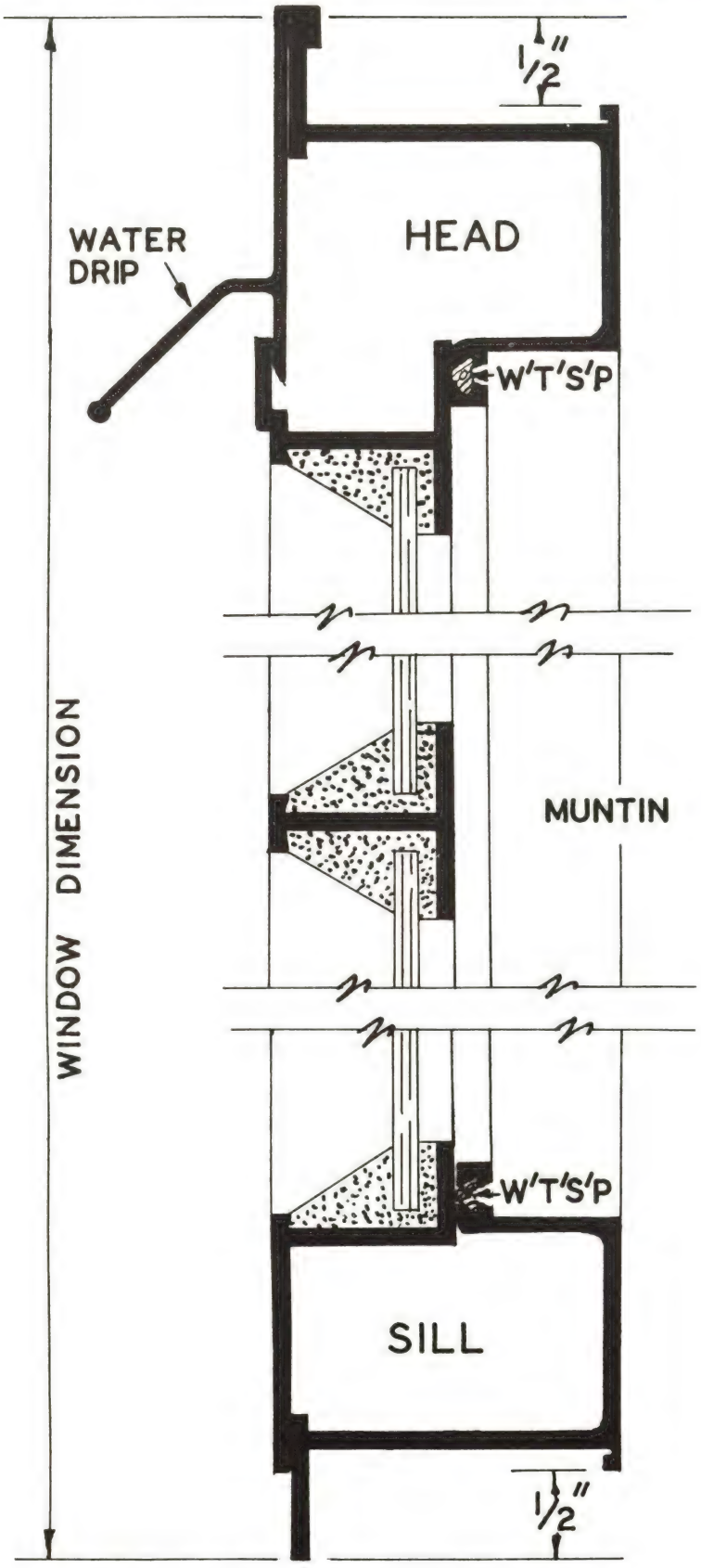
PROJECTED GLASS SIZES

#202	A—20"	x13⅜"		
#2022	A—28"	x13⅜"		
#212	A—36"	x13⅜"		
#222	A—21 13/16"	x13⅜"		
#203	A—20"	x13⅜"	B—20"	x14 9/16"
#2033	A—28"	x13⅜"	B—28"	x14 9/16"
#213	A—36"	x13⅜"	B—36"	x14 9/16"
#223	A—21 13/16"	x13⅜"	B—21 13/16"	x14 9/16"
#204	A—20"	x13⅜"	B—20"	x14¾"
#2044	A—28"	x13⅜"	B—28"	x14¾"
#214	A—36"	x13⅜"	B—36"	x14¾"
#224	A—21 13/16"	x13⅜"	B—21 13/16"	x14¾"

Special sizes available on request.

					HOPPER
#205	A—20"	x13⅜"	B—20"	x14¼"	18 9/16"x13"
#2055	A—28"	x13⅜"	B—28"	x14¼"	26 9/16"x13"
#215	A—36"	x13⅜"	B—36"	x14¼"	34 9/16"x13"
#225	A—21 13/16"	x13⅜"	B—21 13/16"	x14¼"	21 1/16"x13"
					HOPPER
#206	A—20"	x13⅜"	B—20"	x14 11/32"	18 9/16"x13 3/32"
#2066	A—28"	x13⅜"	B—28"	x14 11/32"	26 9/16"x13 3/32"
#216	A—36"	x13⅜"	B—36"	x14 11/32"	34 9/16"x13 3/32"
#226	A—21 13/16"	x13⅜"	B—21 13/16"	x14 11/32"	21 1/16"x13 3/32"
					HOPPER
#208	A—20"	x13⅜"	B—20"	x14 21/32"	18 9/16"x13 13/32"
#2088	A—28"	x13⅜"	B—28"	x14 21/32"	29 9/16"x13 13/32"
#218	A—36"	x13⅜"	B—36"	x14 21/32"	34 9/16"x13 13/32"
#228	A—21 13/16"	x13⅜"	B—21 13/16"	x14 21/32"	21 1/16"x13 13/32"

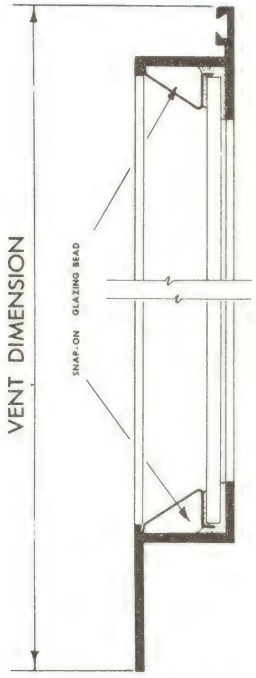
TYPE WINDOW



Something new in aluminum architectural projected windows. The Miami Architectural Projected Window is made with the same rugged monumental construction and simplicity of design as the other famous Miami Windows. Outward projecting ventilators may be kept open during inclement weather; the ventilator acting as a canopy to deflect the rain and yet allow full ventilation. The windows are fully weatherstripped, featuring three point contact for minimum air infiltration. Muntin bars are aligned and riveted into place so that they will retain their exact location. The hardware in the Miami Architectural Window is engineered with strength in mind. Heavy aluminum pivot bars and friction channels and adjustable **nylon** friction blocks. Handle is standard and various other type of handles and locks are available for operating and locking the vents and clerestory operation. Windows are designed for outside glazing as standard procedure. Full screening is available.

half size details

window vent glazing



SNAP-ON GLAZING BEAD

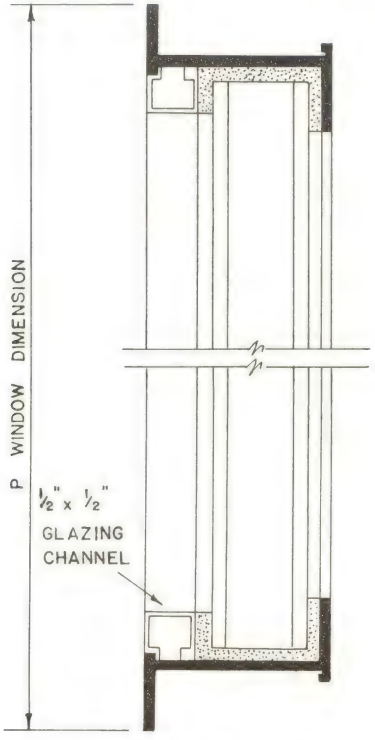
An aluminum glazing bead used in place of glazing putty. It provides quick and easy installation and removal if necessary. The aluminum bead blends with the aluminum frame and vents adding beauty to each window.



STANDARD GLAZING DETAIL

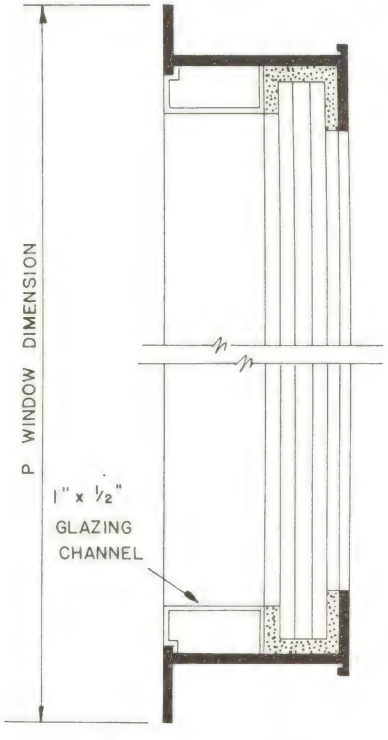
Typical section between vents.

picture window glazing



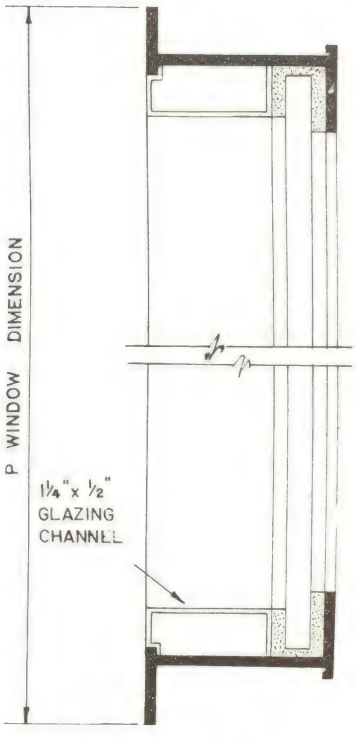
½" x ½" GLAZING CHANNEL

Used with 1" insulating Glass.



1" x ½" GLAZING CHANNEL

Used with ½" Double Glazing Glass.

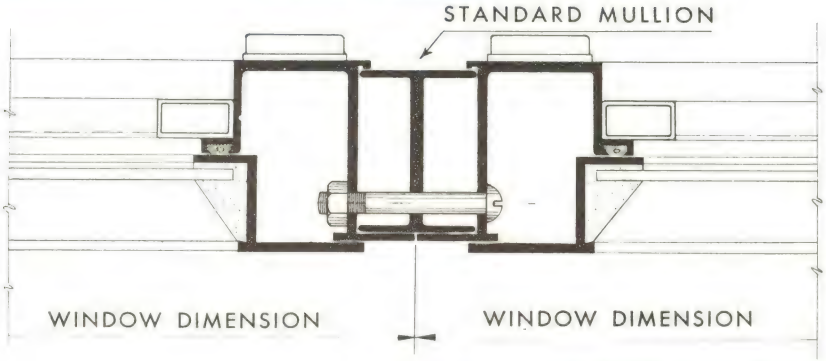


1¼" x ½" GLAZING CHANNEL

Used with ¼" Plate Glass.

half size sections

standard mullion



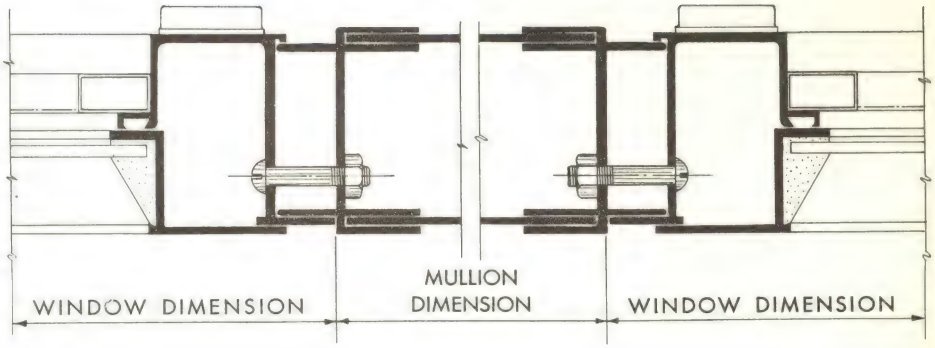
STANDARD I TYPE MULLION

Order as part No. SM-E-22
Lightweight I type also available, order as part No. IM-E-50.

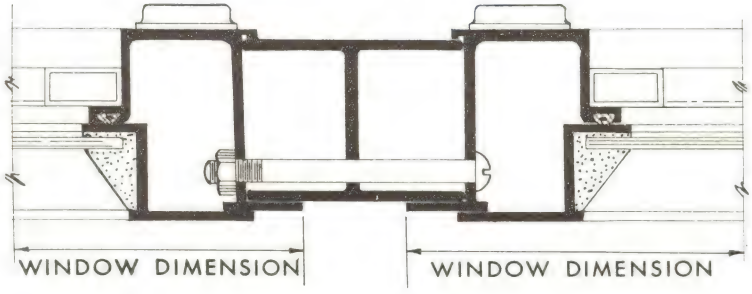
adjustable mullion

ADJUSTABLE TYPE MULLION

Order as part No. AM-E-29

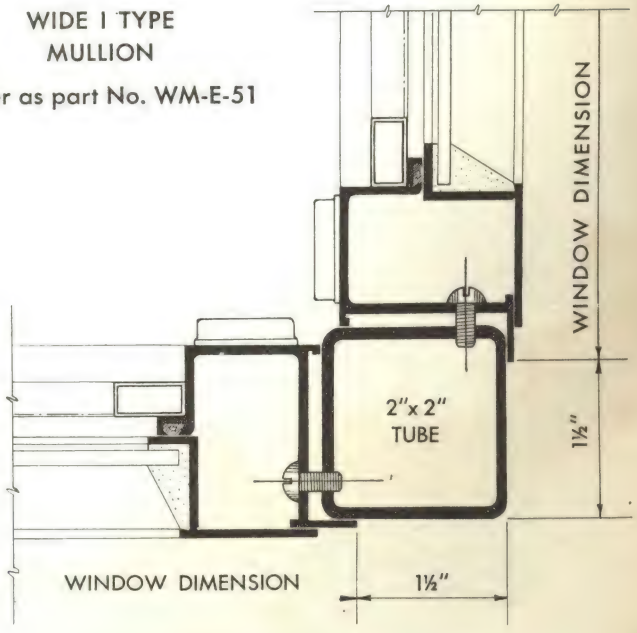


wide I type mullion



WIDE I TYPE MULLION

Order as part No. WM-E-51



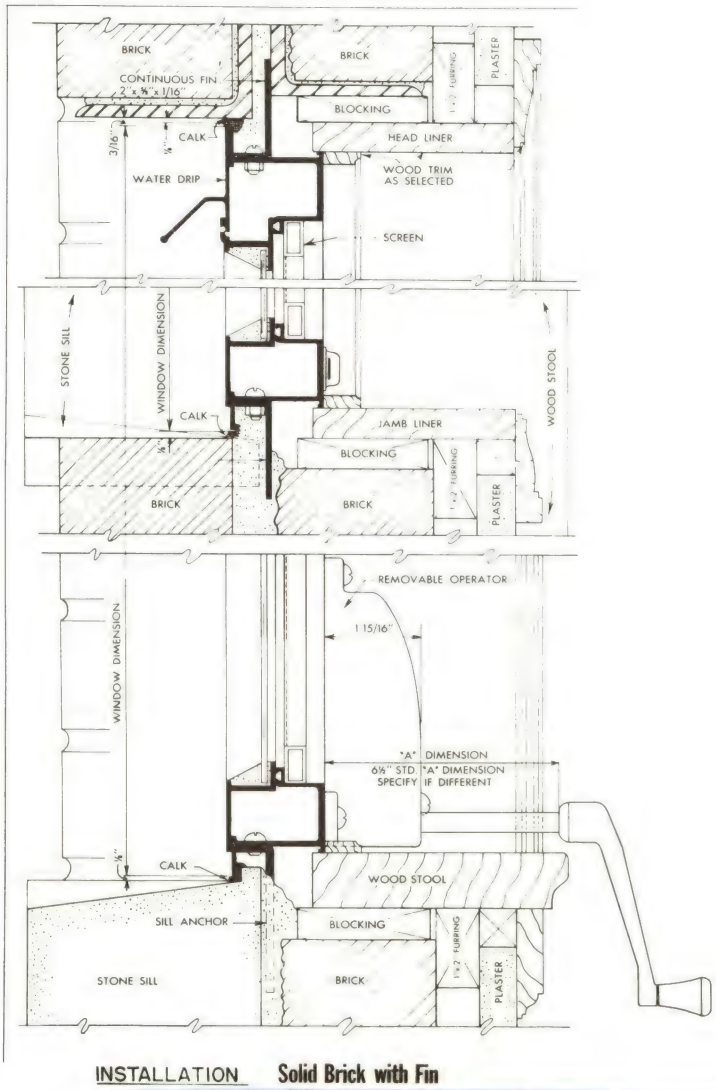
mullion detail for corner

2" x 2" TUBE CORNER MULLION

Order as part No. CM-E-24
1" x 4" Tube Mullion also available.
Order as part No. TM-E-26

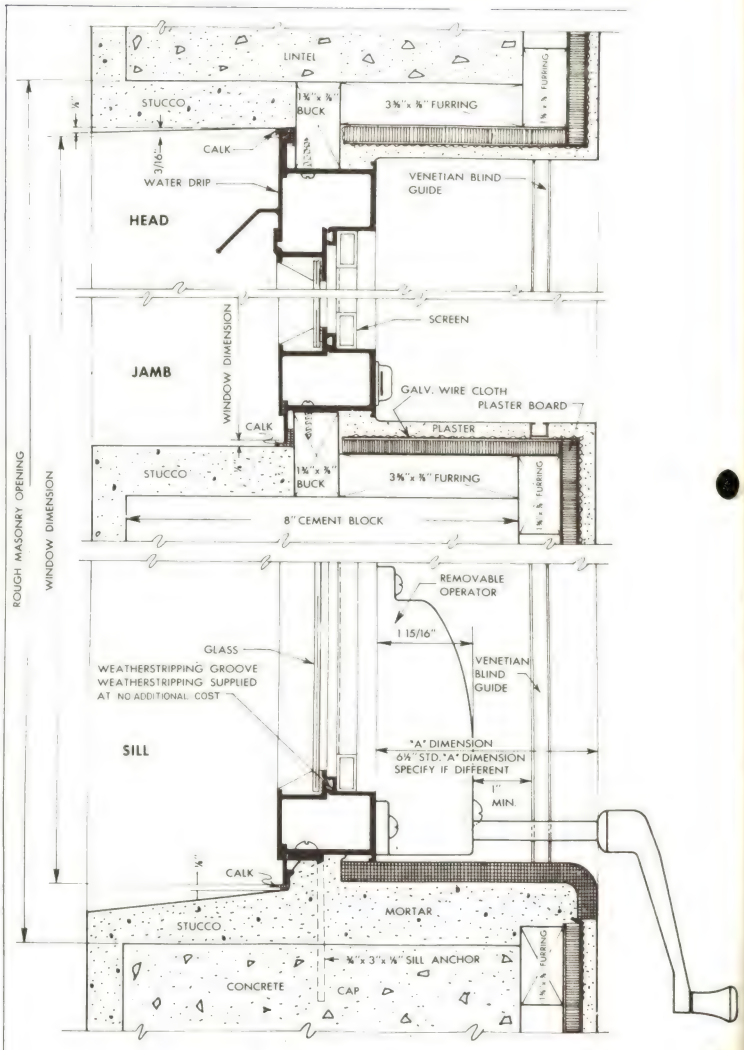
installation details 3"=1'0"

solid brick



INSTALLATION **Solid Brick with Fin**

concrete block



INSTALLATION **Concrete or Concrete Block with Fin**

typical installation

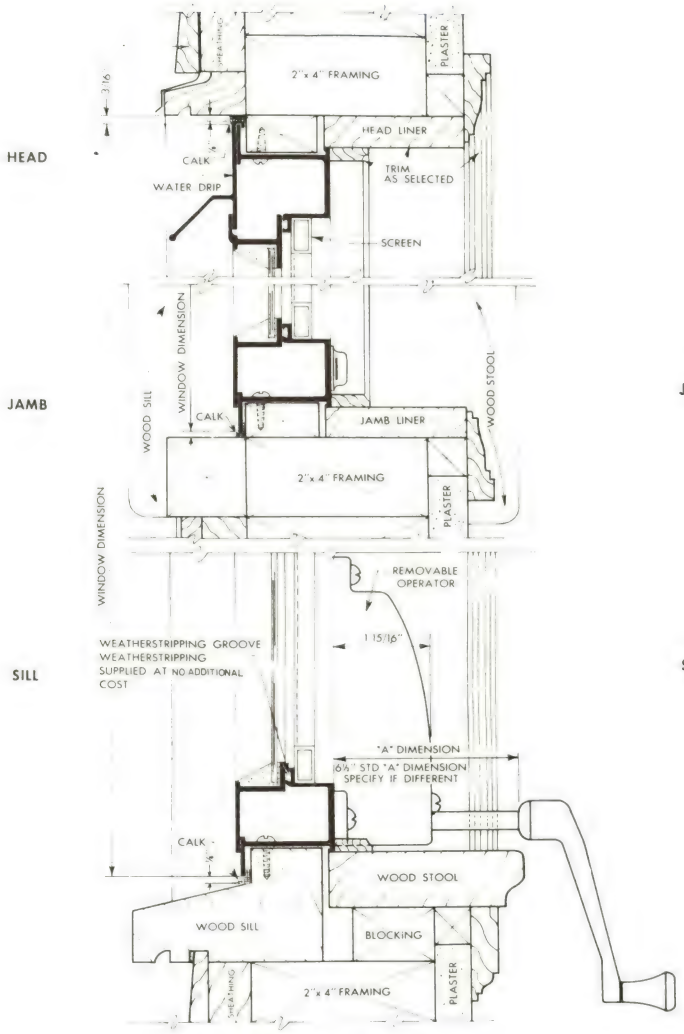


FLORIDA STATE UNIVERSITY
Tallahassee, Florida
Architect—Frank B. Horton



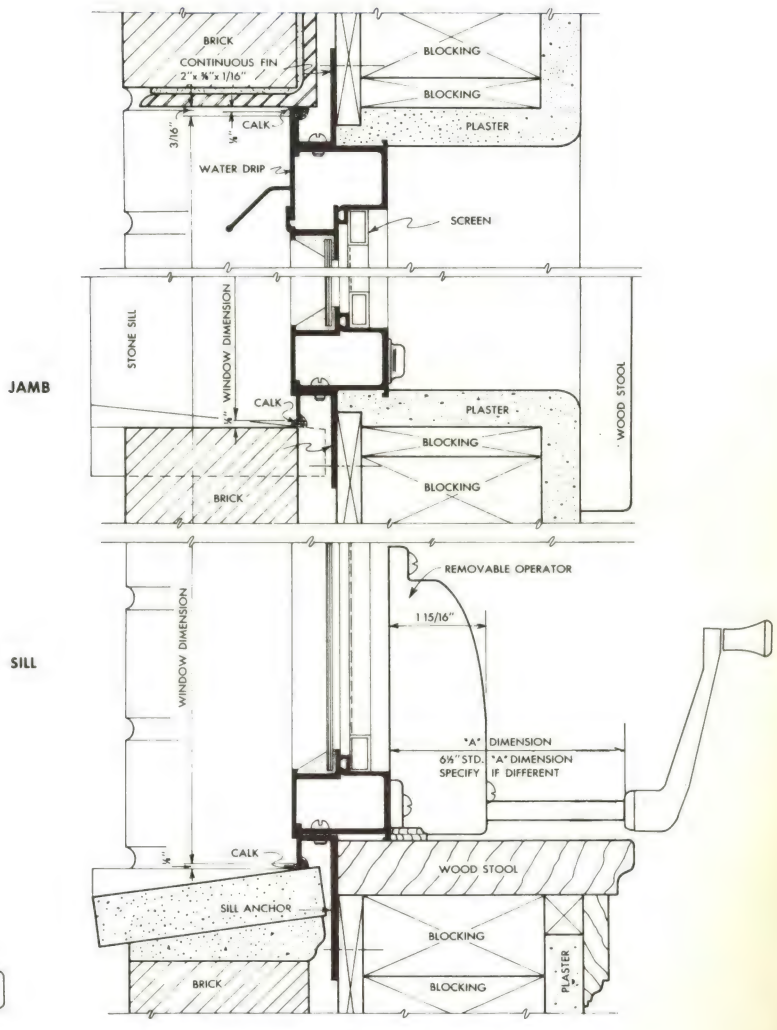
BISCAYNE TERRACE HOTEL
Miami, Florida
Architects—Albert Anis, Melvin Grossman

frame construction



INSTALLATION **Wood Frame**

brick veneer



INSTALLATION **Brick Veneer with F...**



LA GRANGE GEORGIA RESIDENCE
Architects—Barker & Cunningham



JONES AND LAUGHLIN STEEL CORPORATION
Atlanta, Georgia
Architect—Herbert Rawlings
Associate Architect—Howard Witcomb

LIST OF REPRESENTATIVE INSTALLATIONS

LOCALITY	JOB NAME	ARCHITECT
Havana, Cuba	El Palacio de Communicaciones	Gomez Sampera & Dias
Liberia, West Africa	Ambassadors Residence	L. W. King
Havana, Cuba	Nueva de Hielo	Gomez, Sampera & Dias
Managua, Nicaragua	U. S. Embassy Building	L. W. King
Hawaii	Earl Thacker Building	Rothwell & Lester
Hawaii	Kanohe Women's Barracks	Rothwell & Lester
Satpon Point, Guam	U. S. Naval Hospital	Rothwell & Lester
Wake Island	Barracks Assemb.	
Puerto Rico	Colegio De Abogados	Rene O. Ramirez
Rahway, New Jersey	Administration Bldg. N. J. State Prison	Poleman & Henry
St. Augustine, Fla.	Anastasia Elem. School	F. H. Hollingsworth
Sarasota, Florida	Sarasota Memorial Hospital	Kannenburg & Hanebuth
Missouri City, Texas	Missouri City High School	Emory S. White
Los Angeles, Calif.	Schlitz Brewery	Harley, Ellington & Day
Augusta, Georgia	Eugene Talmadge Hospital	Gregson & Ellis
Landisville, Pa.	Hempfield High School	Coleman & Coleman
Shreveport, La.	Bastrop High School	Smith & Padgett
Albany, Ga.	Marine Barracks	Dunwody, MacEwen & J. I. Greenier
Columbia, S. C.	Student Home Univ. S. C.	Lysles, Bissett, Carlisle & Wolff
Hopemont, West Va.	Hopemont Sanitorium	Edward J. Wood & Son
Chattanooga, Tenn.	Coffee County Hospital	Poleston & Robertson
Albuquerque, New Mexico	Bernalillo County Hospital	Stevens & Associates
Tulsa, Okla.	Springdale Park Recreation Building	Leon B. Senter
New Orleans, La.	Uptown 750 & 900 School	Sol Rosenthal
Springfield, Illinois	Wessell Hall	Albert F. Heino & Associates
Jersey City, N. J.	Public School No. 12	Mascola & Masumian
Columbia, Mo.	Teaching Hospital, Univ. of Missouri	Jameson, SPERL, Hammond and Gerlock
Cincinnati, Ohio	Red Cross Building	Tritig, Lee
Helena, Montana	Animal Industries	D. Hall
Hastings, Neb.	Senior High School	Clark & Emerson
Williston, N. C.	Williston Sr. High School	Lesley Boney
Clarksburg, W. Va.	Notre Dame High School	Vercillio & Kreps
Baltimore, Md.	Liberty Federal Savings & Loan	O. Eyring—A.I.A.
Princeton, Ky.	Farmers National Bank	Hartstern Louis & Henry
Hutchinson, Kansas	Lakeview Elem. School	English, Miller & Hockett
Mountain Home, Idaho	Mountain Home Air Base	Corp. of Engineers
Alabama	Baptist Std. Ctr., Univ. of Ala.	Lawrence S. Whitten
Toledo, Ohio	Nicholas Building Project	Horn & Rhinehart

HURRICANE APPROVED

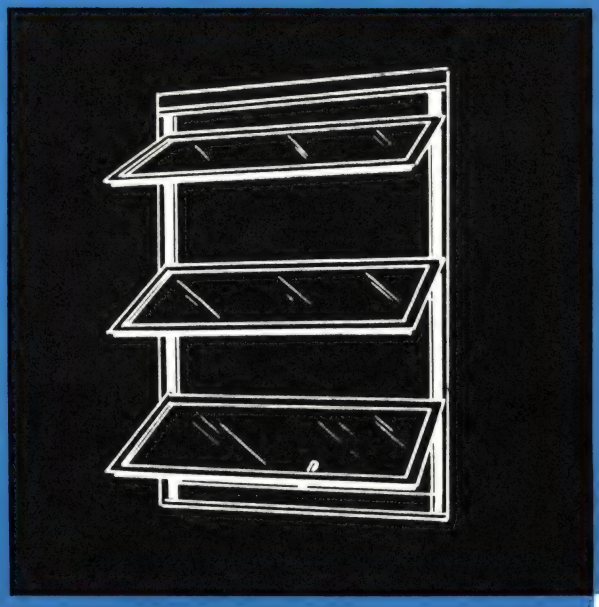
- The Miami Awning Window was tested under simulated hurricane conditions, with an average wind velocity of 100 miles per hour with gusts up to 120 miles per hour.
- Water infiltration at the end of the test was almost too small for measurement.
- Air infiltration during the test was undetectable on a Briam type anenometer.
- The results of this severe test gives proof of the SUPERIORITY of the Miami Awning Window.

MIAMI WINDOW CORPORATION

5200 N. W. 37th AVENUE, MIAMI, FLORIDA

MIAMI WINDOW CORPORATION OF MISSISSIPPI—Key Field, Meridian, Miss.
MIAMI WINDOW CORPORATION OF PANAMA — Panama, Canal Zone
MIAMI WINDOW CORPORATION OF OHIO — 323 W. Spring Street, Columbus, Ohio
MIAMI WINDOW CORPORATION OF HAWAII—(Lewers & Cooke)—P.O. Box 2930, Honolulu, Hawaii
MIAMI WINDOW CORPORATION OF CUBA—(Panam Products)—10 De Octubre 1155, Havana, Cuba

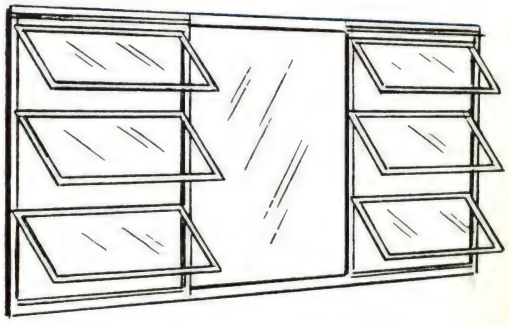
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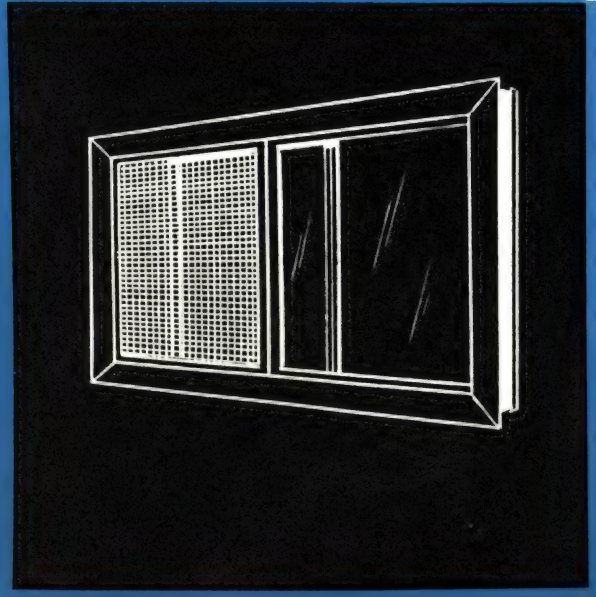


MITCHELL
National

ALUMINUM
WINDOWS

- awning windows
- picture windows
- horizontal gliding windows





• general description

This is the first awning window especially designed to fit architects' demands for a scientifically correct version of the newest prime fenestration. Architects specify the NATIONAL awning window, confident that installation will be easy, operation smooth, and maintenance negligible. The window is delivered completely assembled, with integral operator unit, ready for installation.

• features

Stainless steel center operator gears cannot be stripped. Completely factory assembled—no fitting on job. Permanently balanced. Weatherstripped, etched and lacquered at no extra cost. Center operator clears sills, drapes, etc. Unbroken horizontal lines when vents are open.

• construction

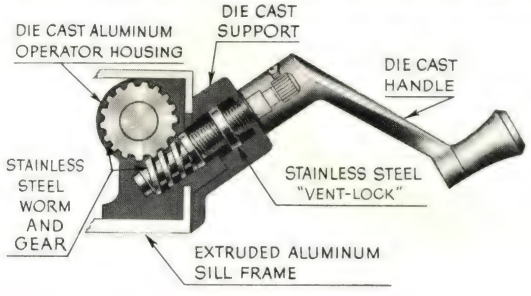
Frame, sash vents and linkage are made of 63ST-5 aluminum alloy—extruded, formed, machined, assembled and finished within our own plants—with new equipment designed for this purpose. Each separate part is specifically engineered to suit its use. Frame and vent sections are strengthened in critical areas; linkage is double-strength bar stock; bearings and gears are enlarged, die-cast and carefully machined to secure permanent adjustment and smooth operation.

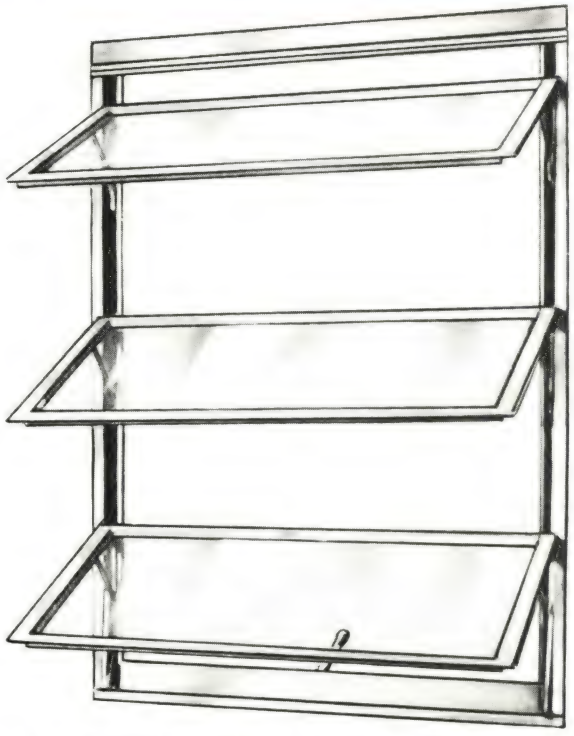
• center operator

Convenient window control at the center of the sill section assures perfect balance of the vents and eliminates frequent adjustments often necessary in side-operated units. Operating handle is close to the window sill member, and is inclined at 55 degrees to clear sill, screen or storm sash, and venetian blinds. No long projecting shaft requiring individual fitting on the job. The patented "Ventlock", integral with the operator mechanism, provides a positive stop for the gears at closed and maximum open positions, preventing stripped gears as well as strain on linkage and frame.

• non-corrosive elements

Operator gears are stainless steel; link sections, gears and bearings are die-cast alloys; studs, rivets, screws, etc., are either aluminum or stainless steel. There can be no electrolytic or corrosive contact between adjoining parts. The entire window can also be supplied





with all exposed aluminum surfaces anodized, to offer a satin-smooth, lustrous surface which can be kept gleaming with minimum care.

• permanent balance

Velvet smooth operation is assured by even distribution of forces applied when center operator is turned to open or close the window. Adjustments before or after installation are eliminated; the NATIONAL awning window is always automatically balanced.

• easy installation

No delicate or prolonged adjustment, balancing or racking is required where NATIONAL awning windows are installed. The operator mechanism is an integral part, concealed within the sill section, and does not need to be attached to each window on the job. There are no "right hand" or "left hand" units to cause confusion and mistakes; any window of a given size can be inserted into an appropriate opening without question.

• weatherstripping

National awning windows are fully weatherstripped with extruded plastic sections.

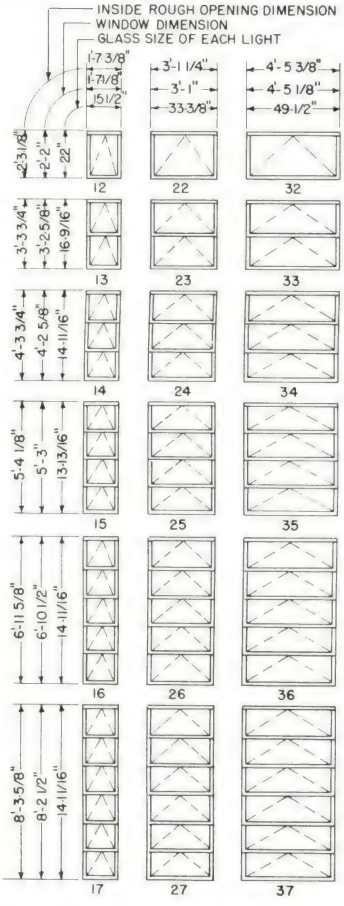
• screens and storm sash

Screens and storm sash position on the interior side of National awning windows. Screening is 18-14 mesh aluminum; storm sash frames of 63ST-5 aluminum alloy. Aluminum screens and storm sash do not interfere with operation of awning; are easily removed from the inside of room for changing and cleaning.

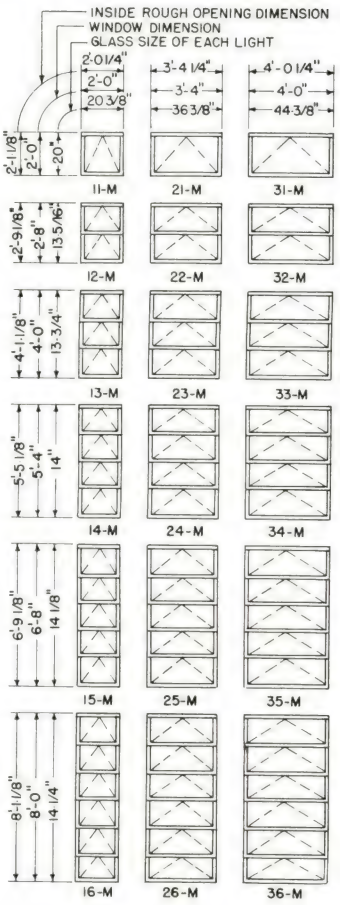
• stock sizes

Standard sizes shown up to 4 vents high are available for immediate shipment, other sizes can be prepared on short notice.

standard sizes



modular sizes

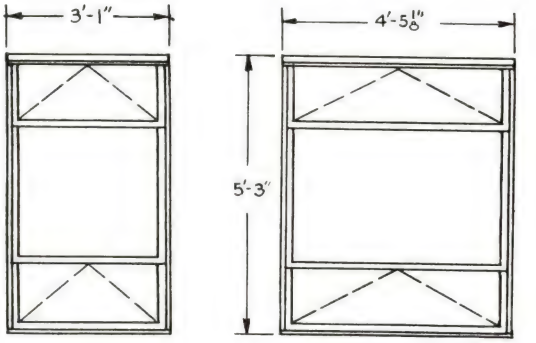


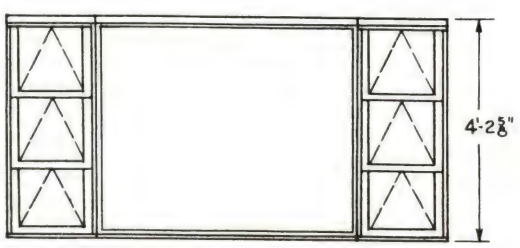
• special sizes

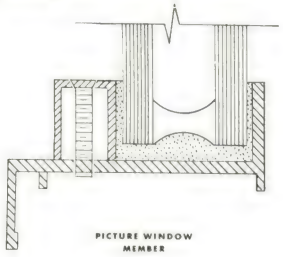
Special sizes within above described limits can be produced promptly on special order, if heights are held to standard or modular dimensions indicated.

• picture windows

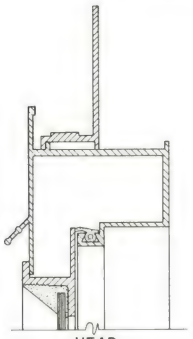
Picture windows to above indicated or special dimensions are shipped in easily assembled knock-down form. Combinations of picture and awning windows can be assembled on the job, using standard mullions.

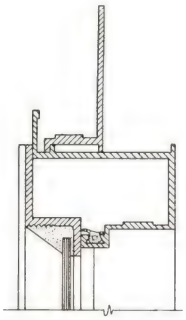


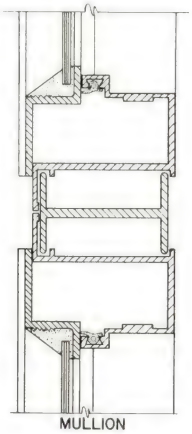


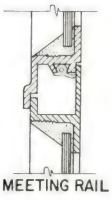


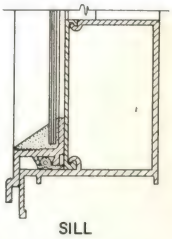
half full scale


HEAD


JAMB

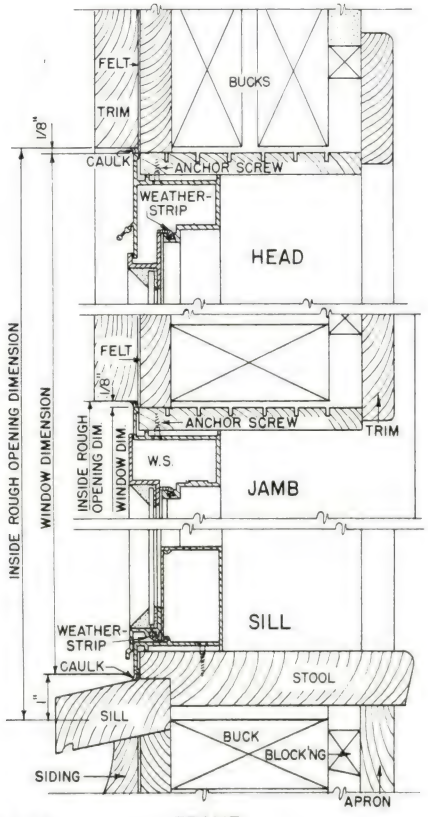

MULLION


MEETING RAIL


SILL

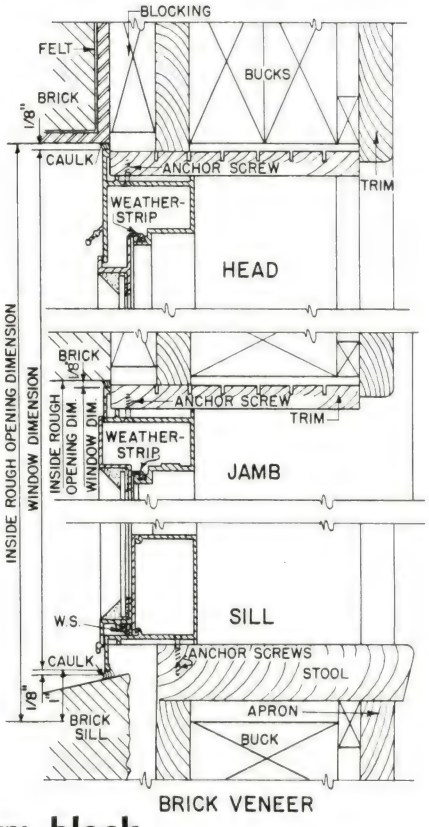
• installation details scale: 3" = 1'-0"

frame



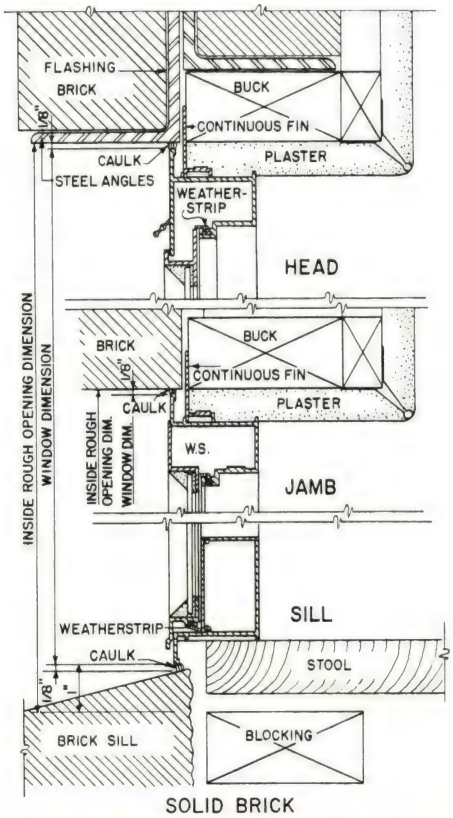
FRAME

brick veneer



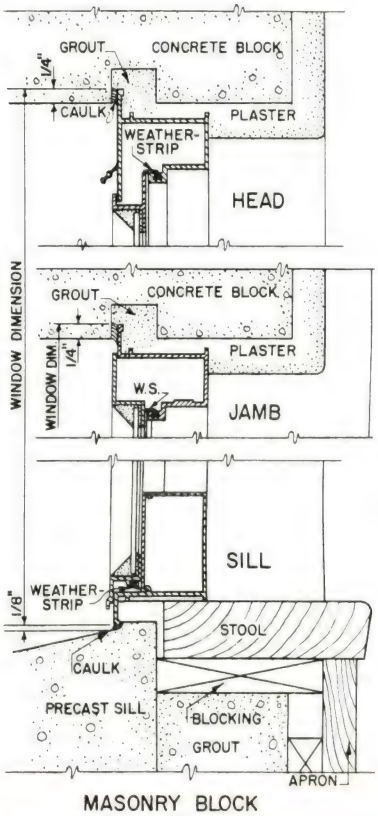
BRICK VENEER

solid brick



SOLID BRICK

masonry block



MASONRY BLOCK

• general description

National Horizontal Gliding Windows answer the demand for a unit which will combine utmost economy with easy installation, simple operations, and complete weather tightness, even in sub-zero or hurricane conditions.

• features

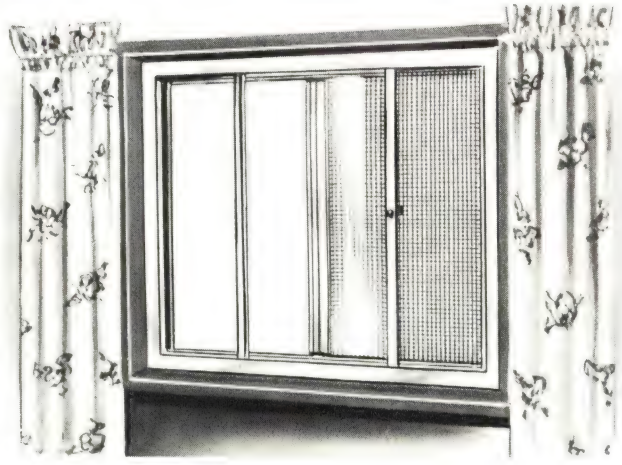
Lowest priced aluminum window . . . low installation cost . . . no adjustment required . . . shipped fully glazed and screened . . . exclusive double sill with drain slots . . . completely weatherstripped with closely packed wool pile . . . gliding sash operates smoothly and quietly . . . secure locking . . . exposed surfaces chemically cleaned, etched and lacquered at no extra cost.

• construction

Frame and sash members are extruded 63ST-5 aluminum alloy, each part designed for strength, functional efficiency and beauty. Complete wool pile weatherstripping plus precision manufacturing assure a weathertight, leakproof window with horizontally gliding sash that moves easily within the sill channel.

• screens and storm sash

National aluminum screens, made to the same critical specifications as National windows, are 18-14 mesh aluminum in extruded frames and match adjacent sash and frame members. Storm sash panels also have extruded frames. All screens and storm sash are inserted from inside the building and cannot be removed from the outside.



• weatherstripping

Stainless steel binder strip containing high pile wool fabric provides flexible, water repellent, positive weatherstrip . . . that also provides insulating surface that will not wear or scratch contacting metal.

• ventilation control

Same ventilation control as with double hung windows.

• gliding sash

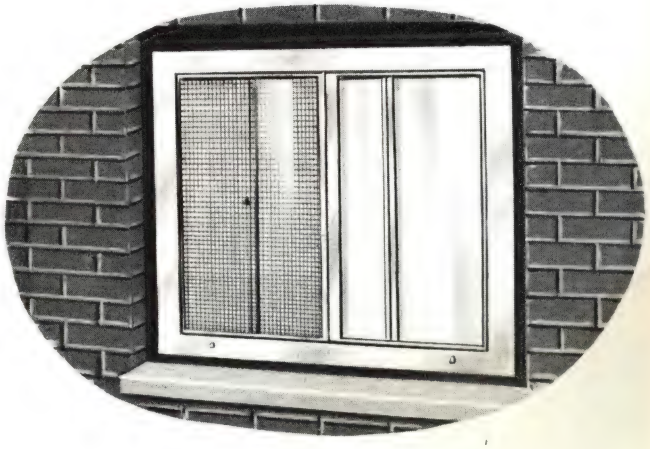
These sash permit horizontal movement from full-closed to full-open, without springs, weights or balances. National Gliding Windows securely lock in the closed position for protection against forced entry. Similar protection is afforded when the window is open, since the inside sash *must* be removed before the screen can be taken out. Both gliding and fixed sash are easily lifted out of the frame for cleaning inside the house.

• easy installation

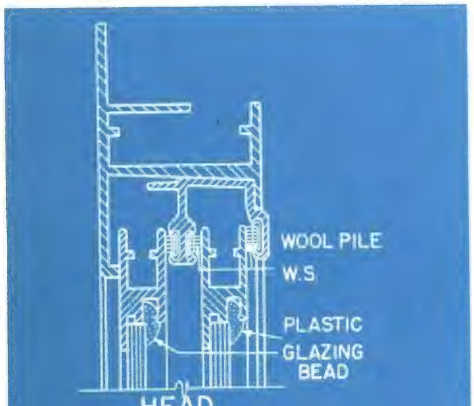
The recommended installation details on page 7 show how easy it is to use National Aluminum Gliding Windows with any type construction. They require no delicate adjustment or tedious balancing. They are ready to use when erected.

• easy maintenance

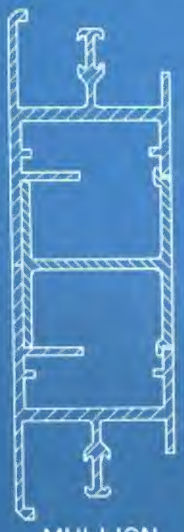
National Gliding Windows are rugged assemblies of a simplified design that eliminates tendencies to stick, corrode or bind. No weights to adjust; no cords or pulleys to replace or repair. Replacement of standard thickness glass is facilitated by plastic glazing beads.



half full size



HEAD



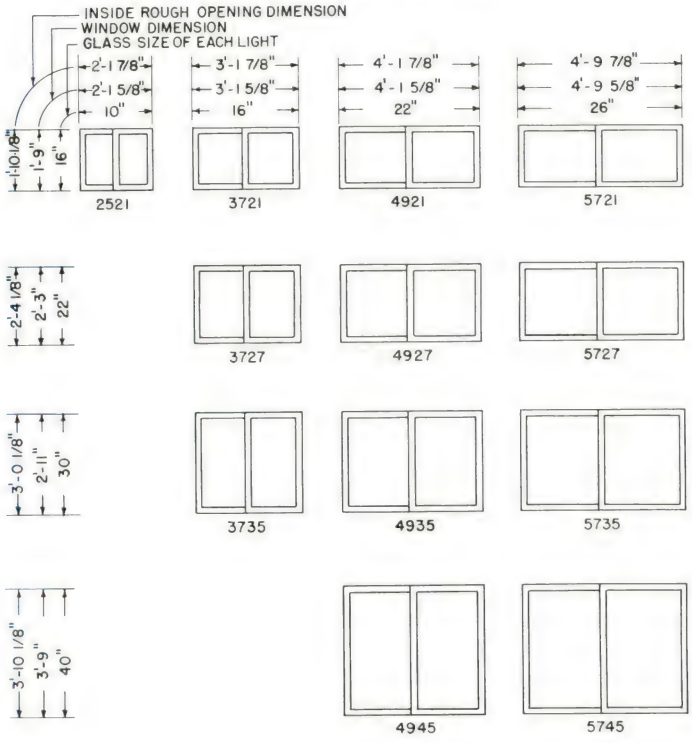
MULLION



SILL

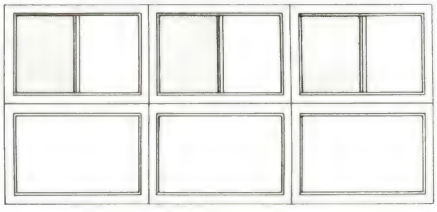
• stock sizes

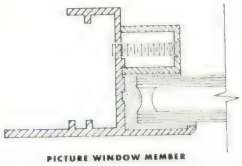
Standard sizes illustrated are available for immediate shipment; other sizes can be prepared on short notice.



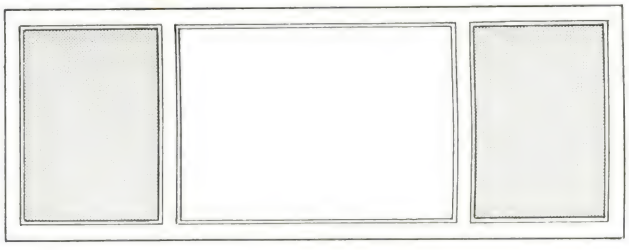
• picture windows

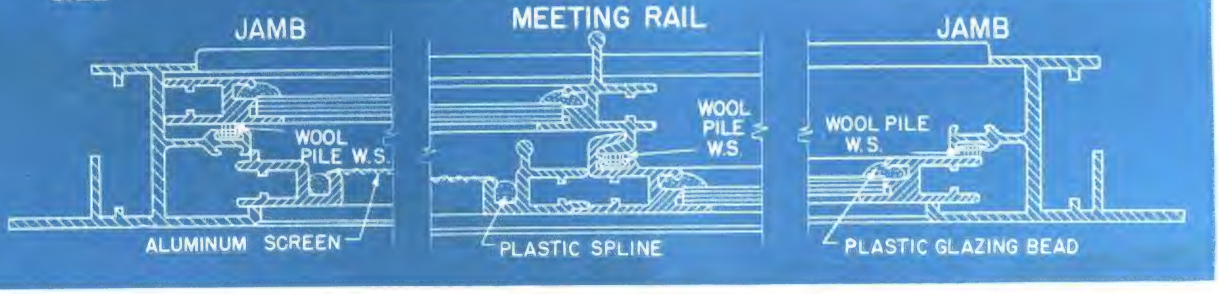
Picture windows are available in any of the above dimensions, or special sizes. They are shipped knocked-down, for easy assembly on the job. They may be combined with gliding windows of appropriate size into attractive mullioned assemblies, as illustrated.





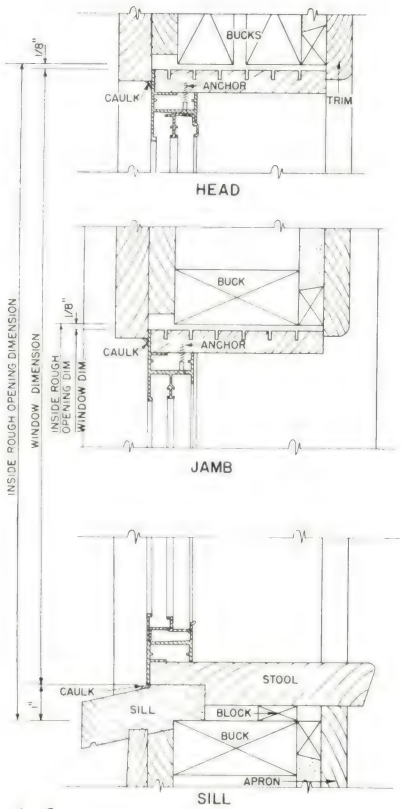
PICTURE WINDOW MEMBER



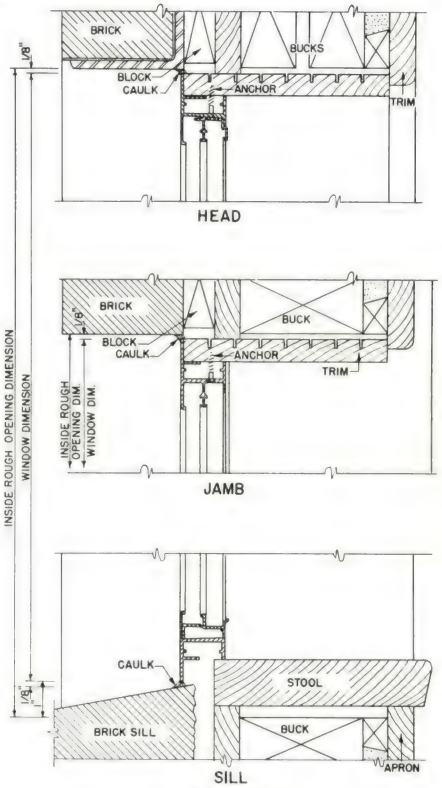


• installation details scale: 3" = 1'-0"

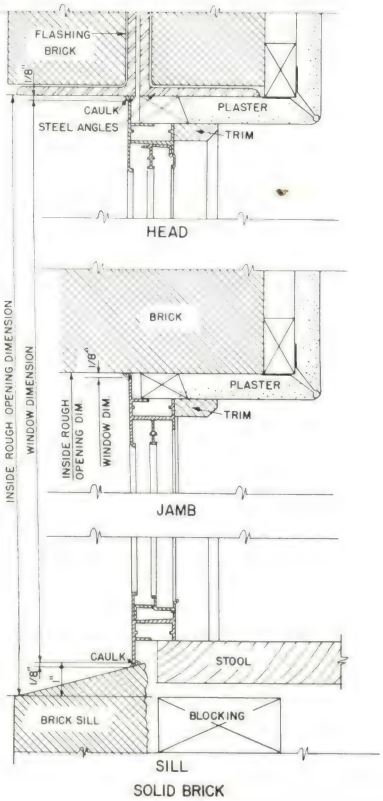
frame



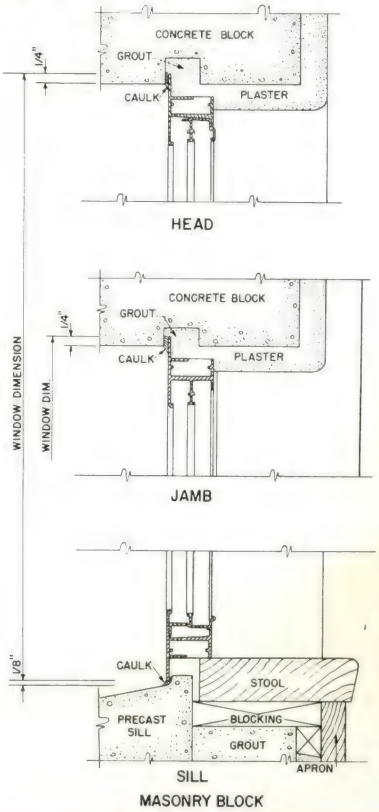
brick veneer



solid brick



masonry block



• specifications for awning type windows

general
Awning Windows shown on the drawings and called for in the window schedule shall be of the types and sizes indicated and shall be as manufactured by the National Window Corporation, Jackson, Mississippi.

material
Frames, sash vents and linkage shall be of extruded aluminum alloy 63ST-5 ( ) finish. (Architect: please indicate etched and lacquered or anodized.) Operator worm and worm gear shall be stainless steel; linkage shall be double-strength bar stock; bearings and gears shall be die cast and precision machined; all studs, screws, rivets, etc., shall be aluminum or stainless steel.

construction
All frame corners shall be notched and mechanically fastened. Sash shall be attached to aluminum linkage with aluminum or stainless steel fasteners.

hardware
Sash operator shall be located at the center of the sill section with a 55 degree inclined handle shaft. This operator shall include the patented "Ventlock" which provides a positive lock for the gears at the maximum closed or open position. This shall prevent gear stripping and obviate strain on linkage or frame.

installation
Windows shall not be installed until all openings have been properly prepared and all adjacent work by other trades has been carried as far as possible. Windows shall be set plumb, level and true and shall have a complete seal of caulking compound compatible with aluminum on all sides of the frame.

glazing
Window units shall be glazed, and all glass shall be securely set in a plastic glazing compound with glazing beads or putty compatible with aluminum.

screens
Screen frames shall be aluminum alloy 13/16 inches by 3/8 inches in cross section. Corners shall be mitered and joined by concealed aluminum corner angles. Screen cloth shall be 18-14 mesh aluminum and shall be securely anchored in the frames by means of plastic or aluminum splines.

storm sash
Flat storm sash panels shall be easily applied to and removed from the inside of the window unit. Glass shall be BSS grade for smaller units and BDS grade for larger units, embedded in a glazing compound and held in place by a plastic glazing bead. The frame members shall be 1-1/8 inches by 3/8 inches in cross section and shall be extruded from 63ST-5 aluminum alloy.

weatherstripping
All sash shall be completely weatherstripped on all contact edges with extruded plastic material.

• specifications for horizontal gliding sash

general
Horizontal gliding sash shown on the drawings and called for in the window schedule shall be of the types and sizes indicated and shall be as manufactured by the National Window Corporation, Jackson, Mississippi.

materials
Frame and sash members shall be of solid extruded aluminum alloy 63ST-5 ( ) (architect; please indicate etched and lacquered or anodized finish.) All screws, rivets and studs shall be aluminum or stainless steel.

construction
All frame corners shall be mitered, keyed and mechanically fastened. Sash shall slide in a separate sill channel which will be held to the sub sill by the position of the jamb sections. This track shall be provided with weep holes to carry off condensation and track drainage. The sill section shall also contain weep holes to allow the run-off to pass over the exterior stone, wood, etc., sill.

Meeting rails shall have interlocking legs with weatherstripping. The inside sash shall be provided with a spring latch assembly at the jamb for positive locking.

installation
Windows shall not be installed until all openings have been properly prepared and all adjacent work by other trades has been carried as far as possible. Windows shall be set plumb, level and true, and shall have a complete seal of caulking compound compatible with aluminum on all sides of the frame.

glazing
Window units shall be glazed and all glass shall be securely set in a glazing compound and held in place with a plastic glazing bead.

screens
Single-piece screen units shall be provided for all opening. Screen cloth shall be 18-14 mesh aluminum and shall be securely anchored in the frames by means of vinyl splines.

storm sash
Single piece storm sash panels shall be easily applied to and removed from the inside of the window unit.

weatherstripping
All sash shall be completely weatherproofed with wool pile fabric strip.

• National Window Corporation

materials
All National aluminum windows are manufactured in our fully integrated, modern plant in Jackson, Mississippi, with equipment especially designed for the economical, close tolerance manufacture of each particular type. Frames, sash, vents and linkage are made of 63S-T5 aluminum alloy, extruded on our own presses and heat treated to maximum hardness in our own aging ovens. Die castings are of fully compatible alloys. All screws are either aluminum or stainless steel.

architectural assistance
National Window Corporation will render partial or complete assistance to architects, contractors or builders who desire specifications or shop drawings, or advice on installation cost-savers. All requests will be promptly answered in detail.



MILNER BUILDING, JACKSON, MISSISSIPPI
A recent installation of National Awning Windows

National Window Corp.

P. O. Box 632 **Jackson, Mississippi**

PANAVIEW®

sliding aluminum windows

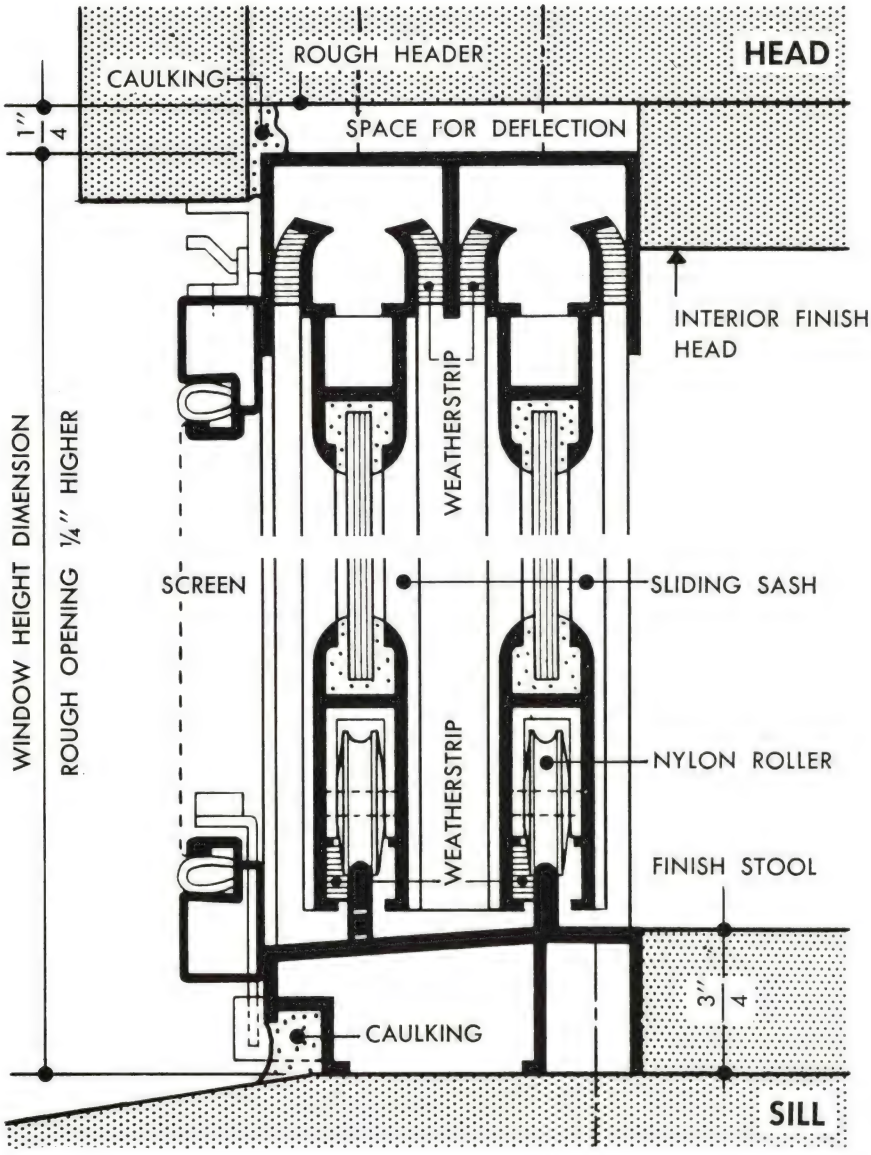
Quality with economy . . . . beauty with endurance

. . . this keynotes the new PANAVIEW sliding window. Fabricated of specially designed aluminum extrusions, these horizontal sliding units are completely weatherstripped. All sash slide . . . all sash can easily be lifted out for simplicity of cleaning and maintenance. PANAVIEW windows may be glazed with double strength window glass, 3/16″ crystal or 1/4″ plate glass.

A wide range of stock sizes in completely packaged units offer innumerable combination possibilities to fulfill the most imaginative and exacting architectural requirements.

With its many features making it a top quality window, PANAVIEW is priced to fit the building budget for the moderately priced home . . . and its construction of lifetime aluminum eliminates costly painting and upkeep . . . a money saver for years to come.

A.I.A. FILE NO. 16E



FULL SIZE DETAILS

PANAVIEW FEATURES:

Heavy gauge extruded aluminum of highest quality . . . never needs painting.

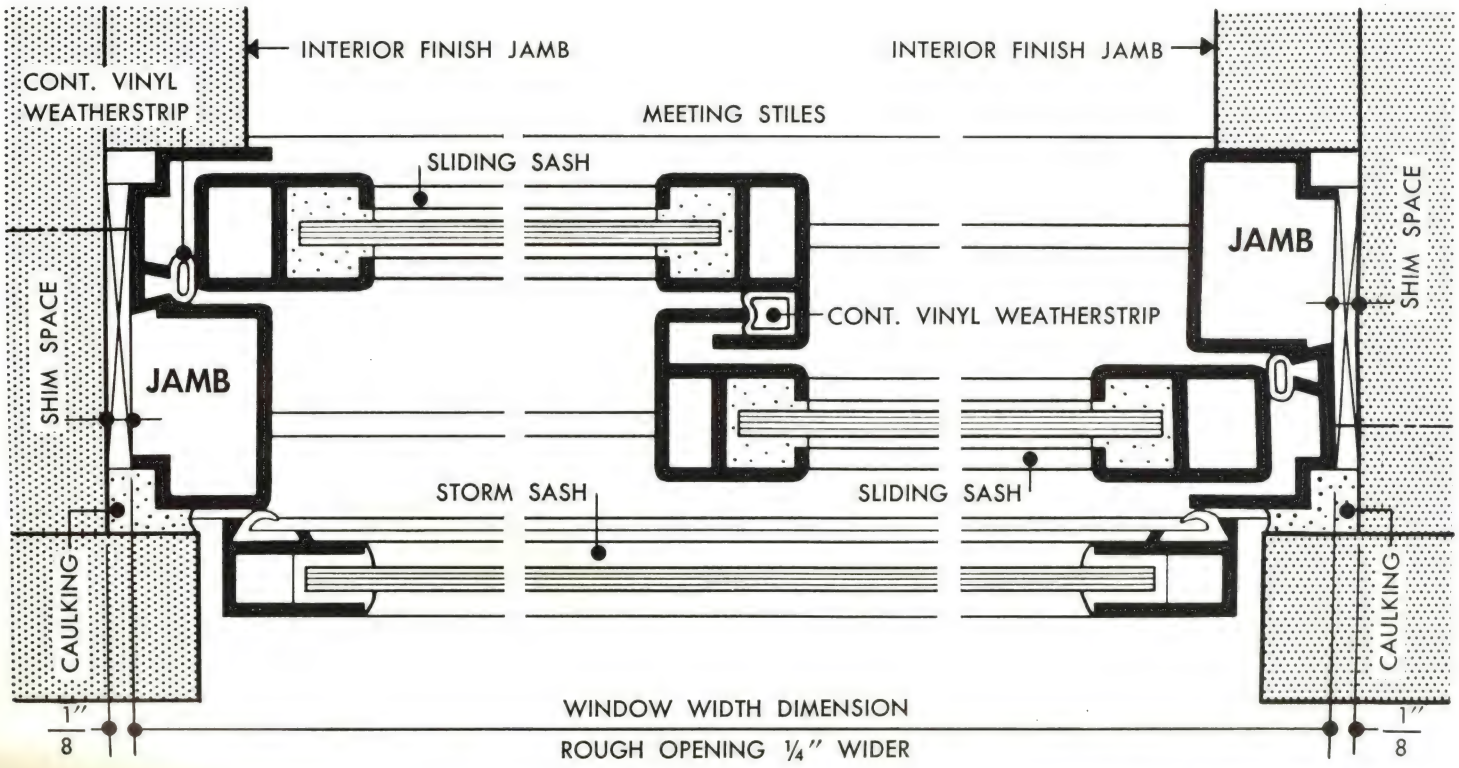
100% weatherstripped.

All sash slide . . . no sash are fixed . . . all can be lifted out for easy cleaning and easy maintenance.

All hardware is flush . . . allowing sash to by-pass one another.

Nylon rollers for ease of operation.

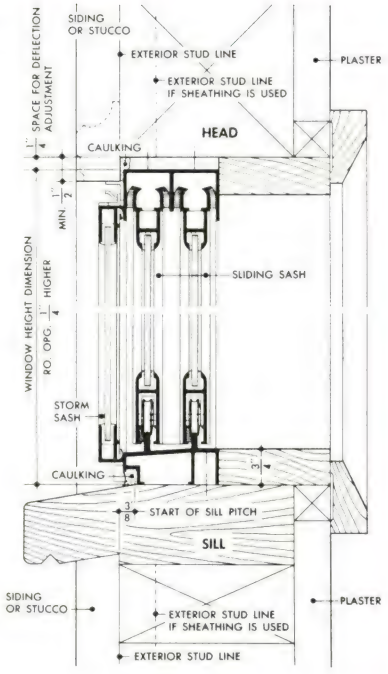
Widest range of adjustment for beam deflection.

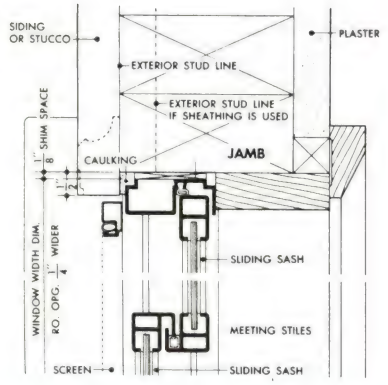


Copyright 1954 By Panaview Door & Window Co.

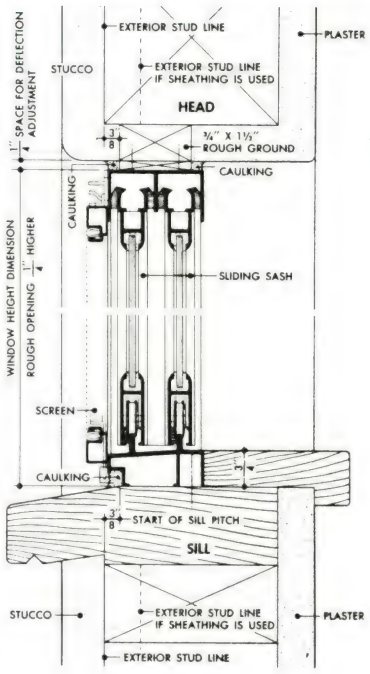
¼ SIZE SUGGESTED DETAILS

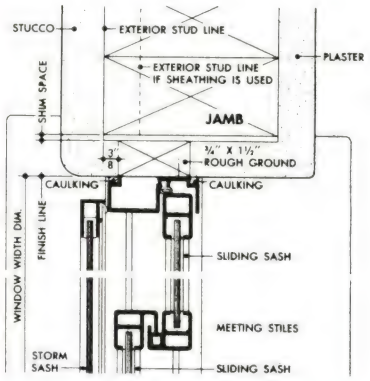
FRAME (siding or stucco)



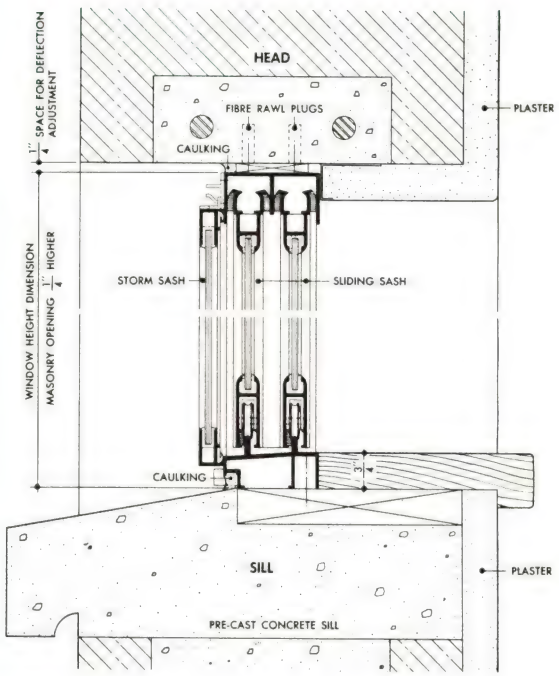


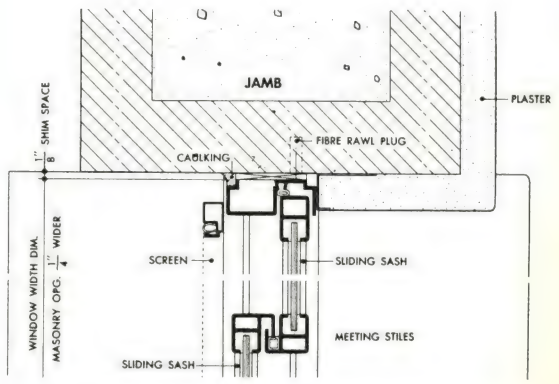
FRAME (bullnose stucco)

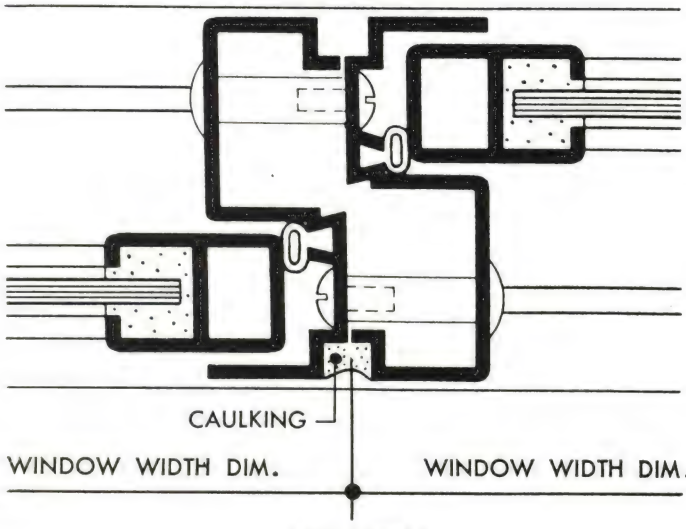




CONCRETE BLOCK

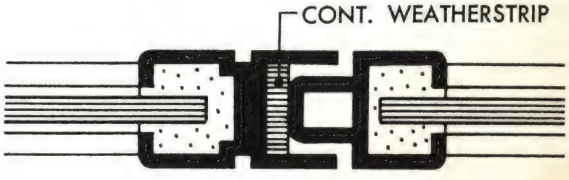






MULLION

JOINING ADJACENT JAMBS



MEETING STILES

TYPE W-3 and W-4 WINDOWS

PANAVIEW®

For PANAVIEW SLIDING ALUMINUM DOORS, see Sweet's Catalog or write for brochure.







PANAVIEW

SPECIFICATIONS

GENERAL: Aluminum sliding windows shown on plans shall be PANAVIEW windows as manufactured by the Panaview Company.

MATERIAL AND CONSTRUCTION: PANAVIEW windows shall be constructed from heavy gauge extruded aluminum of 63ST5 alloy. Frame members shall consist of sill track, head track and jamb sections. Jamb sections shall be coped to interlock with sill and head tracks so that when these sections are secured within wall opening, the joints shall be waterproof and twistproof.

SASH: Stiles shall be constructed of hollow extruded sections milled at ends to receive bottom and top rails, overlapping them for the complete width of the stiles. The stiles, thus housing the ends of rails in this overlapping joint, shall have a single Allen head screw at back of each joint securing rails to stiles. Sash shall glide on nylon rollers with stainless steel axles for quiet, smooth operation.

WEATHERSTRIPPING: Weatherstripping in jambs and interlocking stiles shall be of vinyl plastic extrusions of the highest quality, set in continuous lengths. Weatherstripping in sash shall consist of a special grade of friction-resistant felt, set in continuous strips in top and bottom rails so that complete weather contact with tracks is maintained along full width of sash.

HARDWARE: Sliding sash shall be provided with locking hardware manually operated by a lever. Hardware shall not interfere with sash by-passing each other in operation.

FINISH: All exposed aluminum shall be mill finish. Alumiliting shall be done at additional cost when so specified. All surfaces in contact with ferrous materials or masonry shall be given a protective coating of asphalt base paint by installer.

SCREENS: Window screens shall be made of rolled frames fitted with 16 mesh aluminum wire cloth.

ERECTION: (included under another contract). Erect windows in prepared openings according to manufacturer's drawings. Window frames must be set plumb and level so that sliding sash shall retain proper weathering contact to the frames. Installation screws shall be provided by the manufacturer. Mastic shall be furnished by others.

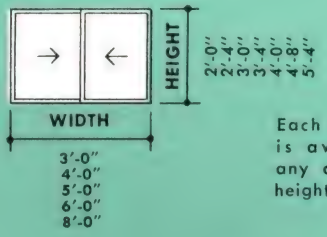
GLAZING: (By others). Glazing shall be done in accordance with PANAVIEW instructions. PANAVIEW windows may be glazed with double strenght window glass, 3/16" crystal or 1/4" plate glass.

PATENT PENDING

STOCK SIZES

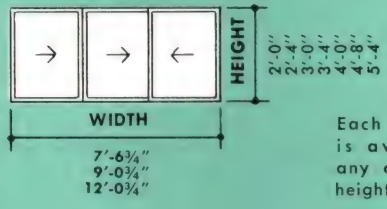
Wide range of packaged units in stock sizes and combination possibilities afford greatest architectural freedom. These stock units may be used in series to form a continuous wall of glass to any desired length by joining adjacent mullions together with or without supporting posts.

TYPE W-2...two sash sliding



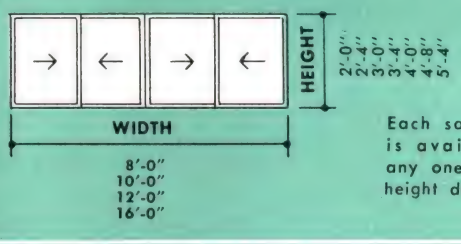
Each sash width is available in any one of these height dimensions.

TYPE W-3...three sash sliding



Each sash width is available in any one of these height dimensions.

TYPE W-4...four sash sliding



Each sash width is available in any one of these height dimensions.

For PANAVIEW SLIDING ALUMINUM DOORS, see Sweet's Catalog or write for brochure.

PANAVIEW . 13434 RAYMER STREET, NORTH HOLLYWOOD, CALIFORNIA . . . PHONE STANLEY 7-1591

A.I.A. File No. 16-E

3 GREAT ALUMINUM WINDOWS



custom quality

The PER-FIT® Line





economy construction

modern design



ARCHITECTS
specify them because they appreciate their superior design.

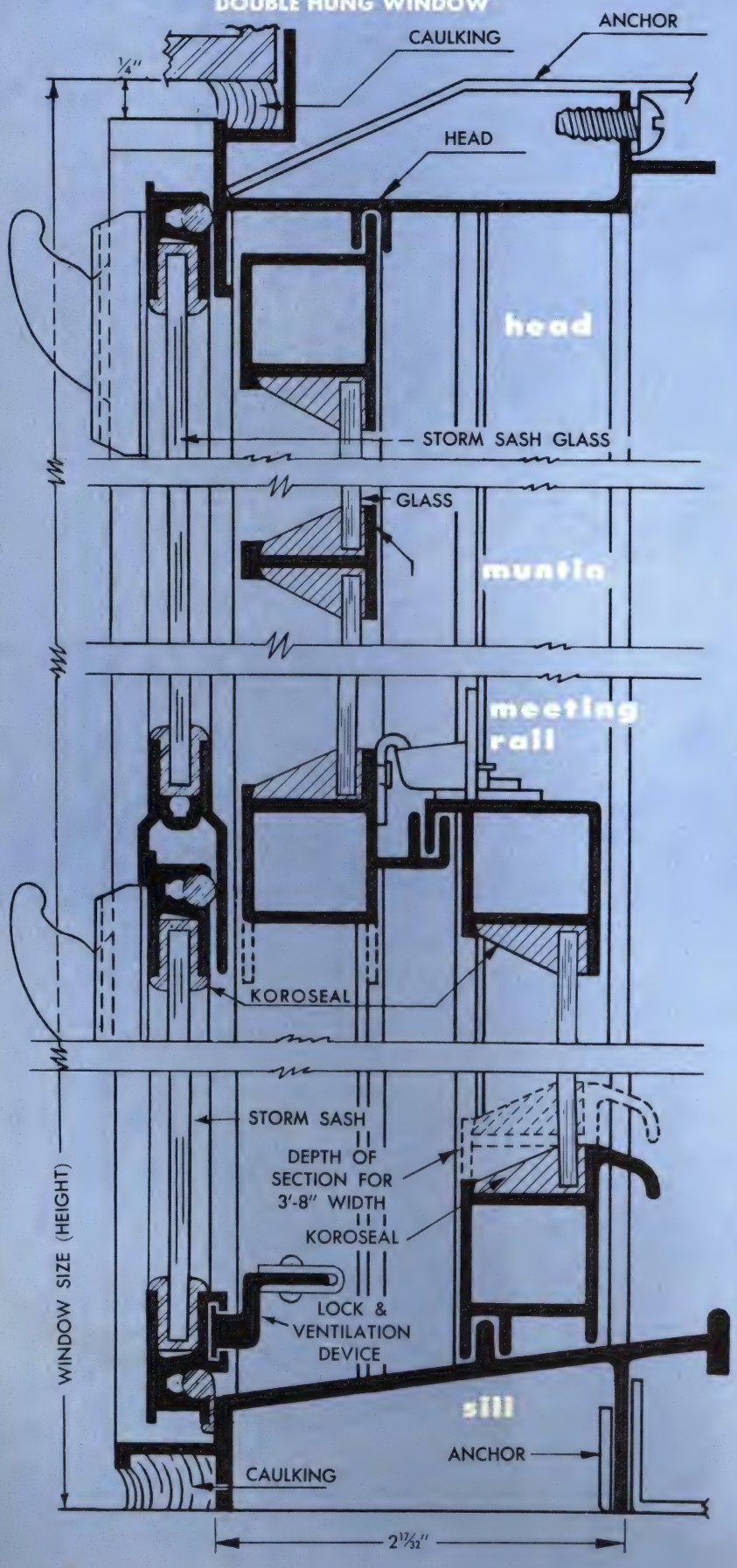
BUILDERS
use them because they help sell houses.

OWNERS
prefer them for their, maintenance-free beauty.

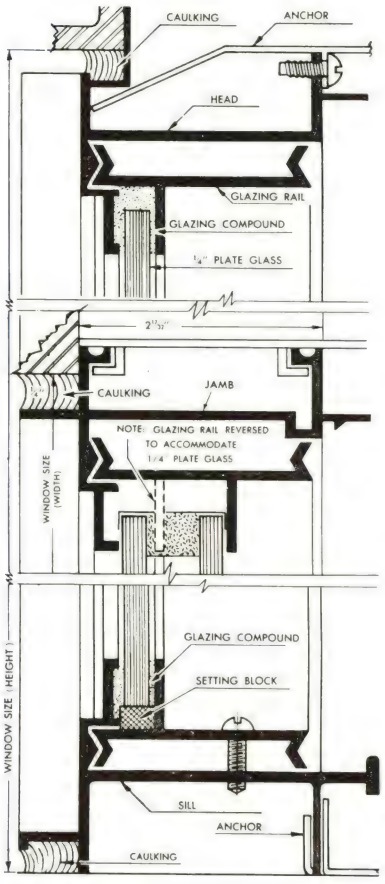
A.I.A. File No. 16-E

PER-FIT SERIES 100
FULL SIZE DETAILS

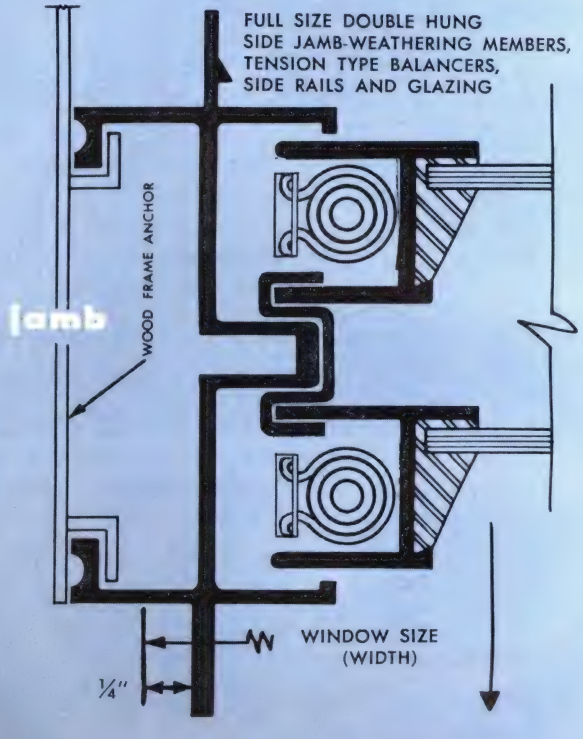
DOUBLE HUNG WINDOW



PICTURE WINDOW
Scale 1/2 Size



FULL SIZE DOUBLE HUNG SIDE JAMB-WEATHERING MEMBERS, TENSION TYPE BALANCERS, SIDE RAILS AND GLAZING



GENERAL

Per-Fit, the standard of quality of all commodity type double hung aluminum windows, is characterized by heavy sill sections, extra heavy zinc side-rail weathering, fluted mullion covers, and an unusual gracefulness in finished appearance. Consequently, Per-Fit is often chosen for institutional and commercial work at substantial savings. However, Per-Fit is primarily a residential window applicable to any style or class house. Matching picture window frames available.

MULLIONS

A rigid double seal is achieved in multiple units. Fluted extruded aluminum mullion covers for straight mullions provide a graceful, modern appearance. (See Mullion Details on Page 5.)

STORM SASH AND SCREENS

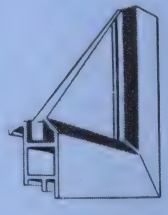
Two-piece storm sash incorporates a Koroseal weathering gasket to provide non-metallic contact between storm sash and window frames. Easily installed from the inside, ventilation is obtained by extending the locking arms and projecting the lower half. Aluminum framed full screens, with center horizontal re-inforcing bar, available as standard.

SPECIFICATIONS

See page 5.



features

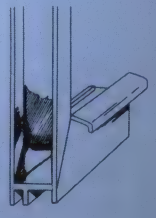


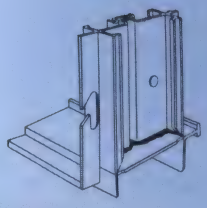
KOROSEAL GLAZED

Pioneered by Per-Fit in 1946 and now acknowledged by the window industry as the finest glazing type material possible to use. An extruded vinyl material which neither hardens, softens nor shrinks under extreme climatic changes. Per-Fit may be job glazed.

INTERNALLY WELDED SASH CORNERS

The only standard aluminum window with all sash corners internally welded for strength and perfect joinery. A feature normally found only on custom built windows.



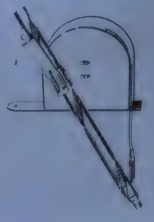


WELDED FRAME CORNERS

The jamb section of the frame is continuously welded to the extra strong sill section, providing strength and permanence at this critical point. A feature exclusive with Per-Fit.

TWO BALANCER TYPES AVAILABLE

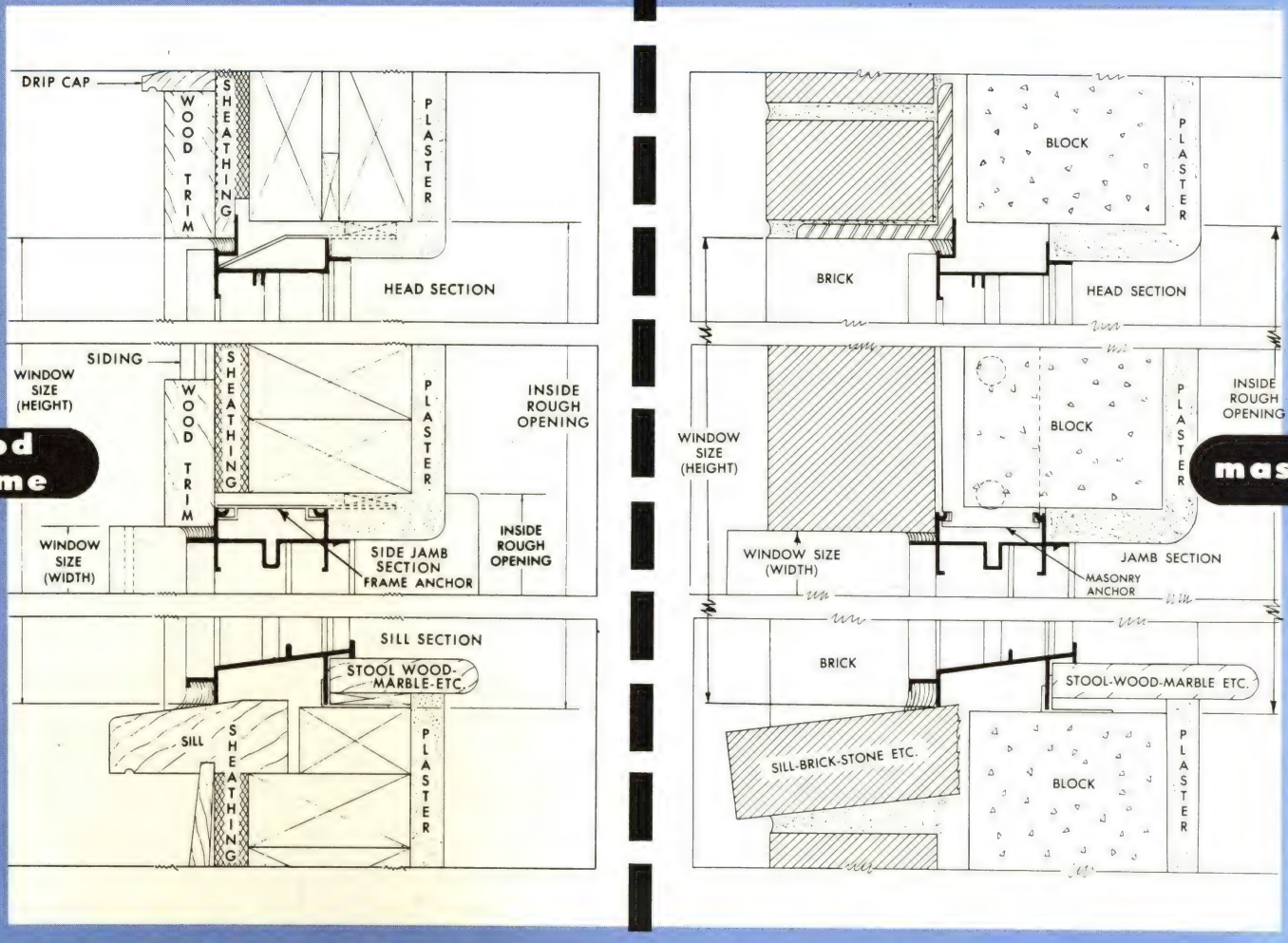
Per-Fit is normally shipped with adjustable tension-type balancers contained in the side members of the sash frame. Where special job conditions require, and the window quantity is practicable, Per-Fit can be equipped with tape type balancers.



PER-FIT SERIES 100

INSTALLATION DETAILS

Scale 3"=1'0"

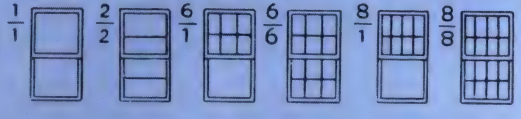


SIZES AND DIMENSIONS

DOUBLE HUNG UNITS

WINDOW SIZE	INSIDE ROUGH OPENING		OUTSIDE FINISHED OPENING (WINDOW SIZE)		GLASS AREA	VENTILATING AREA
	Width	Height	Width	Height	Square Feet	Square Feet
1630	1'7½"	3'0⅜"	1'6"	3'0"	3.05	1.84
1640	1'7½"	4'0⅜"	1'6"	4'0"	4.26	2.52
1648	1'7½"	4'8⅜"	1'6"	4'8"	5.07	2.96
1650	1'7½"	5'0⅜"	1'6"	5'0"	5.88	3.19
2030	2'1½"	3'0⅜"	2'0"	3'0"	4.30	2.53
2040	2'1½"	4'0⅜"	2'0"	4'0"	6.02	3.45
2048	2'1½"	4'8⅜"	2'0"	4'8"	7.16	4.07
2050	2'1½"	5'0⅜"	2'0"	5'0"	8.30	4.37
2430	2'5½"	3'0⅜"	2'4"	3'0"	5.14	2.99
2440	2'5½"	4'0⅜"	2'4"	4'0"	7.19	4.08
2448	2'5½"	4'8⅜"	2'4"	4'8"	8.55	4.80
2450	2'5½"	5'0⅜"	2'4"	5'0"	9.91	5.17
2830	2'9½"	3'0⅜"	2'8"	3'0"	5.98	3.45
2840	2'9½"	4'0⅜"	2'8"	4'0"	8.36	4.70
2848	2'9½"	4'8⅜"	2'8"	4'8"	9.94	5.54
2850	2'9½"	5'0⅜"	2'8"	5'0"	11.53	5.96
3030	3'1½"	3'0⅜"	3'0"	3'0"	6.81	3.90
3040	3'1½"	4'0⅜"	3'0"	4'0"	9.53	5.32
3048	3'1½"	4'8⅜"	3'0"	4'8"	11.33	6.27
3050	3'1½"	5'0⅜"	3'0"	5'0"	13.14	6.75
3430	3'5½"	3'0⅜"	3'4"	3'0"	7.65	4.36
3440	3'5½"	4'0⅜"	3'4"	4'0"	10.70	5.95
3448	3'5½"	4'8⅜"	3'4"	4'8"	12.73	7.01
3450	3'5½"	5'0⅜"	3'4"	5'0"	14.76	7.53
3830	3'9½"	3'0⅜"	3'8"	3'0"	8.49	4.82
3840	3'9½"	4'0⅜"	3'8"	4'0"	11.87	6.57
3848	3'9½"	4'8⅜"	3'8"	4'8"	14.12	7.74
3850	3'9½"	5'0⅜"	3'8"	5'0"	16.37	8.32

MUNTIN ARRANGEMENTS

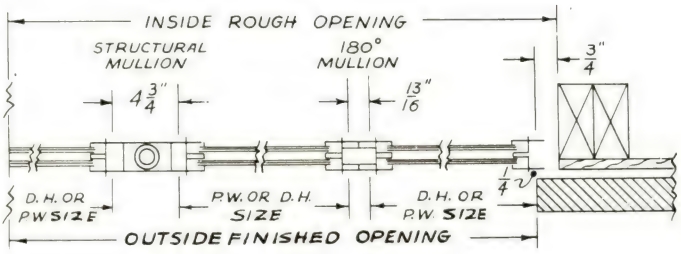


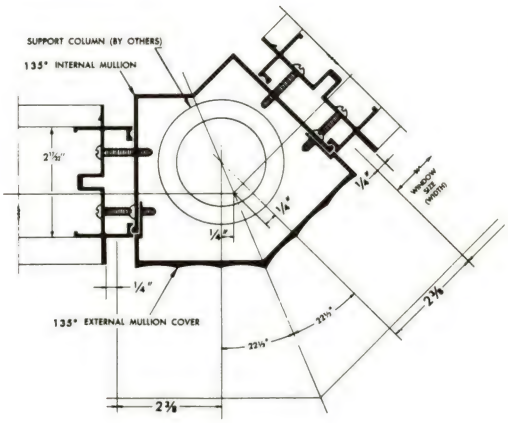
PICTURE WINDOW UNITS

WINDOW SIZE	INSIDE ROUGH OPENING		OUTSIDE FINISHED OPENING	
	Width	Height	Width	Height
4040	4'1½"	4'0⅜"	4'0"	4'0"
4048	4'1½"	4'8⅜"	4'0"	4'8"
4050	4'1½"	5'0⅜"	4'0"	5'0"
5040	5'1½"	4'0⅜"	5'0"	4'0"
5048	5'1½"	4'8⅜"	5'0"	4'8"
5050	5'1½"	5'0⅜"	5'0"	5'0"
6040	6'1½"	4'0⅜"	6'0"	4'0"
6048	6'1½"	4'8⅜"	6'0"	4'8"
6050	6'1½"	5'0⅜"	6'0"	5'0"

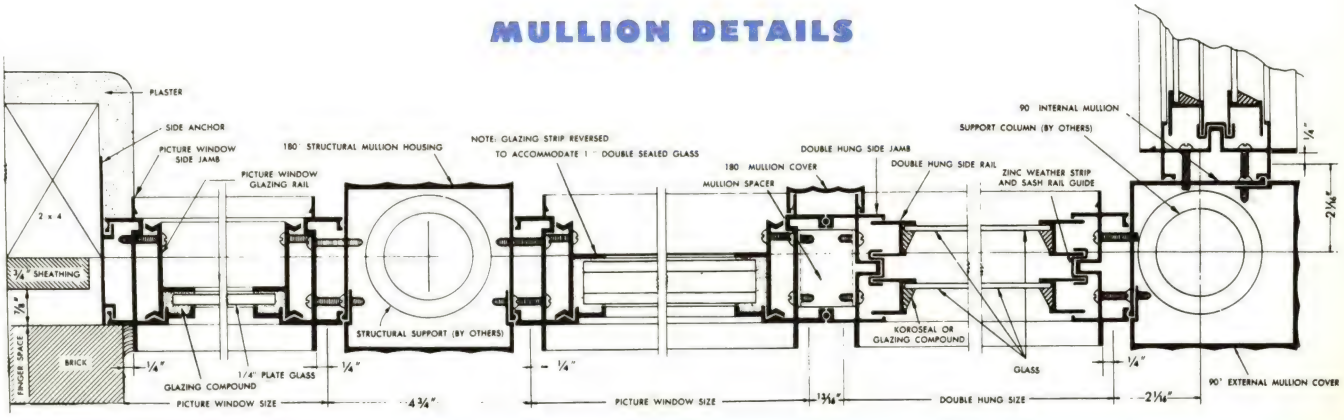
MULTIPLE OVERALLS

When using multiple units consisting of any combination of either double hung or picture window units, add 13/16" for each straight mullion, except for 180° Structural Mullion Housing add 4¾". See details, this page, for dimensions of 90°, 180° and 135° Structural Mullion Housing.





MULLION DETAILS



SPECIFICATIONS

PER-FIT Double Hung and Fixed Aluminum Window shown on Architects' plans to be as manufactured by Per-Fit Products Corporation, Indianapolis, Indiana with designs, materials and construction as specfied in their current Catalog:

MATERIAL: Aluminum used in manufacture shall be extruded 63ST5 alloy with minimum thickness of Sash Members, .0625"; Frame-side and Head Members, .0625"; Frame-sill Members, .078".

WEATHERSTRIPPING: Weatherstrip channels of zinc, cold formed .050" semi-hard, shall serve as sash guides and shall be securely attached to frame side with stainless steel screws. Felt rubbing blocks shall be attached to weatherstrip for proper weather seal at meeting rails.

CONSTRUCTION: Jamb members of frame shall be mechanically interlocked and welded to sill members. There shall be interlocking fins forming weathering seals between the head and sill members of the frame and the sash, as well as similar interlocking members at the sash meeting rail. Sash members shall be corner-mitred and internally welded. Mullions shall be sealed against weather and air infiltration by full height aluminum rods tightly locked in grooves in jamb section of window frame. Mullions shall automatically and permanently align adjoining units and the internal snap-on fluted mullion covers shall be available for 180° mullions. Windows over 3'4" width shall have heavier lower rail sections in both sash. Balancers shall be adjustable, spiral tension type.

ACCESSORIES: Required anchors for installation to be provided by Manufacturer. If mullions are required at structural members, add following: Provide 90°, 135° or 180° housings for structural members (by others).

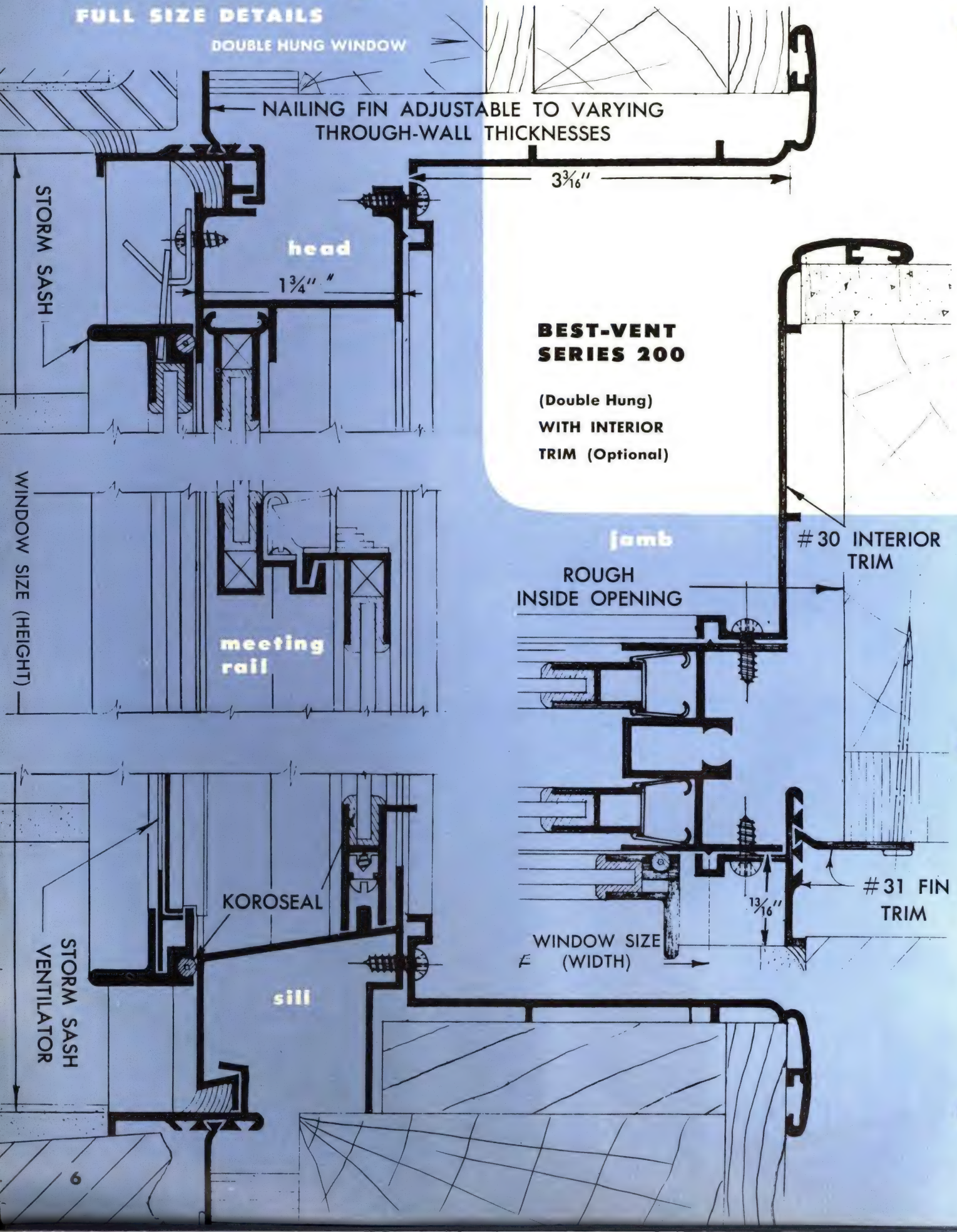
GLAZING: (This): Koroseal shall be used in factory glazing of sash. (Or This): Glazing shall be with an approved quality glazing compound and done in an acceptable and workmanlike manner by the glazing contractor. Picture Window frames shall accommodate either ¼" plate or 1" insulating glass.

FINISH: A lacquer coating shall be applied at factory for protection of the finish during installation.

STORM SASH AND SCREENS: Two-piece storm sash, easily attached or removed from the inside, shall provide interlock at meeting rails. Koroseal gasket shall be provided in storm sash frames to achieve a non-metallic contact with window frame. Ventilation shall be obtainable by extension of the locking arms or lower half of storm sash. Aluminum frame full screens shall be provided.

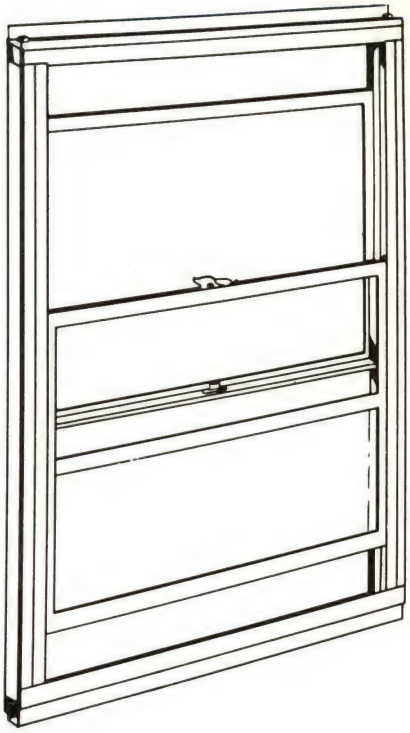
BEST-VENT SERIES 200
FULL SIZE DETAILS

DOUBLE HUNG WINDOW



BEST-VENT
for ECONOMY DESIGN . . . SERIES 200
DOUBLE HUNG • PICTURE

The Per-Fit Line



GENERAL—Best-Vent's quality makes it equally acceptable in the expensive contract house and in low to medium cost houses. Ease of operation ("try the little finger test") and scientific ventilation obtained by balanced sash operation. Matching picture window frames available. This window may be used with or without #31 aluminum exterior fin trim and #30 aluminum interior finish trim. (Installation Details, Page 8).

#30 ALUMINUM INTERIOR TRIM AND #31 EXTERIOR FIN TRIM—Complete aluminum interior trim and exterior fin trim quickly adapts the window units and multiple combinations to varying wall thicknesses and construction types.

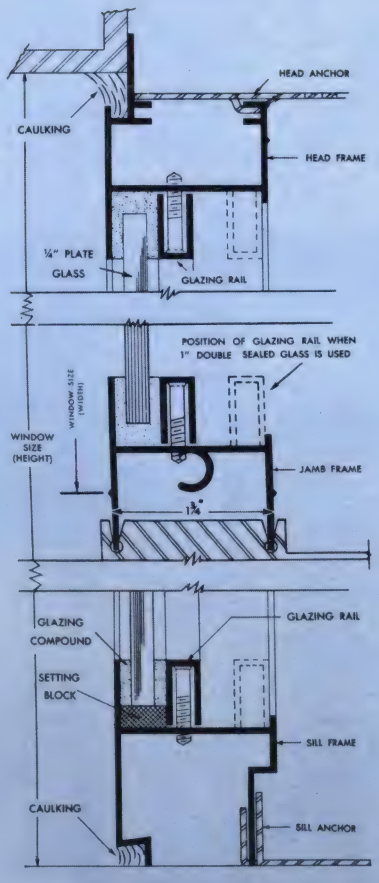
MULLIONS—180° straight mullions. 90° structural mullion housings and 180° structural mullion housings available.

STORM SASH AND SCREENS — Aluminum framed full screens and one piece storm sash are manufactured by Per-Fit Products Corporation to fit Best-Vent. Easily hung storm sash are provided with a Koroseal gasket to provide non-metallic contact between storm sash and window frame. Storm sash include a louvre type ventilator.

SPECIFICATIONS — See Page 9.

picture window

NOTE: Interior Trim (#30) and Exterior Fin Trim (#31) available as for double hung units.
See Page 6.



Scale ½ Size



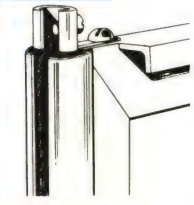
KOROSEAL GLAZED

Koroseal is the same type plastic specified for many government uses in both arctic and tropical climates. It neither hardens, softens nor shrinks and is reuseable when re-glazing is required.



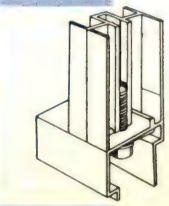
FINGER TIP OPENING

The sash are so perfectly balanced that lifting of the lower sash can easily be accomplished with one finger ("the little finger test"). Upper and lower sash automatically adjust to equal openings for naturally balanced ventilation.



STAINLESS STEEL WEATHERSTRIPPING

Attached to side rails of both sash. Tension against sides of jamb channels produces a constant and continuous weather seal without sticking or binding to impede sash operation.



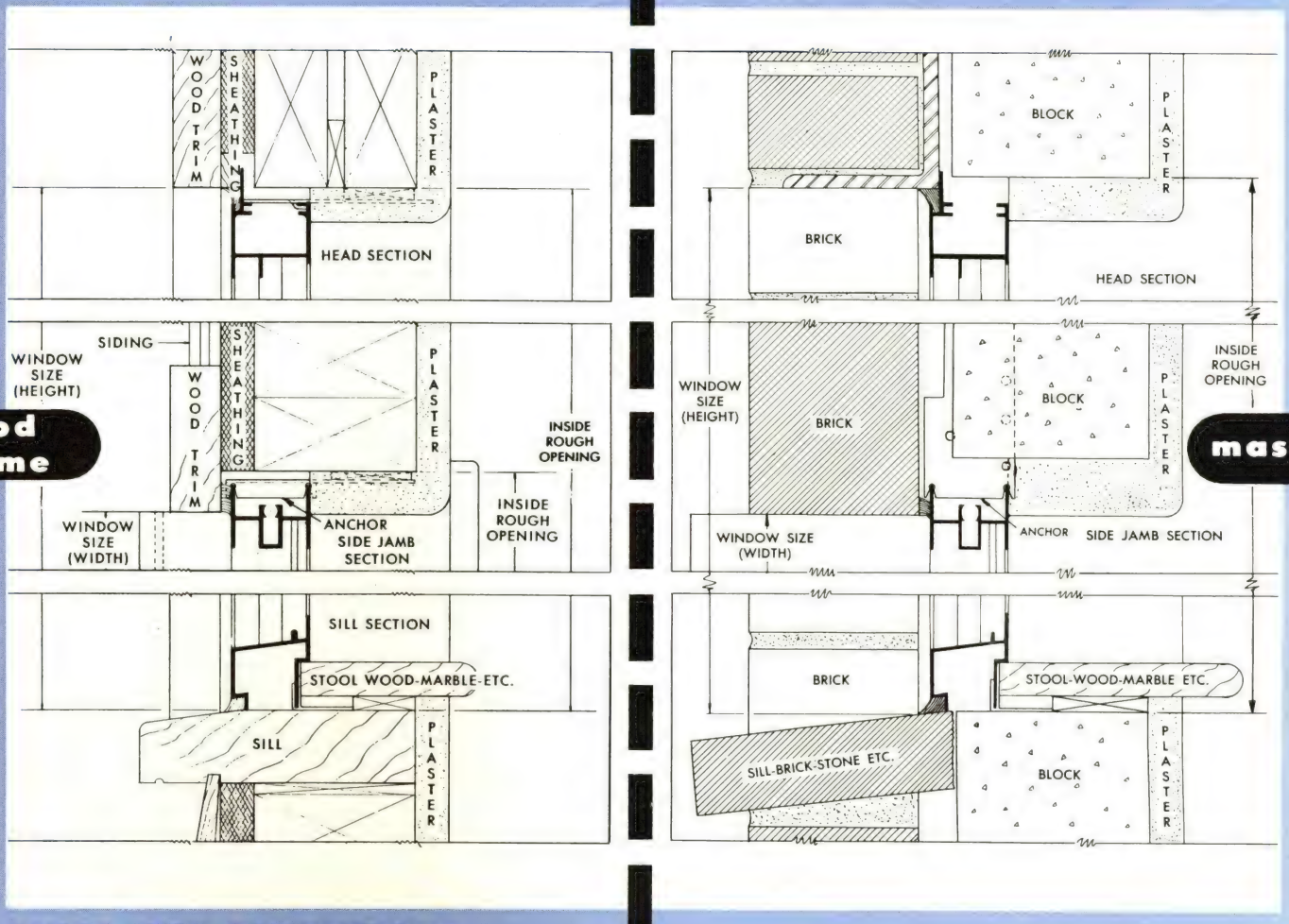
BOLTED CORNER CONSTRUCTION

Heads and sills of frame are positively connected to jambs by corner bolts fastened into integral members of jambs and then permanently and positively sealed. Superior to 'mechanical key' type joinery, affords increased resistance to racking.

BEST-VENT SERIES 200

INSTALLATION DETAILS

Scale 3"=1'0"



wood frame

masonry

SIZES AND DIMENSIONS

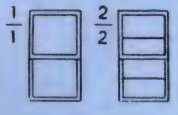
DOUBLE HUNG UNITS

WINDOW SIZE	INSIDE ROUGH OPENING†		OUTSIDE FINISHED OPENING (WINDOW SIZE)††		GLASS AREA	VENTILATING AREA
	Width	Height	Width	Height	Square Feet	Square Feet
1630	1'7¾"	3'0"	1'6"	3'0"	3.18	2.56
1640	1'7¾"	4'0"	1'6"	4'0"	4.46	3.25
1648	1'7¾"	4'8"	1'6"	4'8"	5.31	3.71
1650	1'7¾"	5'0"	1'6"	5'0"	5.74	3.94
2030	2'1¾"	3'0"	2'0"	3'0"	4.42	3.49
2040	2'1¾"	4'0"	2'0"	4'0"	6.20	4.43
2048	2'1¾"	4'8"	2'0"	4'8"	7.38	5.06
2050	2'1¾"	5'0"	2'0"	5'0"	7.98	5.37
2430	2'5¾"	3'0"	2'4"	3'0"	5.24	4.12
2440	2'5¾"	4'0"	2'4"	4'0"	7.36	5.22
2448	2'5¾"	4'8"	2'4"	4'8"	8.77	5.96
2450	2'5¾"	5'0"	2'4"	5'0"	9.47	6.32
2830	2'9¾"	3'0"	2'8"	3'0"	6.07	4.74
2840	2'9¾"	4'0"	2'8"	4'0"	8.52	6.00
2848	2'9¾"	4'8"	2'8"	4'8"	10.15	6.86
2850	2'9¾"	5'0"	2'8"	5'0"	10.97	7.28
3020	3'1¾"	2'0"	3'0"	2'0"	3.87	3.92
3030	3'1¾"	3'0"	3'0"	3'0"	6.48	5.36
3040	3'1¾"	4'0"	3'0"	4'0"	9.10	6.80
3048	3'1¾"	4'8"	3'0"	4'8"	10.84	7.75
3050	3'1¾"	5'0"	3'0"	5'0"	11.71	8.23
3430	3'5¾"	3'0"	3'4"	3'0"	7.31	5.98
3440	3'5¾"	4'0"	3'4"	4'0"	10.26	7.58
3448	3'5¾"	4'8"	3'4"	4'8"	12.22	8.65
3450	3'5¾"	5'0"	3'4"	5'0"	13.20	9.19

†When # 31 Fin Trim is used, Outside Finished Opening is increased 1 5/8".

††Inside Rough Opening remains constant whether installed with anchors or #31 Fin Trim.

MUNTIN ARRANGEMENTS

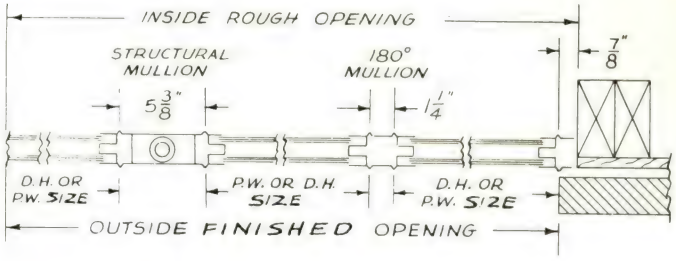


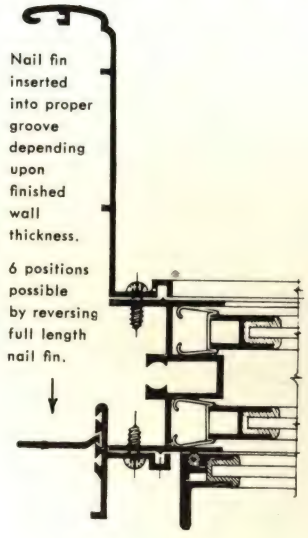
PICTURE WINDOW UNITS

WINDOW SIZE	INSIDE ROUGH OPENING†		OUTSIDE FINISHED OPENING††	
	Width	Height	Width	Height
3030	3'0 7/8"	3'0"	2'11 1/8"	3'0"
3040	3'0 7/8"	4'0"	2'11 1/8"	4'0"
3048	3'0 7/8"	4'8"	2'11 1/8"	4'8"
3050	3'0 7/8"	5'0"	2'11 1/8"	5'0"
4030	4'0 7/8"	3'0"	3'11 1/8"	3'0"
4040	4'0 7/8"	4'0"	3'11 1/8"	4'0"
4048	4'0 7/8"	4'8"	3'11 1/8"	4'8"
4050	4'0 7/8"	5'0"	3'11 1/8"	5'0"
5030	5'0 7/8"	3'0"	4'11 1/8"	3'0"
5040	5'0 7/8"	4'0"	4'11 1/8"	4'0"
5048	5'0 7/8"	4'8"	4'11 1/8"	4'8"
5050	5'0 7/8"	5'0"	4'11 1/8"	5'0"
6030	6'0 7/8"	3'0"	5'11 1/8"	3'0"
6040	6'0 7/8"	4'0"	5'11 1/8"	4'0"
6048	6'0 7/8"	4'8"	5'11 1/8"	4'8"
6050	6'0 7/8"	5'0"	5'11 1/8"	5'0"

MULTIPLE OVERALLS

When using multiple units consisting of any combination of either double hung or picture window units, add 1¼" for each straight mullion, except for 180° Structural Mullion Housing add 5⅜". See details, this page, for dimensions for 90° and 180° Structural Mullion Housing. This procedure of determining opening dimensions is applicable both with or without #30 Interior Trim and #31 Exterior Fin Trim.

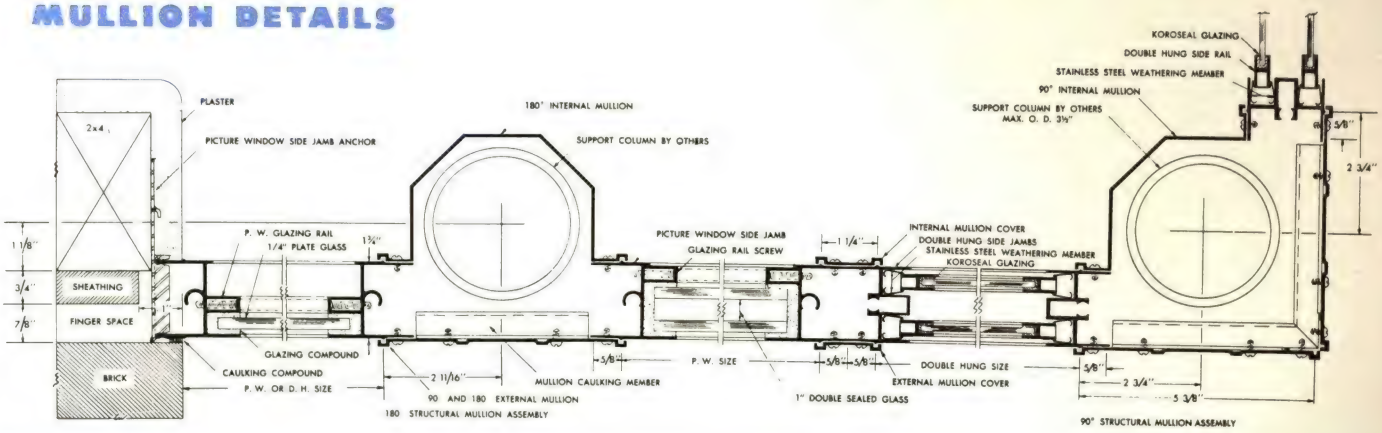




INSTALLATION WITH No. 31 FIN TRIM AND No. 30 INTERIOR FINISH TRIM

Used only on 2"x4" frame construction. #31 Fin Trim is fastened to exterior of window frame, with the Nail Fin already inserted into proper groove (See Detail Page 6) depending on finished wall thickness desired. This may vary from 4½" to 5½" according to the thickness of the exterior sheathing and the interior finished wall material. Interior Trim is applied after completion of interior wall.

MULLION DETAILS



SPECIFICATIONS

BEST-VENT Double Hung and Fixed Light Aluminum Window shown on Architects' plans to be as manufactured by Per-Fit Products Corporation, Indianapolis, Indiana with designs, materials and construction as specified in their current Catalog.

MATERIAL: Aluminum used in manufacture shall be extruded 63ST5 alloy with minimum thickness of .0625".

WEATHERSTRIPPING: Stainless steel weatherstrips shall be attached to side rails of both sash. Tension of weatherstrips against jamb of window frame shall provide constant and continuous weather protection. Felt rubbing blocks shall be attached to the frame to provide weather seal at meeting rails. Horizontal sash members shall have integrally extruded fins which, when interlocked with similar fins on horizontal members of frame, form weathering seals.

CONSTRUCTION: Head and sill of window frame shall be positively bolted and sealed to jamb members employing internal bracing clamps for maximum rigidity. Automatic balance sash operation shall be provided by means of 150 pound test stainless steel cables attached to upper end of side rails of both sash; cable movement shall be over nylon pulley assemblies in head member of frame. Lift bar on lower sash rail shall be integral part of lower sash rail extrusion and shall run full sash width.

ACCESSORIES: Installation anchors to be provided by Manufacturer except when installation is with #31 Fin Trim. 180° straight, self-aligning mullions, and 180° or 90° structural mullion housings for structural members (by others) shall be as described in the window manufacturer's catalog.

Glazing: Koroseal vinyl plastic shall be used in glazing of window sash and storm sash. Picture window frames shall accommodate either ¼" plate or 1" insulating glass and shall be glazed with an approved compound.

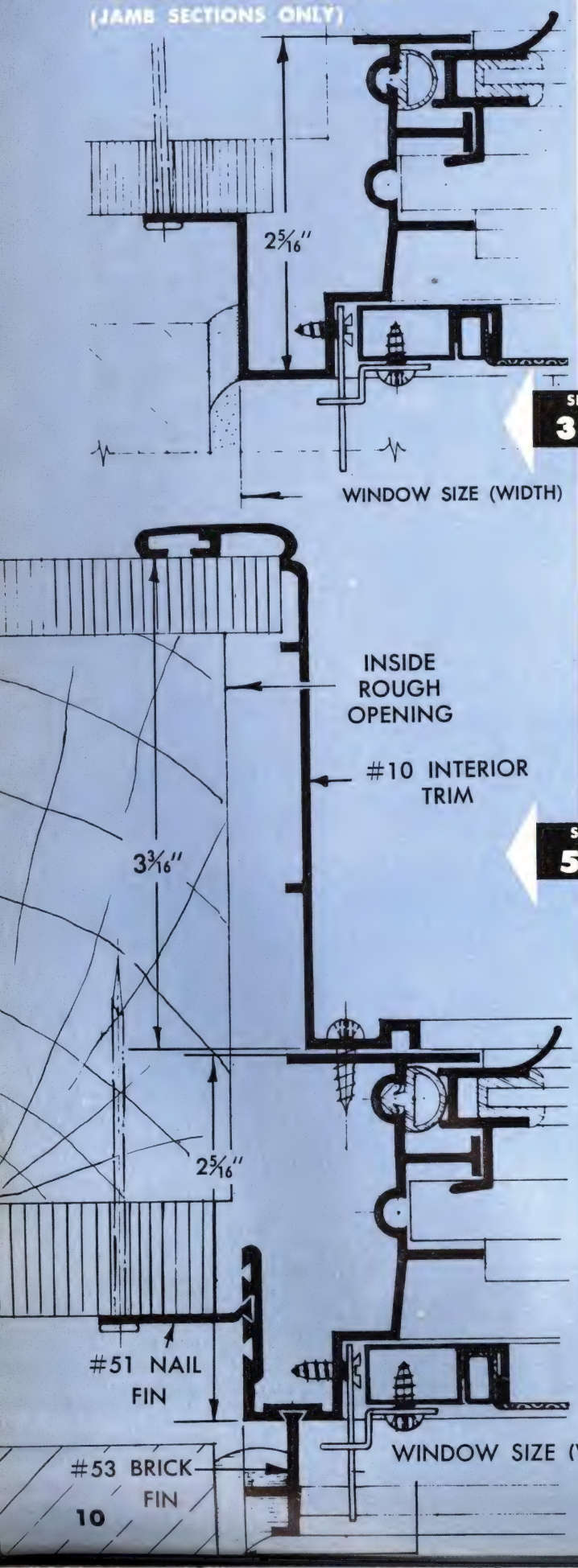
FINISH: A lacquer coating shall be applied at factory for protection of finish during installation. (Or this:) PerFiTone finish (etched and dip lacquered) shall be supplied on windows and #30 Interior Trim.

INTERIOR TRIM AND EXTERIOR FIN TRIM: If required, add as follows: All window frames shall be so designed to permit rapid installation by use of extruded aluminum interior finish trim and exterior installation fin trim. Specially located grooves in exterior installation trim shall accommodate nail fins so that complete window and trim unit is adjustable to varying through-wall thicknesses before installation.

STORM SASH AND SCREENS: Aluminum full frame screens and one-piece storm sash shall be provided. Koroseal gasket shall be inserted into perimeter of storm sash frames to provide non-metallic contact with window frame. A louvred ventilation device shall be provided.

PER-FIT SLIDER

FULL SIZE DETAILS
(JAMB SECTIONS ONLY)



offering the choice of . . . 2 integrated series

Both the #300 and the #500 Series PER-FIT Slider have been acclaimed for their 100% versatility in all types of construction. Builders are enthusiastic about the low cost ease of installation and the elimination of costly 'call backs'. Home buyers want its attractive functional lines, beautiful etched and dip lacquered finish; its maintenance-free operation and all-weather protection.

SERIES 300 EXTERIOR TRIM SERIES

construction

The same heavy extrusions are used in the head, sill and jambs of frames; the difference is in the application of various types of weatherstripping concealed in frame. The frame, with its integral pre-punched nailing fin and exterior trim, eliminates all need for flashing, window anchors and trim. Sliding sash are easily removable for cleaning. Effective storm sash or screens are quickly installed into outer recess of frame, from the interior of the home. Both sliding sash and storm sash are glazed with re-usable Koroseal.

installation

Window frame is quickly installed into the rough opening by nailing through the projecting fins of frame. The exterior trim of the #300 frame well provides an automatic brick mould or siding casing. The interior window return can be any material of the builders' choice (See Installation Details Page 12).

SERIES 500 JOB CONDITION SERIES

construction

#500 Series contains all of the outstanding advantages of the #300 Series—and in addition—a complete aluminum Interior Trim (#10) is available to fit all types of construction and varying through-walls between 4½" and 5⅜". This is possible, exclusively with Per-Fit, by applying simple installation fins in specially located grooves in perimeter of frame. These fins include the #51 Nail Fin, #52 Block Fin, #53 Brick Veneer Fin and the #54 Wood Veneer Fin. See Page 13 for various applications.

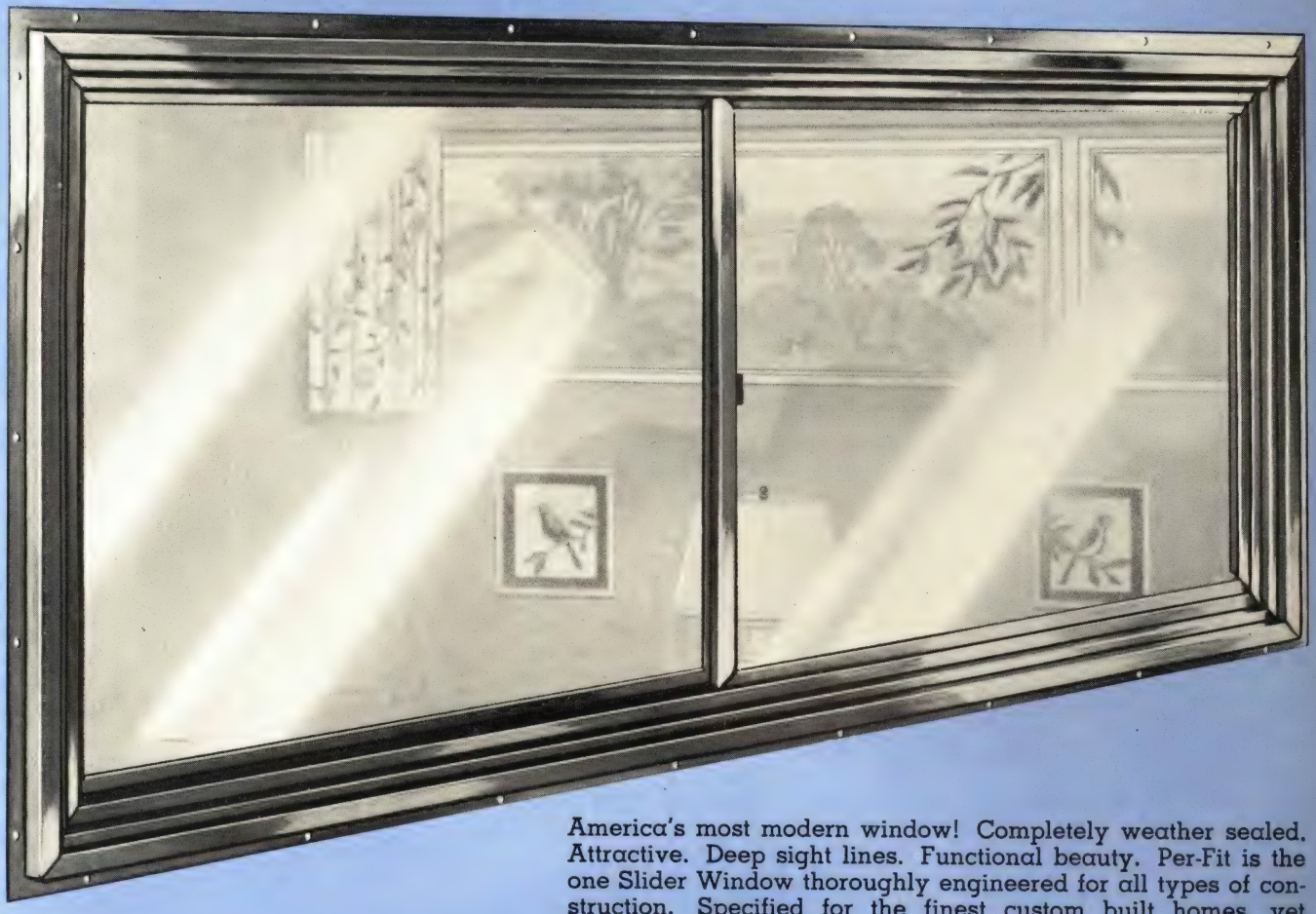
installation

Minute adjustment possible by placement of the offset nail fin into one of the three grooves in the window frame. The exact position is determined by the finished through-wall thickness. After the finished interior wall is complete, the Interior Trim is quickly and easily attached to the window frame for a complete and attractive finish. #53 Brick Veneer provides wide brick mould when more than 1" veneer air space is required. See Page 13 for use of #53 Brick Veneer Fin and #54 Wood Veneer Fin. See Page 13 for #500 Series used with # 51, #52, # 53, and #54 Fins to adapt the window to any type of wall construction. Installation Details on following pages.

THE PER-FIT SLIDER

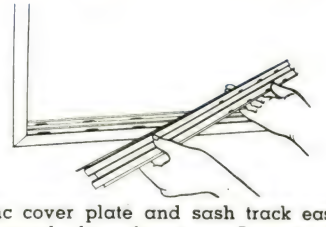
The PER-FIT Line

5a
Pc

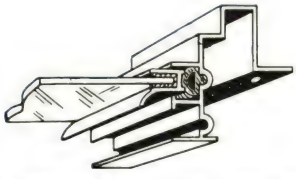


America's most modern window! Completely weather sealed. Attractive. Deep sight lines. Functional beauty. Per-Fit is the one Slider Window thoroughly engineered for all types of construction. Specified for the finest custom built homes, yet practical and appealing to builders of houses in all price ranges. Quality without question!

with these outstanding features . . .



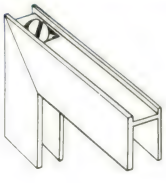
Zinc cover plate and sash track easily removed for cleaning. Protects sill against accumulation of dirt, debris.



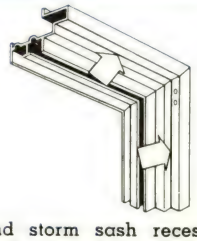
Sash side-rails have two point contact with semi-pneumatic Koroseal in the jamb members.



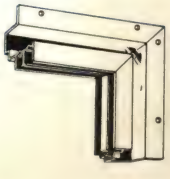
Forged and machined cam action lock draws the meeting-rails tightly together. Positive locking action.



Screw-lock smooth mitred corners on sash. Quick and easy reglazing when necessary.



Screen and storm sash recess is an integral part of the extruded aluminum frame.



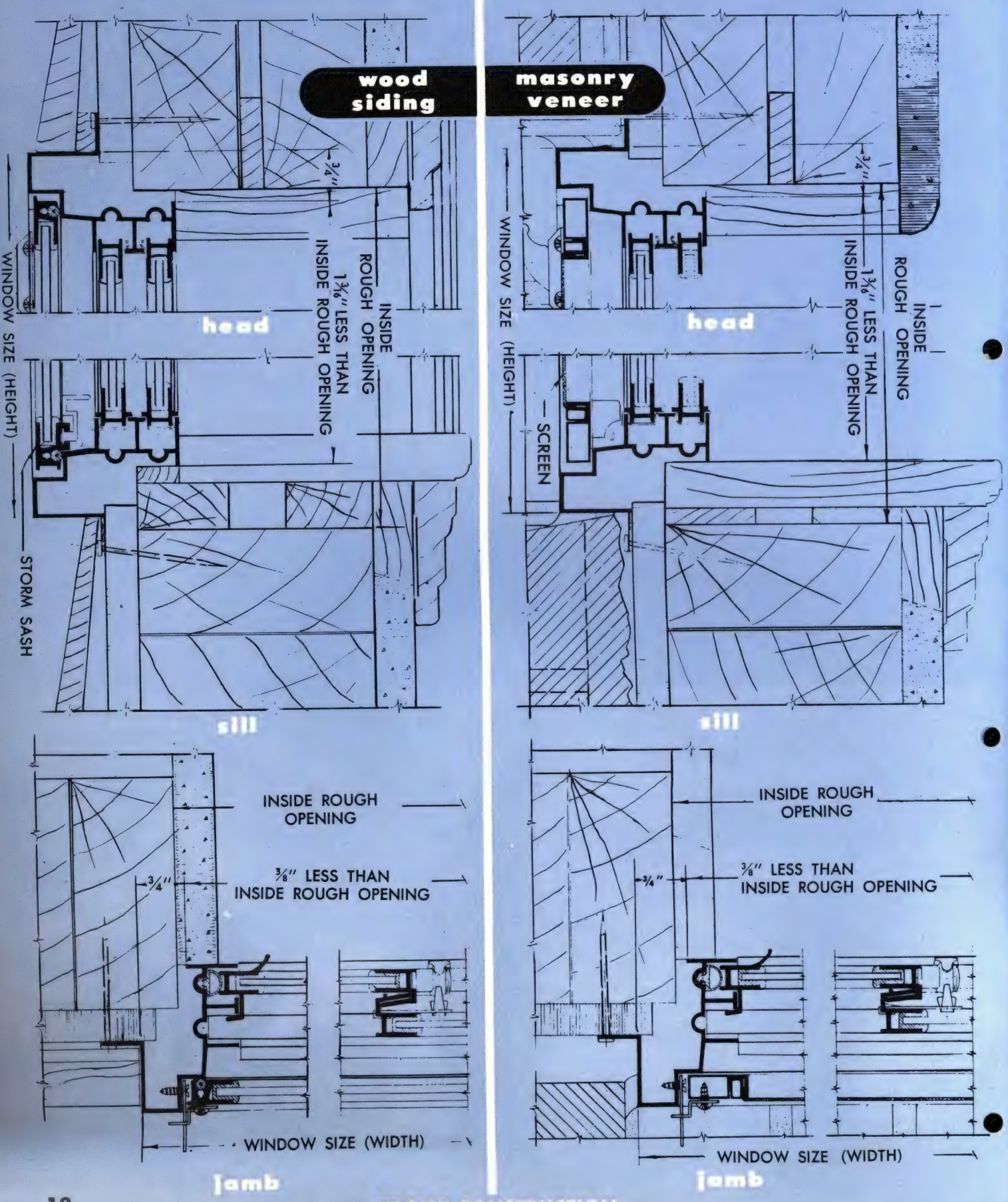
All PER-FIT slider windows have continuous perimeter installation fins.

PER-FIT SLIDER
INSTALLATION DETAILS

Scale ½ Size

SERIES 300

wood siding | **masonry veneer**



THE PER-FIT SLIDER

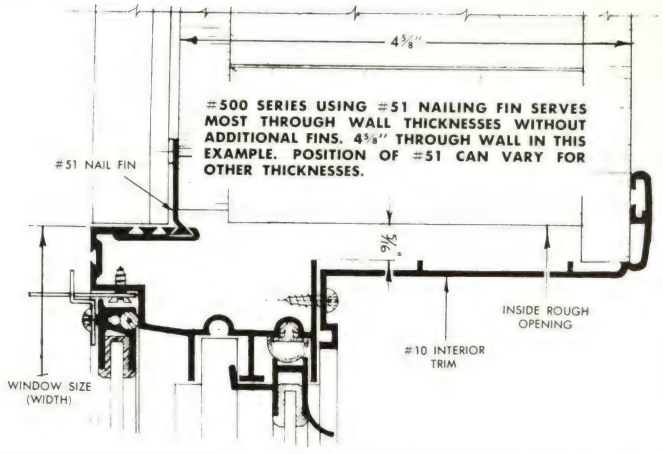
INSTALLATION DETAILS

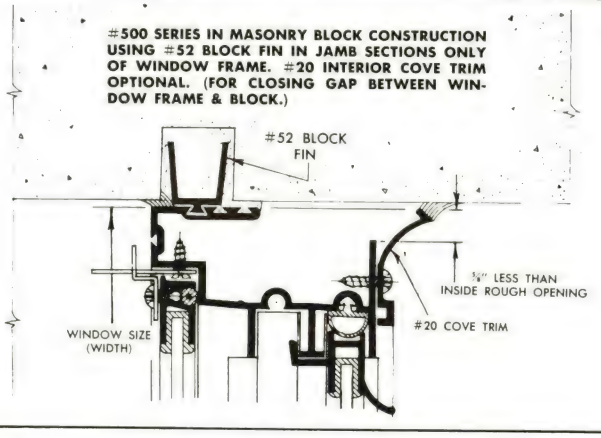
Scale ½ Size

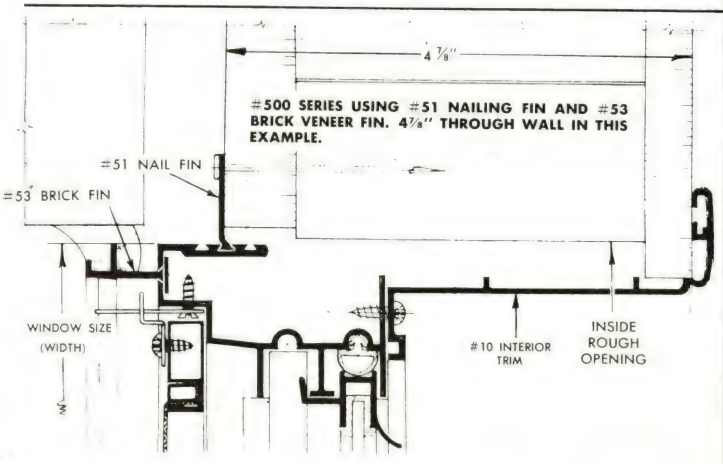
GENERAL

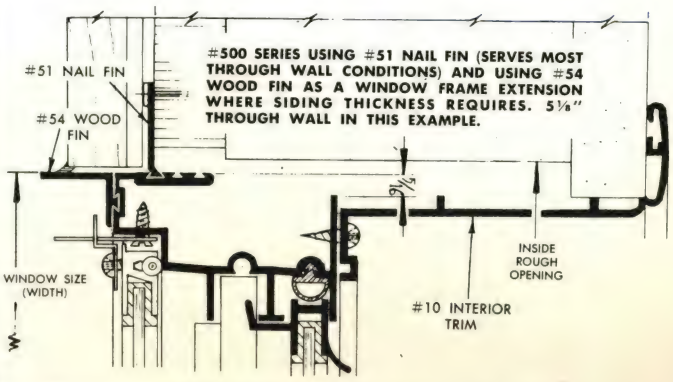
The #500 Series is used in all construction types and conditions. The seven installation details on this page (jamb sections only) illustrate the application of simple installation fins.

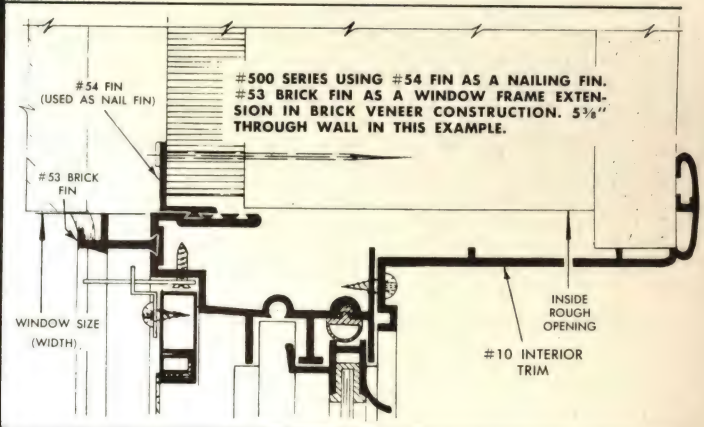
These fins include: #51 Nail Fin; #52 Block Fin; #53 Brick Fin; #54 Wood Fin (also used as a nail fin). Two types of Trim are illustrated: #10 Interior Trim and #20 Cove Trim. #500 Series is used in wood buck installations without fins (knock-outs are provided in window jamb for receipt of wood screws).

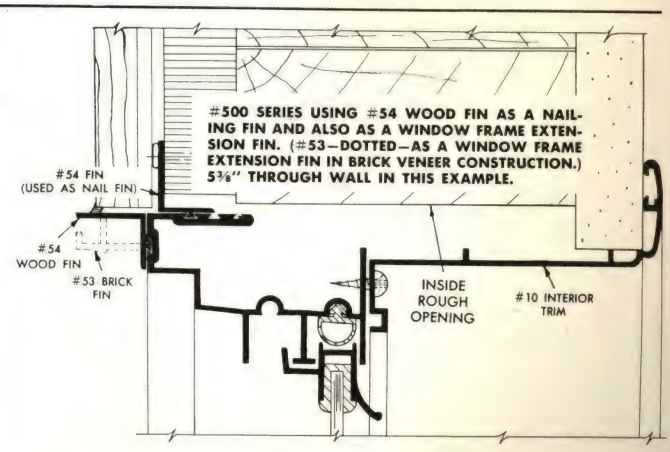


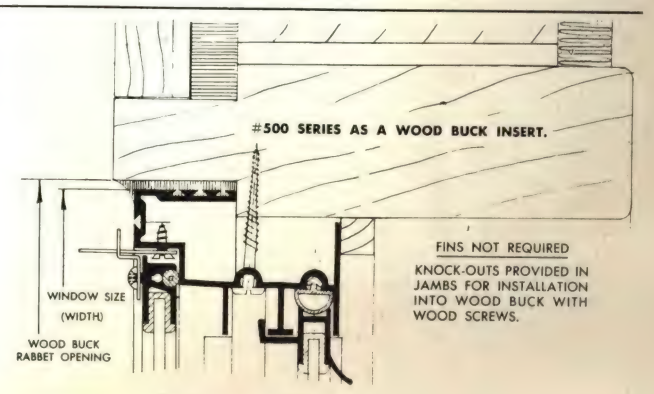








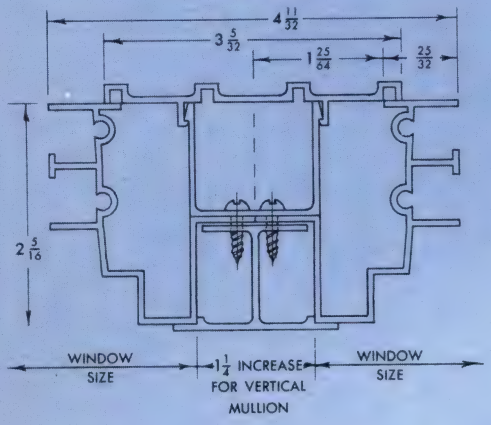




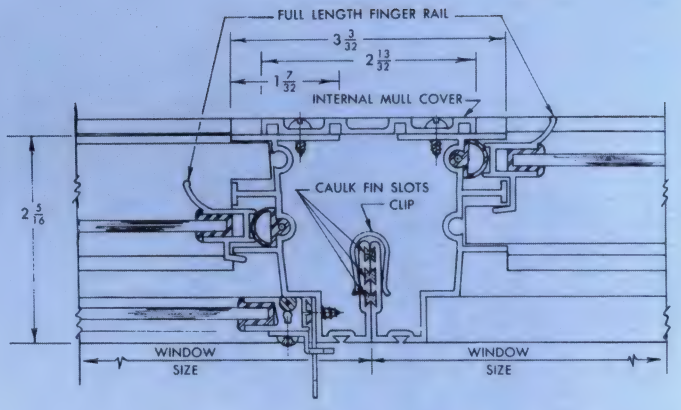
VARIOUS CONSTRUCTIONS — JAMB SECTIONS ONLY

VERTICAL MULLIONS

Half Size



#300 Series Mullion (Vertical only) consists of exterior plate ('I' shape), center channel ('U' shape) and interior flat cover plate (snap-on type).



#500 Series Mullion Cover (EITHER Vertical or Horizontal) consists of interior mullion cover (screw-on type) and U-shaped mullion clips (drive-on type).

SIZES AND DIMENSIONS

WINDOW SIZE*	#500 SERIES INSIDE ROUGH OPENING†		#300 SERIES INSIDE ROUGH OPENING†		GLASS AREA	VENTILATING AREA (either vent open)
	Width	Height	Width	Height	Square Feet	Square Feet
111 17	1'11⅛"	1'7⅛"	—	—	1.93	.70
3921	3'9-23/32"	2'1-23/32"	3'8"	2'0⅝"	6.15	2.95
2020	2'0"	1'11⅝"	1'11"	1'11⅝"	2.70	1.27
3020	3'0"	1'11⅝"	2'11"	1'11⅝"	4.37	2.14
3024	3'0"	2'3⅝"	2'11"	2'3⅝"	5.25	2.56
3028	3'0"	2'7⅝"	2'11"	2'7⅝"	6.12	2.97
3030	3'0"	2'11⅝"	2'11"	2'11⅝"	7.00	3.38
3034	3'0"	3'3⅝"	2'11"	3'3⅝"	7.87	3.79
3420	3'4"	1'11⅝"	3'3"	1'11⅝"	4.93	2.43
3424	3'4"	2'3⅝"	3'3"	2'3⅝"	5.92	2.90
3428	3'4"	2'7⅝"	3'3"	2'7⅝"	6.90	3.37
3430	3'4"	2'11⅝"	3'3"	2'11⅝"	7.39	3.84
3434	3'4"	3'3⅝"	3'3"	3'3⅝"	8.87	4.31
4020	4'0"	1'11⅝"	3'11"	1'11⅝"	6.04	3.01
4024	4'0"	2'3⅝"	3'11"	2'3⅝"	7.25	3.59

WINDOW SIZE*	#500 SERIES INSIDE ROUGH OPENING†		#300 SERIES INSIDE ROUGH OPENING†		GLASS AREA	VENTILATING AREA (either vent open)
	Width	Height	Width	Height	Square Feet	Square Feet
4028	4'0"	2'7⅝"	3'11"	2'7⅝"	8.46	4.17
4030	4'0'	2'11⅝"	3'11"	2'11⅝"	9.66	4.72
4034	4'0'	3'3⅝"	3'11"	3'3⅝"	10.87	5.33
4038	4'0'	3'7⅝"	3'11"	3'7⅝"	11.48	5.91
4820	4'8"	1'11⅝"	4'7"	1'11⅝"	7.15	3.58
4824	4'8"	2'3⅝"	4'7"	2'3⅝"	8.58	4.28
4828	4'8"	2'7⅝"	4'7"	2'7⅝"	10.01	5.66
4830	4'8"	2'11⅝"	4'7"	2'11⅝"	11.44	4.97
4834	4'8"	3'3⅝"	4'7"	3'3⅝"	12.92	6.35
4838	4'8"	3'7⅝"	4'7"	3'7⅝"	14.30	7.04
6020	6'0"	1'11⅝"	5'11"	1'11⅝"	9.37	4.45
6024	6'0"	2'3⅝"	5'11"	2'3⅝"	11.25	5.31
6028	6'0"	2'7⅝"	5'11"	2'7⅝"	13.12	6.16
6030	6'0"	2'11⅝"	5'11"	2'11⅝"	15.00	7.02
6034	6'0"	3'3⅝"	5'11"	3'3⅝"	15.94	7.88

*Window Size (Dimension) is the outside finished opening as well. Exception: 3921 is 3'9-17/32" x 2'1-17/32". †Wood Frame Construction. This is also the Masonry Opening in Solid Masonry.

SPECIFICATIONS

PER-FIT Horizontal Slider Windows and Slider Type Picture Windows shown on Architects' plans to be as manufactured by Per-Fit Products Corporation, Indianapolis, Indiana with designs, materials and construction as specified in their current Catalog.

MATERIAL: Aluminum used in manufacture shall be extruded 63ST5 alloy with minimum thickness of .0625".

WEATHERSTRIPPING: Maximum weather seals shall be provided as follows: HEAD—nylon spring pressure buttons on upper sash rails shall press sash against zinc weather strip in head of frame; felt rubbing block at deep interlocking meeting rails shall be provided. JAMBS—Cam action type lock shall apply pressure seal of sash against Koroseal full-length cushions concealed in jambs. SILL—Zinc sill cover plate shall protect sill frame and shall provide adequate drainage to the exterior.

CONSTRUCTION: All frame and sash members to have screw-lock smooth mitred corners. Head, sill and jamb extrusions shall provide integral and complete exterior trim. (Add if #300 Series desired: Pre punched nail fin shall be integral part of frame.) (Add if #500 Series desired: Specially located grooves for receipt of adjustable Nail, Block or Veneer Fins shall adapt window and interior trim unit to varying wall thicknesses and construction types.)

ACCESSORIES: Vertical 180° mullions shall be available. (Add if required when #500 Series desired: Horizontal self-aligning mullions shall form window wall arrangements using individual units of standard slider windows as well as slider-type picture windows.

GLAZING: Glass for sliding sash, fixed sash of picture window and all storm sash shall be glazed with Koroseal.

FINISH AND TRIM: All windows and trim shall be completely etched and protected with a hard dipped lacquer finish. Extruded aluminum Interior Trim shall be furnished as indicated and be manufactured by the window manufacturer.

STORM SASH AND SCREENS: Aluminum frame screens and storm sash shall be easily attached or removed from the inside. A Koroseal gasket shall be inserted into perimeter of storm sash to provide non-metallic contact with window frame. Ventilation shall be obtainable by extension of the locking arms on lower half of storm sash.

SLIDER
PICTURE WINDOWS AND WINDOW WALLS

(300 or 500 SERIES) (500 SERIES ONLY)

The PER-FIT Line

PICTURE WINDOWS

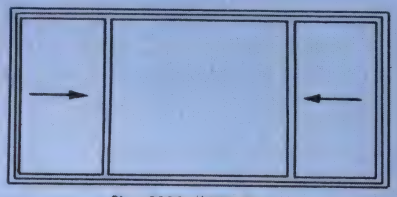
Available in both #300 and #500 Series. Fully assembled units, ready for installation. The center section is fixed. The two end sections slide. All sections Koroseal glazed. Storm sash are available for all three sections; screens for the two side sections.

WINDOW WALLS

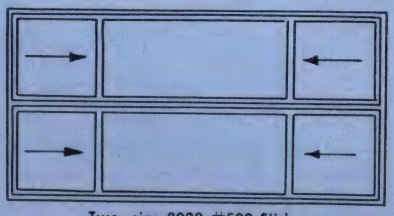
Achieved with the #500 Series Slider-type Picture Windows by horizontal mullioning. (Also possible with standard #500 Slider window units.) Numerous design combinations are possible in forming window wall arrangements.

INSTALLATION: Horizontal mullioning is done prior to installation. To determine height of wood frame rough opening, add window dimension heights (see tables this page) and subtract ⅜". Example: Rough opening for three 9020 #500 Series Slider Picture Windows mullioned together into a window wall: Width, 9'0"; height, 2'0" plus 2'0" plus 2'0", less ⅜", or 5'11⅝".

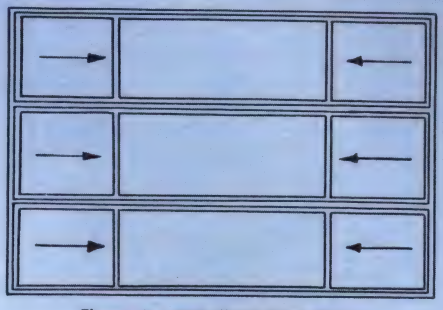
examples



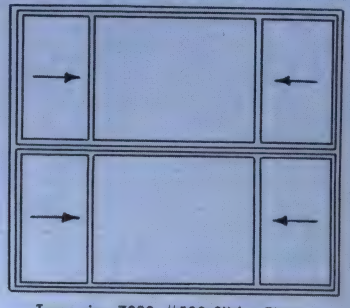
Size 8038 #300 Slider Picture Window.
Wood frame rough opening, 7'11" x 3'7⅜".



Two, size 8020 #500 Slider Picture Windows mullioned horizontally.
Wood frame rough opening, 8'0" x 3'11⅝".



Three, size 9020 #500 Slider Picture Windows mullioned horizontally.
Wood frame rough opening, 9'0" x 5'11⅝".



Two, size 7030 #500 Slider Picture Windows mullioned horizontally.
Wood frame rough opening, 7'0" x 5'11⅝".

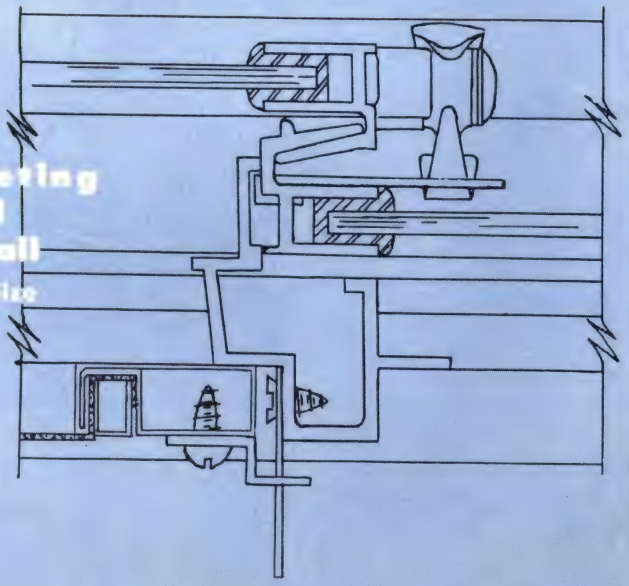
SIZES • GLASS AREA

PICTURE WINDOW SIZE*	#500 SERIES INSIDE ROUGH OPENING†		#300 SERIES INSIDE ROUGH OPENING†		GLASS AREA	VENTILATING AREA (both vents open)
	Width	Height	Width	Height	Square Feet	Square Feet
7020	7'0"	1'11⅝"	6'11"	1'11⅝"	10.95	5.55
7024	7'0"	2'3⅝"	6'11"	2'3⅝"	13.14	6.62
7028	7'0"	2'7⅝"	6'11"	2'7⅝"	15.34	7.69
7030	7'0"	2'11⅝"	6'11"	2'11⅝"	17.53	8.76
7034	7'0"	3'3⅝"	6'11"	3'3⅝"	19.72	9.83
7038	7'0"	3'7⅝"	6'11"	3'7⅝"	22.05	10.89
8020	8'0"	1'11⅝"	7'11"	1'11⅝"	12.62	6.41
8024	8'0"	2'3⅝"	7'11"	2'3⅝"	15.15	7.65
8028	8'0"	2'7⅝"	7'11"	2'7⅝"	17.67	8.88

PICTURE WINDOW SIZE*	#500 SERIES INSIDE ROUGH OPENING†		#300 SERIES INSIDE ROUGH OPENING†		GLASS AREA	VENTILATING AREA (both vents open)
	Width	Height	Width	Height	Square Feet	Square Feet
8030	8'0"	2'11⅝"	7'11"	2'11⅝"	20.19	10.12
8034	8'0"	3'3⅝"	7'11"	3'3⅝"	22.72	11.36
8038	8'0"	3'7⅝"	7'11"	3'7⅝"	25.24	12.59
9020	9'0"	1'11⅝"	8'11"	1'11⅝"	14.29	7.28
9024	9'0"	2'3⅝"	8'11"	2'3⅝"	17.15	8.68
9028	9'0"	2'7⅝"	8'11"	2'7⅝"	20.00	10.08
9030	9'0"	2'11⅝"	8'11"	2'11⅝"	22.86	11.48
9034	9'0"	3'3⅝"	8'11"	3'3⅝"	25.72	12.89
9038	9'0"	3'7⅝"	8'11"	3'7⅝"	28.58	14.29

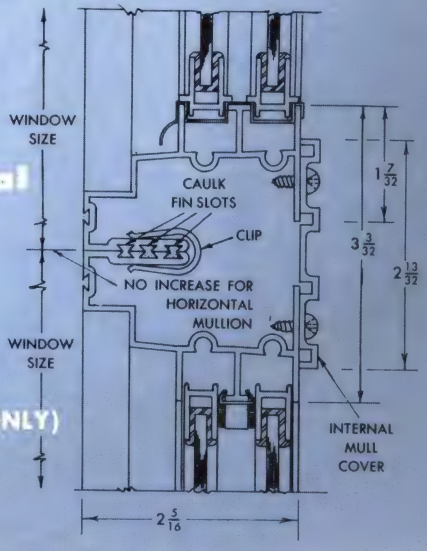
*Window Size (Dimension) is the outside finished opening as well. This is also the Masonry Opening in Solid Masonry.
†Wood Frame Construction.

PICTURE WINDOW



meeting rail detail
Full Size

WINDOW WALL



horizontal mullion detail
Half Size
(500 SERIES ONLY)



The PER-FIT Line

PER-FIT PRODUCTS CORPORATION was founded in 1946 by the owners of the Spickelmier Company, Indianapolis, Indiana, manufacturers of fine building materials since 1907.

PER-FIT is widely known for its constant product research and development which has resulted in such innovations and improvements in the window industry as Koroseal (vinyl plastic) glazing; welded sash and frame corners; extra-heavy aluminum extrusions; fingertip operation; bolted frame corners (BEST-VENT); and the new PerFiTone satin-etched dip-lacquered finish. The PER-FIT LINE is known for advance features in weathering principles, installation practices and window operation that have all added to unequaled quality.

An example of PER-FIT's design, research and production abilities is the PER-FIT Slider, introduced late in 1953 (after intensive research and study) and now the slider window standard for prominent builders and architects the country over.

PER-FIT PRODUCTS CORPORATION'S plants and production facilities are modern and completely integrated. PER-FIT designs its own extrusions and has them produced to exacting specifications by the nation's leading aluminum manufacturers. Production capacity for 1955 provides for approximately 2000 windows per day and further plant additions to meet extremely heavy production demands in the future.

PER-FIT has grown because of its reputation for quality, service, integrity and honesty...PER-FIT is pledged to merit and maintain its position of leadership.

PER-FIT PRODUCTS CORPORATION
1216 EAST 52nd STREET • INDIANAPOLIS 5, INDIANA

Premier*



AN ALUMINUM
WINDOW
BEARING THE NAME
Premier
IS AN ESTABLISHED
SYMBOL OF QUALITY
THROUGHOUT THE
WORLD

- SLIDING WINDOWS
- PICTURE WINDOWS
- MULLIONS
- DOUBLE HUNG WINDOWS
- STORM WINDOWS
- WINDOW SCREENS
- TRIM AND SUB-SILL

*Trade Mark Registered
U. S. Patent Office

Premier

WINDOWS LAST A HOUSETIME

The outstanding and sound investment of PREMIER Aluminum Windows is recognized by satisfied users in the furthermost corners of the world. From blueprint to final extrusion, PREMIER Aluminum Windows are the ultimate in quality, design and dependable performance. The style and impressive beauty of PREMIER Aluminum Windows is such that they can never be imitated. For superior quality, PREMIER Aluminum Windows are preferred by the most discriminating designers. Their attractiveness remains unchanged throughout the life of the building. Because of the quality of their material and manufacture PREMIER Aluminum Windows are identified with the better class of construction.

ALL PREMIER PRODUCTS are related in design, construction and appearance. PREMIER Aluminum Windows are all carefully factory-fabricated to accent the beauty and utility of each other. Thus, homes and commercial buildings equipped with PREMIER products have an "ensemble" look that reflects good taste, adds to resale value.

PREMIER PROVIDES ALL THESE FEATURES

- Engineered Construction
- Architectural Quality
- Fingertip Control
- Patented Stainless Steel Weatherstrip
- Tamper-proof Lock
- Vinyl Glazing Beads
- Removable Sash for Cleaning
- Economy
- Prompt Availability

SPECIFICATIONS

GENERAL

All sliding, double-hung, picture and storm aluminum windows as indicated on plans and specifications shall be PREMIER Aluminum Windows and shall be of sizes and types as shown on architect's drawings. Windows shall be furnished with all necessary hardware, anchors, and miscellaneous equipment as hereinafter specified.

MATERIALS

Window frame members and all sash members shall be manufactured from 63S-T5 extruded aluminum alloy shapes having a minimum tensile strength of 22,000 pounds per square inch. Metal thickness of any window frame or sash member shall not be less than .062". The aluminum alloy used in producing material for window frame and sash members shall not contain more than .4% copper and not less than 96% aluminum.

CONSTRUCTION

Window frame members shall be assembled in a secure and workmanlike manner. Permanent water tight joint shall be made at the junction of the sill and side frame members. Coil spring sash balances to be neat and closely fitted. All sash shall be arranged for glazing with Vinyl glazing bead, and provide for no aluminum against aluminum contacts during operation. Windows shall be designed for glazing with 1/8" double strength glass. Frame joints to be securely fastened on the "mortise and tenon" principle.

WEATHERSTRIPPING

All operating windows shall be weatherstripped with patented stainless steel weatherstripping.

AIR INFILTRATION

The amount of air infiltration shall not exceed ½ cubic foot of air per minute per foot of sash perimeter when the window is subject to a static pressure equivalent to a wind velocity of 25 miles per hour.

HARDWARE

The windows shall be equipped with locks and lifts of suitable non-ferrous or stainless steel material. Sash shall operate freely and be equipped with balancing mechanisms which will hold both sash stationary at any open position. The mechanism used shall be easily accessible.

FINISH

The exposed surfaces of all windows shall be slightly etched and cleaned to a smooth satin finish to make them free from scratches and other serious blemishes.

PROTECTIVE COATING

All windows sections shall be coated with a clear protective coating resistant to action of lime and mortar for a period exceeding thirty days with 100% relative humidity at room temperature, as per F.H.A. Specification UMI—dated February 1, 1949.

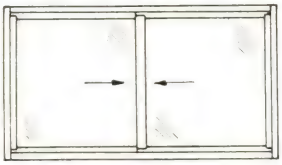
INSTALLATION DETAILS

The window manufacturer shall furnish, in triplicate, standard details showing recommendations for the installation of the windows.

ERECTION AND CAULKING

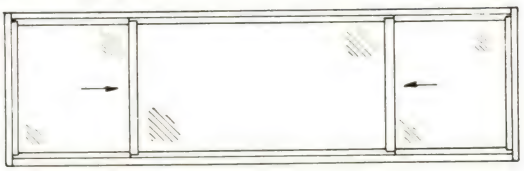
The windows shall be set straight, plumb and level and properly braced to prevent distortion, in accordance with the written instructions issued by the window manufacturer. After complete installation the entire perimeter of all windows shall be properly caulked with a good grade of compound by the erection contractor.

HORIZONTAL SLIDING WINDOW



2-SASH TYPE

Both sash slide and are removable for cleaning or full ventilation.
See page 4.



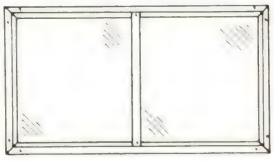
3-SASH TYPE

Center sash stationary with two end sash sliding and removable.
See page 4.



COMPANION PICTURE WINDOW

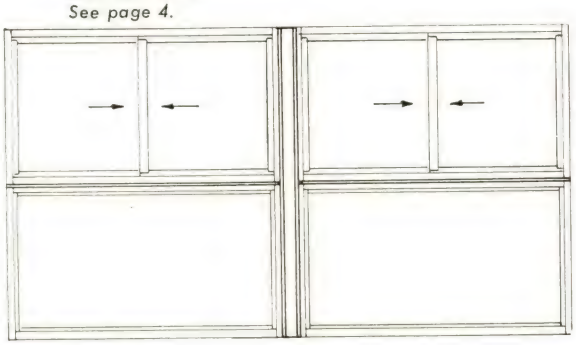
Designed for either putty or aluminum stop glazing. Maximum glass thickness ¼".
See page 4.



STORM SASH

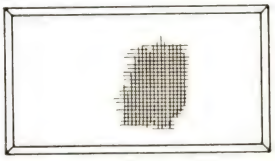
One piece top hinged type with provision for opening at bottom to permit ventilation.

Note: To install storm sash screens must be removed.
See page 5.



MULLIONS

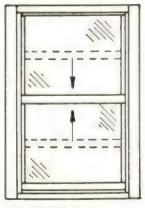
Non load bearing types designed for either vertical or horizontal use, load bearing type used vertically only.
See page 5.



SCREENS

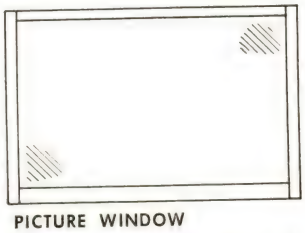
All aluminum full frame type with 18 x 14 mesh aluminum wire cloth.
See page 4.

DOUBLE-HUNG WINDOW



DOUBLE-HUNG WINDOW

2-lite type standard.
4-lite type optional.
See page 8.



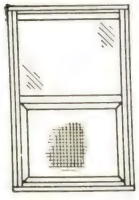
PICTURE WINDOW

Designed to accommodate all glass including "twindow" or "thermopane."
See page 8.



SCREENS

All aluminum full frame type with 18 x 14 mesh aluminum wire cloth.
See page 8.



STORM WINDOW

Fitted with half screen. Permits permanent all-year installation.
See page 9.



MULLIONS

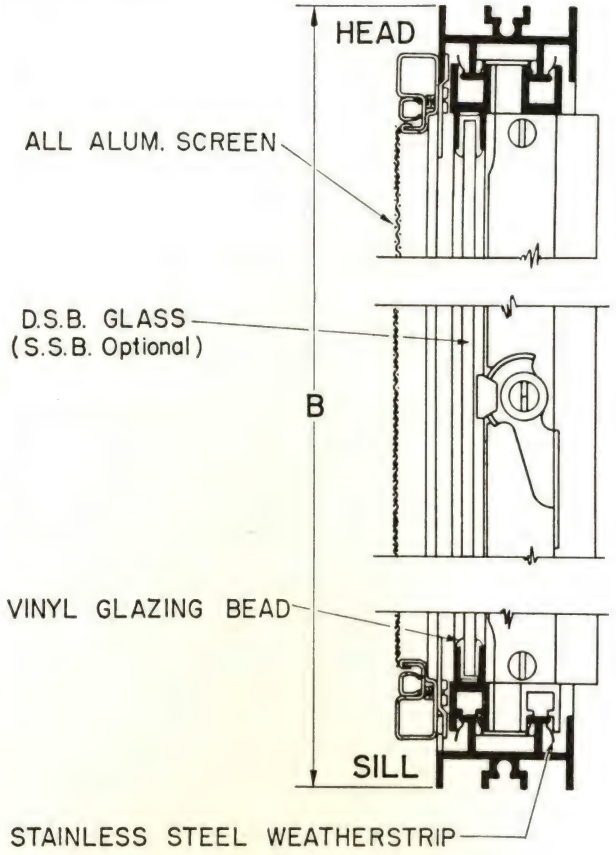
Either straight or corner mullions available in both load bearing and non-load bearing types.
See page 9.

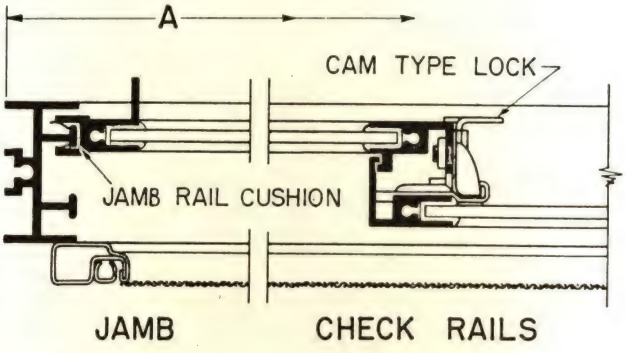
ALL ALUMINUM SURROUNDS

FOR HORIZONTAL SLIDING WINDOWS—Designed to suit all types of construction, with the exception of concrete block in which case masonry fin is used.
See pages 6 and 7 for Installation Data.

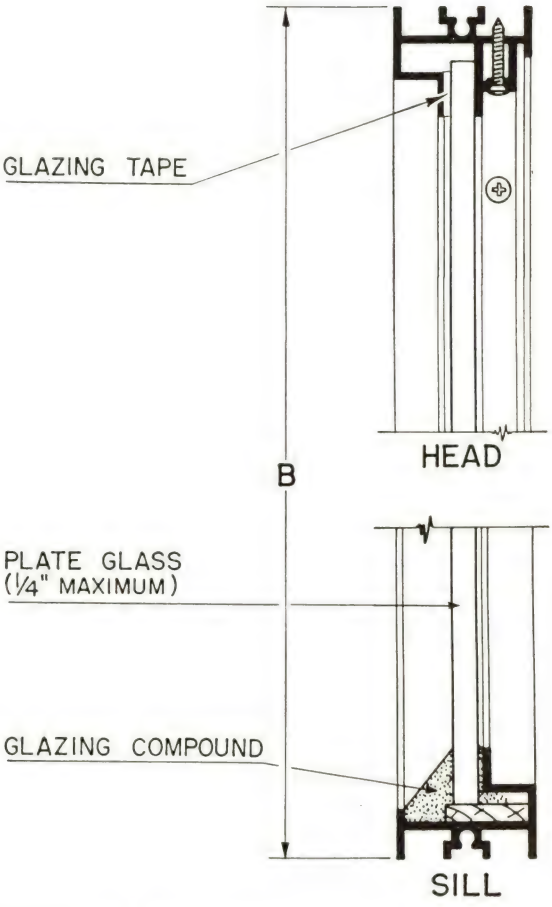
FOR DOUBLE HUNG WINDOWS—Available for stucco and frame siding which eliminates exterior wood trim. For concrete block or brick veneer no trim is necessary.
See pages 10 and 11 for Installation Data.

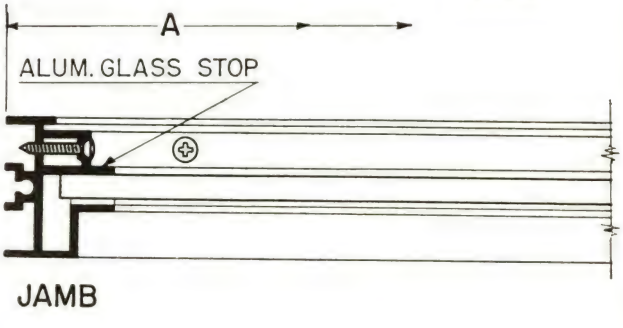
HORIZONTAL SLIDING WINDOW





PICTURE WINDOW

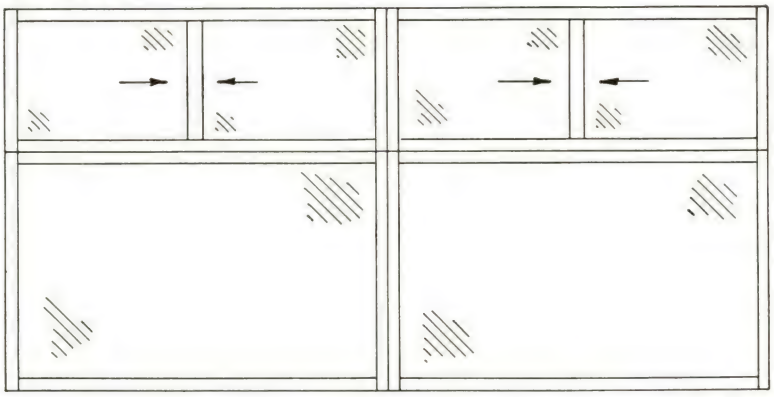


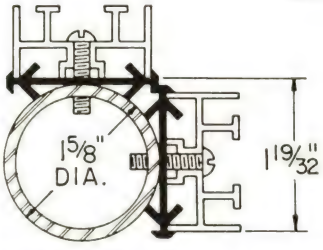


HORIZONTAL SLIDING WINDOWS—Standard Sizes

Height "B" (inches)	Width "A" (inches)												
	2-Lite Windows								3-Lite Windows				
	24	32	36	40	48	56	60	72	48	60	72	84	96
18	2016	2816	3016	3416	4016	4816	5016	6016	4016-3	5016-3	6016-3	7016-3	8016-3
24	2020	2820	3020	3420	4020	4820	5020	6020	4020-3	5020-3	6020-3	7020-3	8020-3
30	2026	2826	3026	3426	4026	4826	5026	6026		5026-3	6026-3	7026-3	8026-3
36		2830	3030	3430	4030	4830	5030	6030			6030-3	7030-3	8030-3
42				3436	4036	4836	5036	6036				7036-3	8036-3

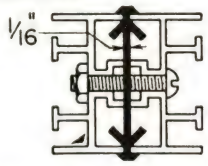
ALUMINUM MULLIONS



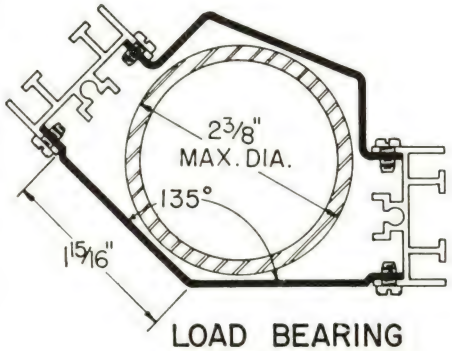


NON-LOAD BEARING CORNER

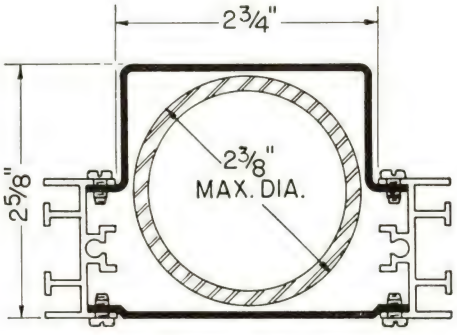
NOTE :
PIPE COLUMN IN LOAD BEARING MULLIONS NOT FURNISHED.



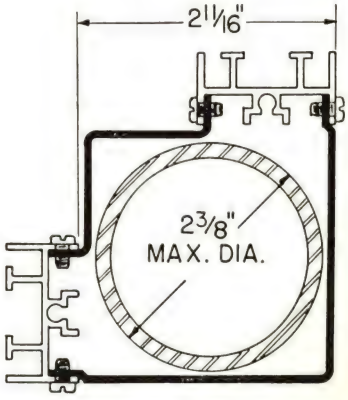
NON-LOAD BEARING STRAIGHT
(ALSO USED HORIZONTALLY)



LOAD BEARING ANGLE CORNER

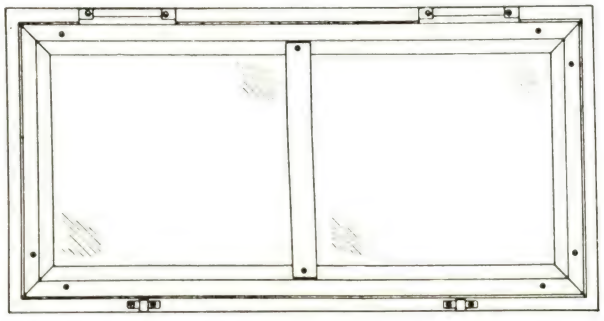


LOAD BEARING STRAIGHT

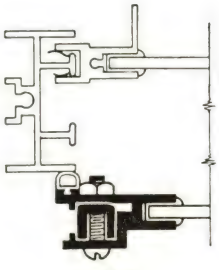


LOAD BEARING CORNER

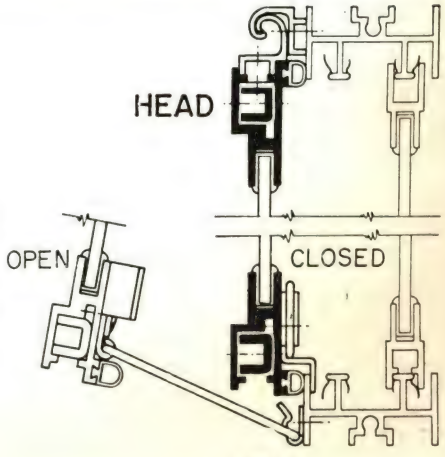
STORM WINDOWS AND SCREENS



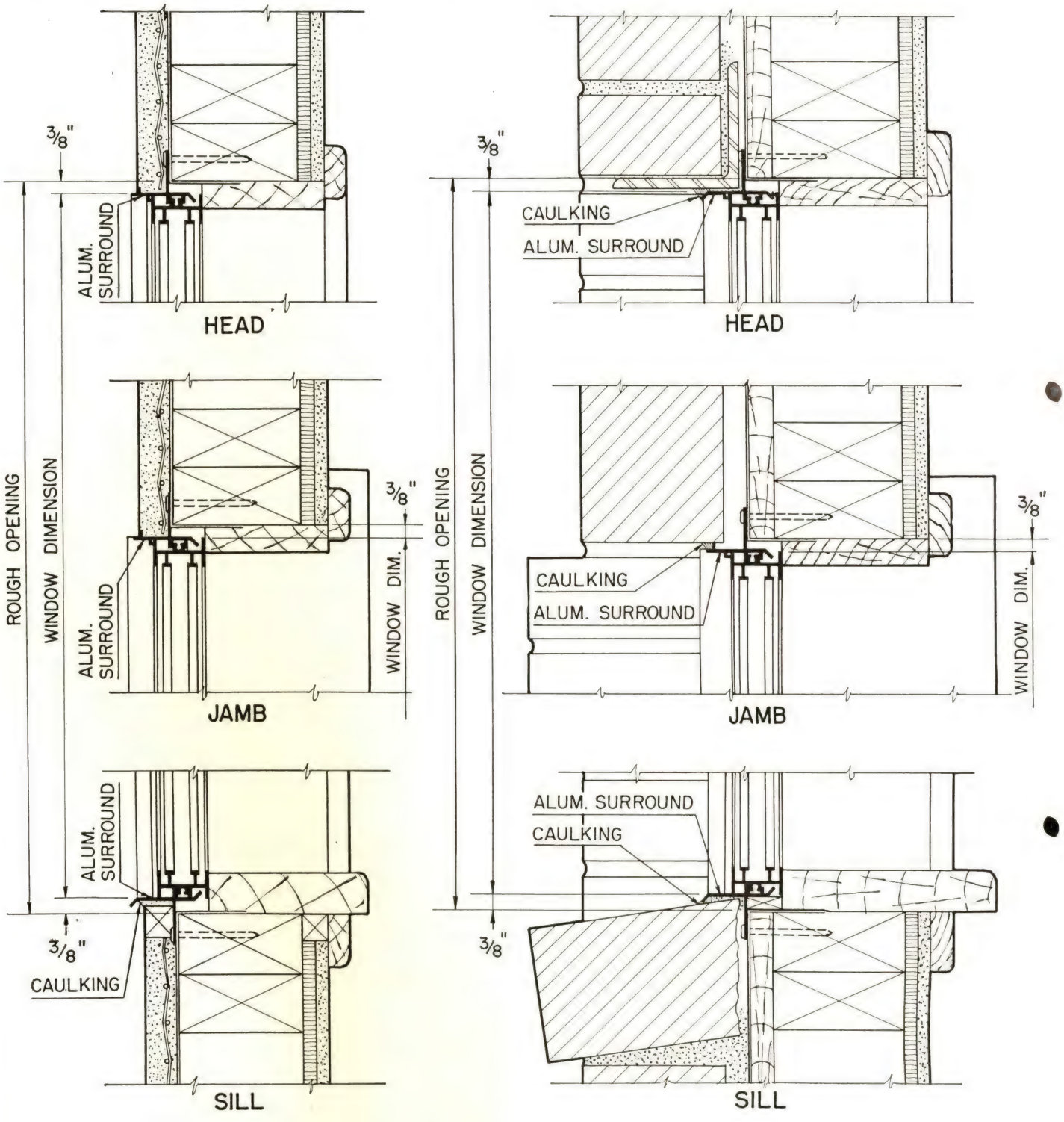
Sizes available to fit all standard 2-lite and 3-lite windows.

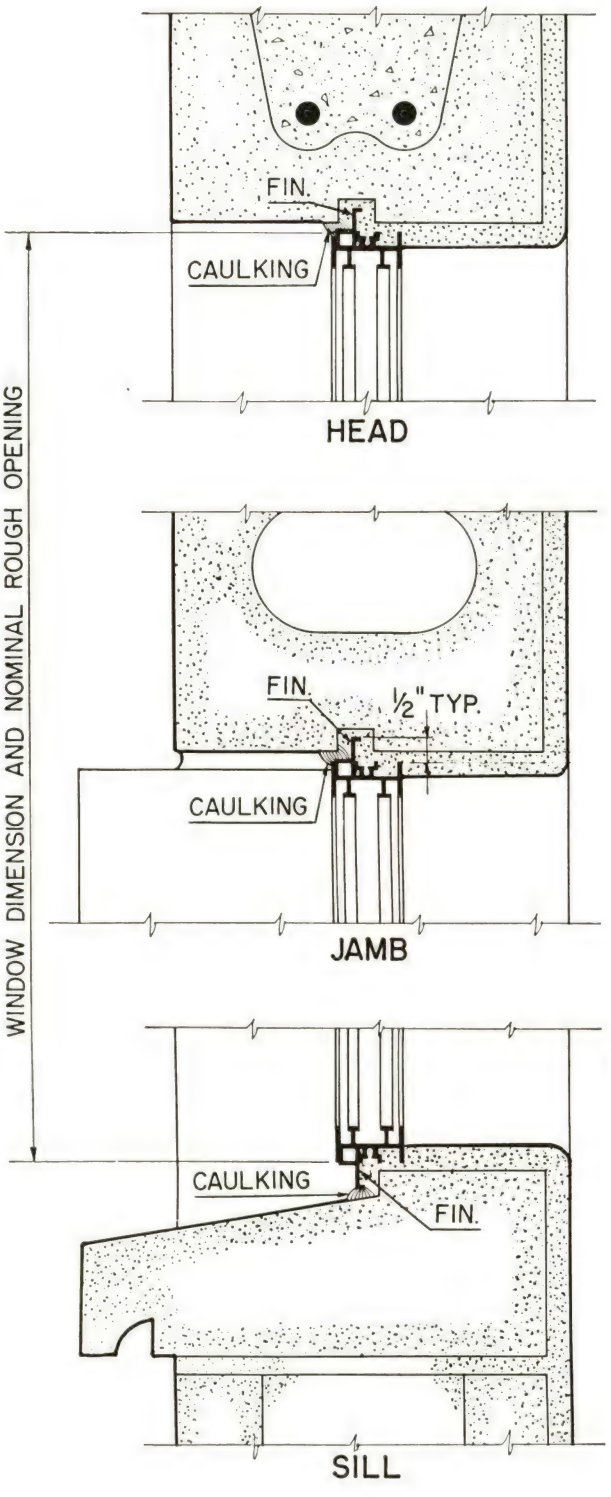


JAMB

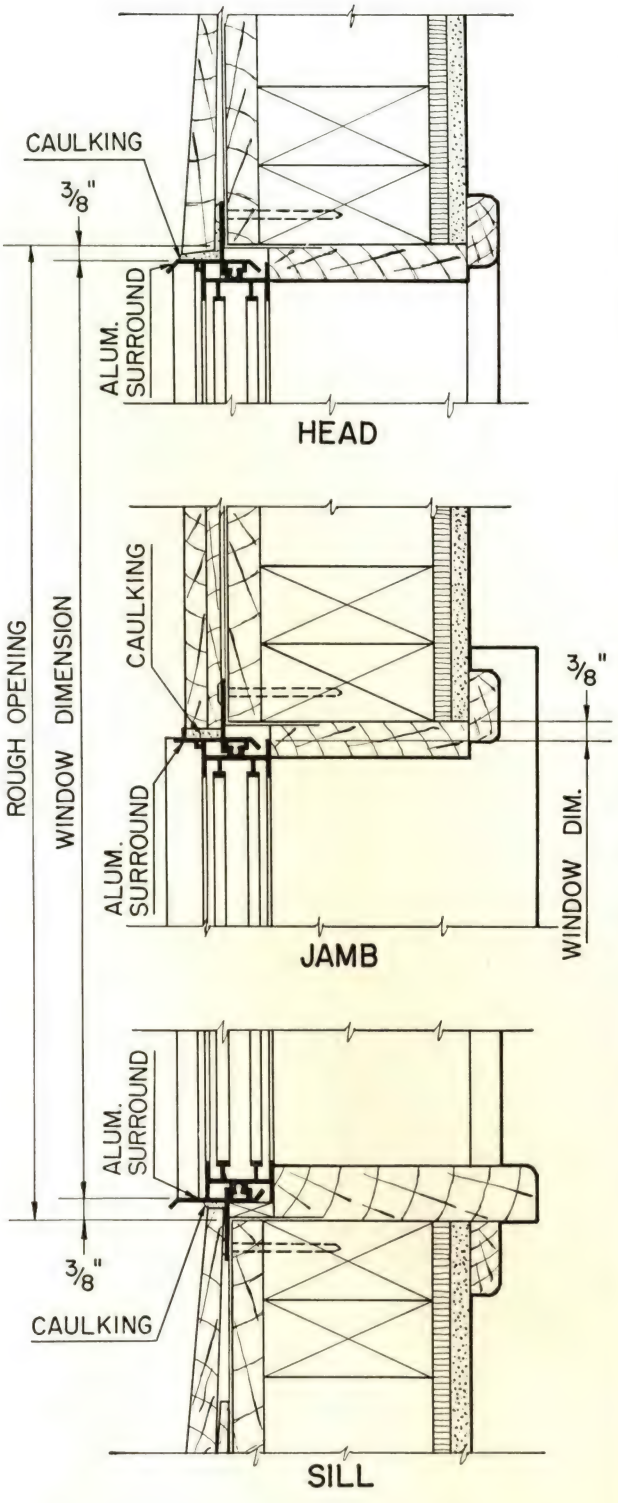


INSTALLATION DETAILS FOR HORIZONTAL SLIDING WINDOWS



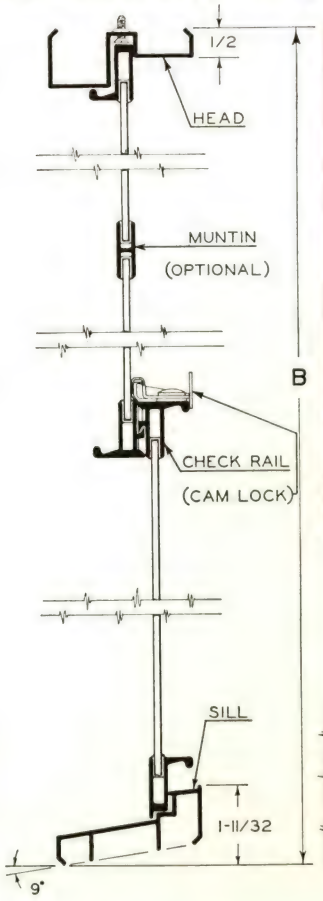


CONCRETE BLOCK

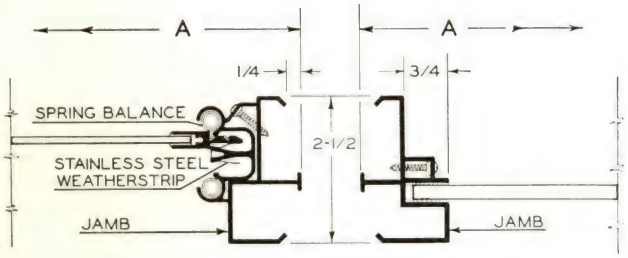


FRAME

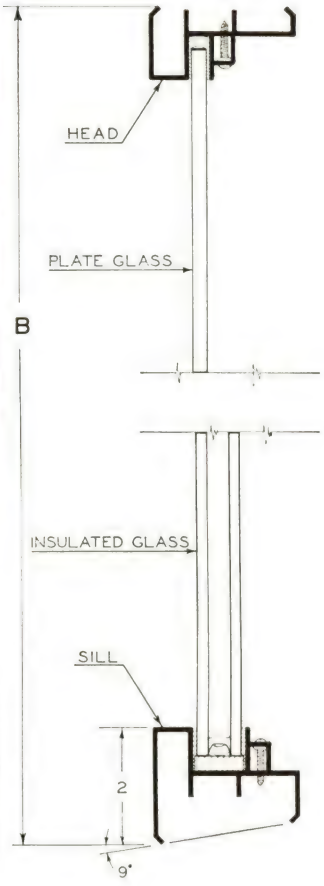
DOUBLE-HUNG WINDOW







PICTURE WINDOW



Standard Sizes

Height "B" (inches)	Width "A" (inches)						
	17½	21½	25½	29½	33½	37½	41½
25	1420	1820	2020	2420	2820		
35	14210	18210	20210	24210	28210	30210	34210
39	1432	1832	2032	2432	2832	3032	3432
47	14310	18310	20310	24310	28310	30310	34310
49	1440	1840	2040	2440	2840	3040	3440
55	1446	1846	2046	2446	2846	3046	3446
63	1452	1852	2052	2452	2852	3052	3452

Modular Sizes*

Height "B" (inches)	Width "A" (inches)			
	16½	24½	32½	40½
39	1432M	2032M	2832M	3432M
47	14310M	20310M	28310M	34310M
55	1446M	2046M	2846M	3446M
63	1452M	2052M	2852M	3452M

*To fit block construction without the necessity of cutting blocks.

Standard Sizes

Height "B" (inches)	Width "A" (inches)								
	25 13/16	31 13/16	37 13/16	43 13/16	49 13/16	55 13/16	61 13/16	67 13/16	73 13/16
25	2020	2620	3020	3620	4020	4620	5020	5620	6020
35	20210	26210	30210	36210	40210	46210	50210	56210	60210
39	2032	2632	3032	3632	4032	4632	5032	5632	6032
47	20310	26310	30310	36310	40310	46310	50310	56310	60310
49	2040	2640	3040	3640	4040	4640	5040	5640	6040
55	2046	2646	3046	3646	4046	4646	5046	5646	6046
64	2052	2652	3052	3652	4052	4652	5052	5652	6052

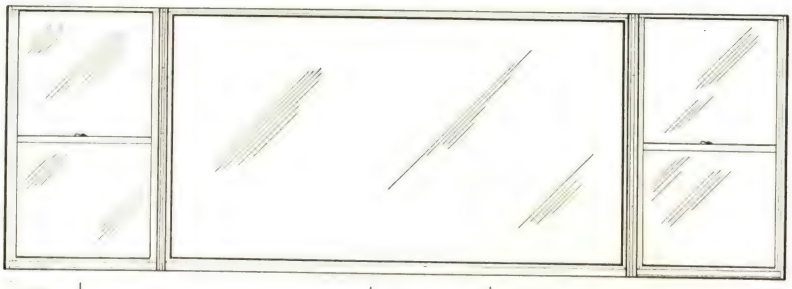
Modular Sizes*

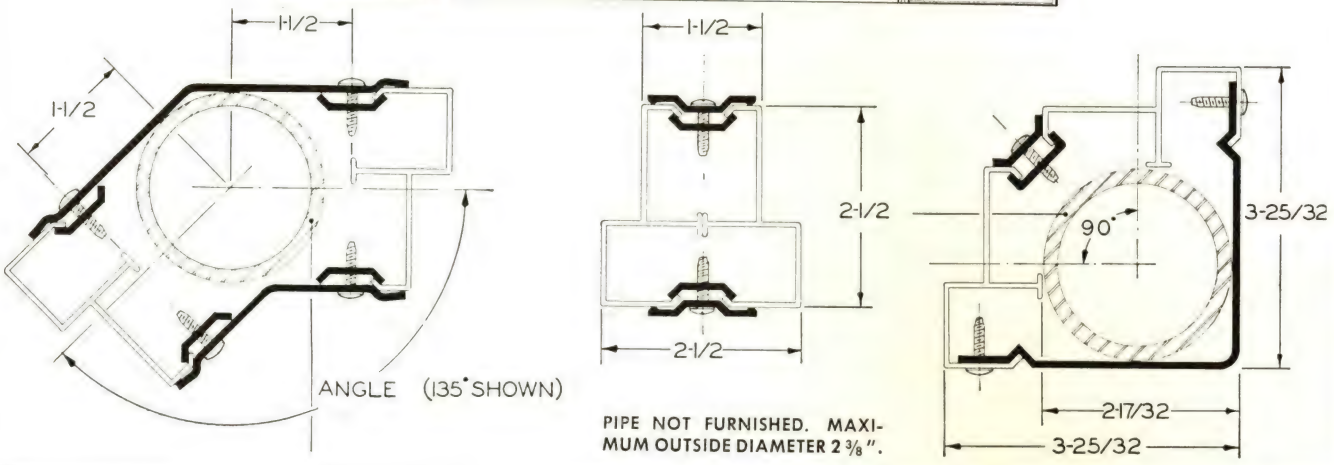
Height "B" (inches)	Width "A" (inches)						
	24½	32½	40½	48½	56½	64½	72½
39	2032M	2832M	3432M	4032M	4832M	5432M	6032M
47	20310M	28310M	34310M	40310M	48310M	54310M	60310M
55	2046M	2846M	3446M	4046M	4846M	5446M	6046M
63	2052M	2852M	3452M	4052M	4852M	5452M	6052M

*To fit block construction without the necessity of cutting blocks.

NOTES: Picture Windows to fit standard "Twindow" or "Thermopane" sizes also available. Width of glass, plus 1 15/16", equal overall width. Height of glass, plus 2 7/32", equal overall height.

ALUMINUM MULLIONS

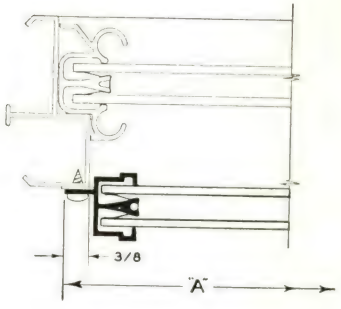


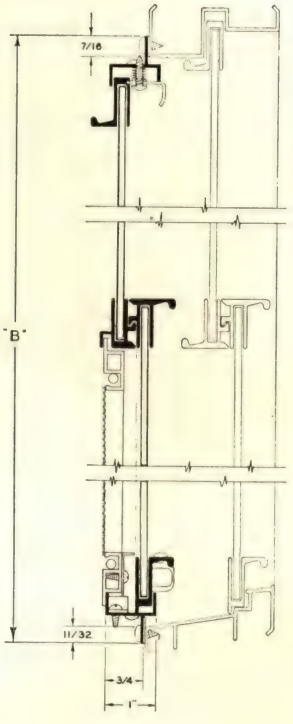


PIPE NOT FURNISHED. MAXIMUM OUTSIDE DIAMETER 2 3/8".

COMBINATION STORM WINDOWS AND SCREENS
to fit Premier Aluminum Windows



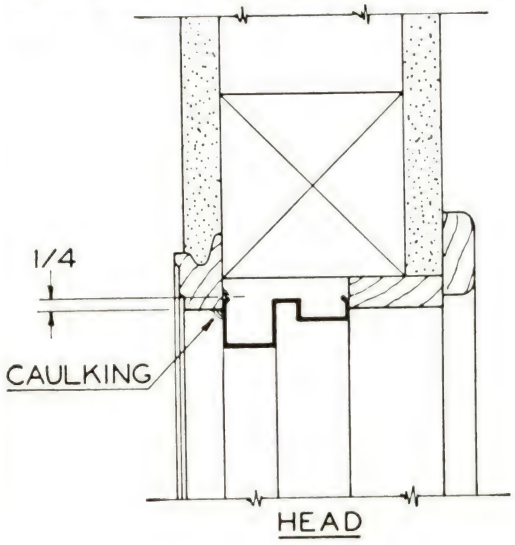


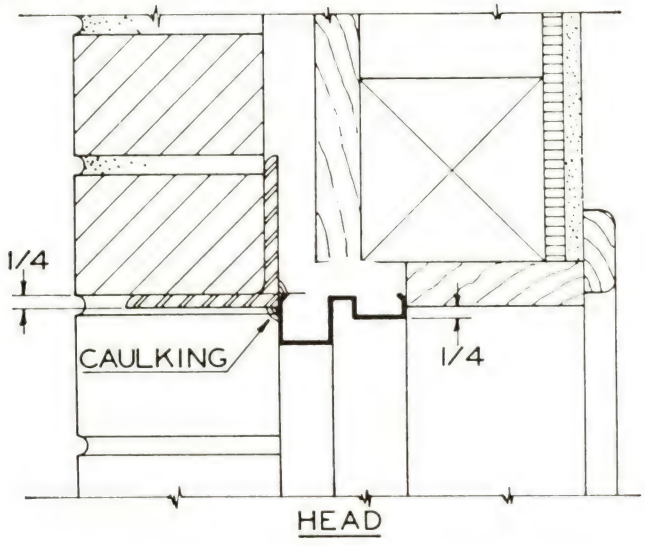


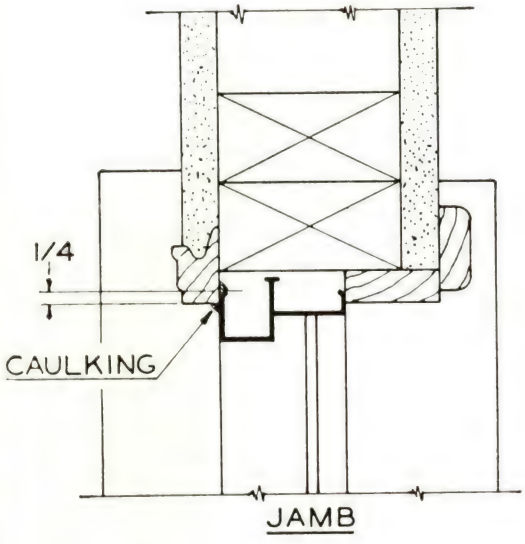
Height "B" (inches)	Width "A" (inches)										
	14 3/4	15 3/4	19 3/4	22 3/4	23 3/4	27 3/4	30 3/4	31 3/4	35 3/4	38 3/4	39 3/4
24 1/4	1420M	1420	1820	2020M	2020	2420	2820M	2820			
34 1/4	14210M	14210	18210	20210M	20210	24210	28210M	28210	30210	34210M	34210
38 1/4	1432M	1432	1832	2032M	2032	2432	2832M	2832	3032	3432M	3432
46 1/4	14310M	14310	18310	20310M	20310	24310	28310M	28310	30310	34310M	34310
48 1/4	1440M	1440	1840	2040M	2040	2440	2840M	2840	3040	3440M	3440
54 1/4	1446M	1446	1846	2046M	2046	2446	2846M	2846	3046	3446M	3446
62 1/4	1452M	1452	1852	2052M	2052	2452	2852M	2852	3052	3452M	3452

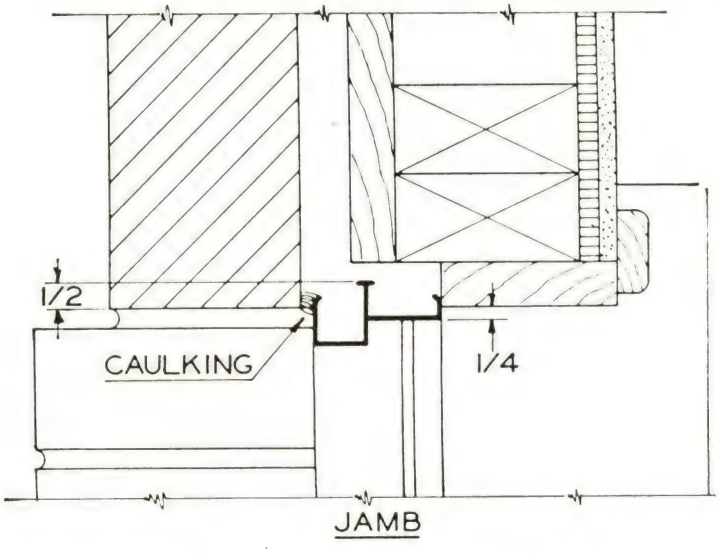
When ordering screens only, order by adding suffix "H.P." to nominal window sizes.

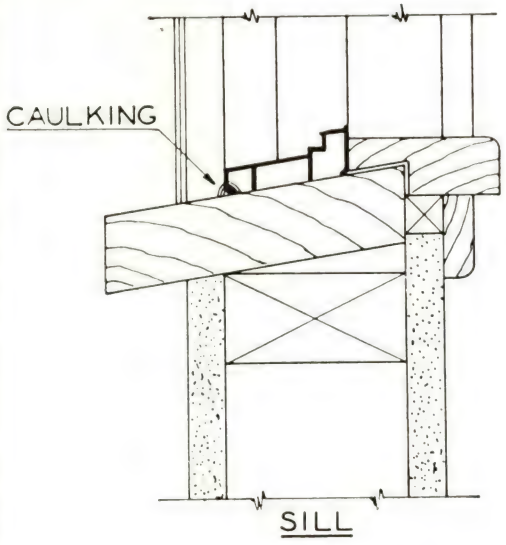
INSTALLATION DETAILS FOR DOUBLE-HUNG WINDOWS

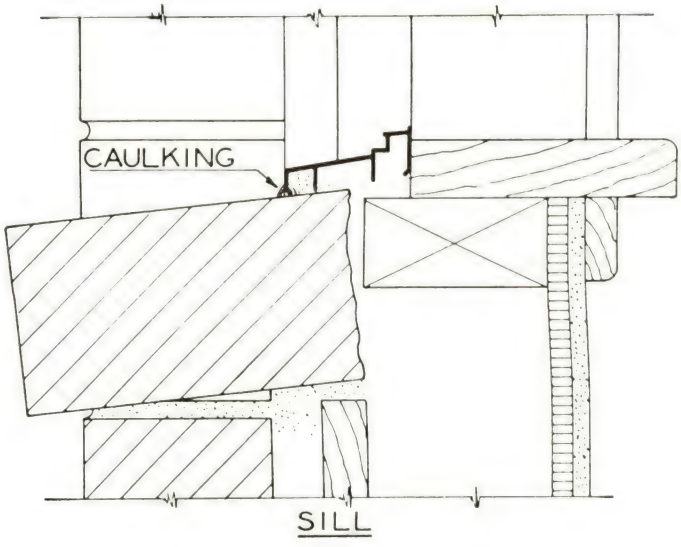






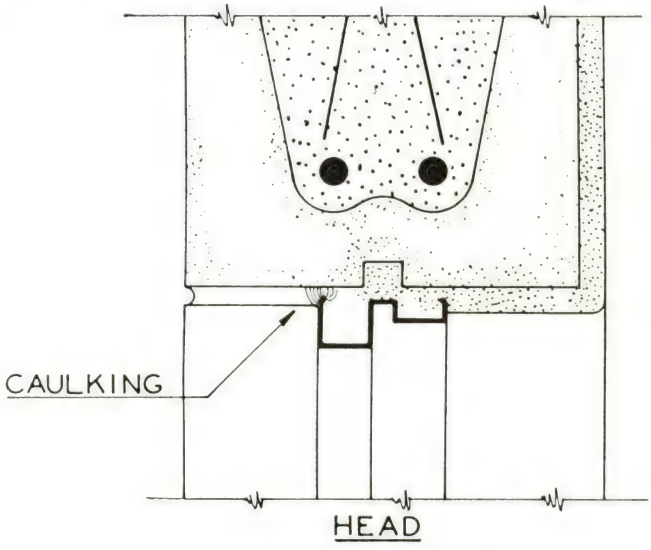




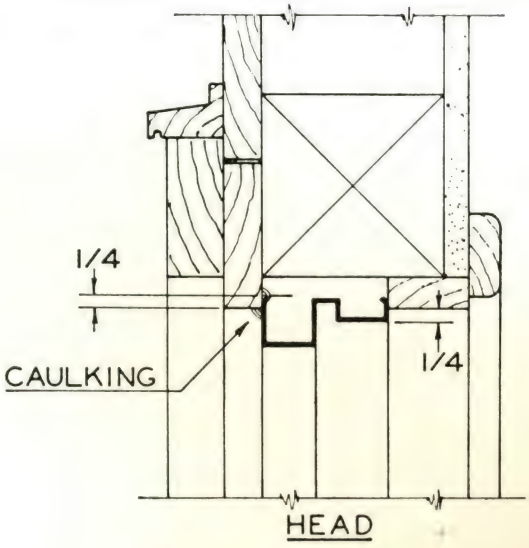


FRAME-STUCCO

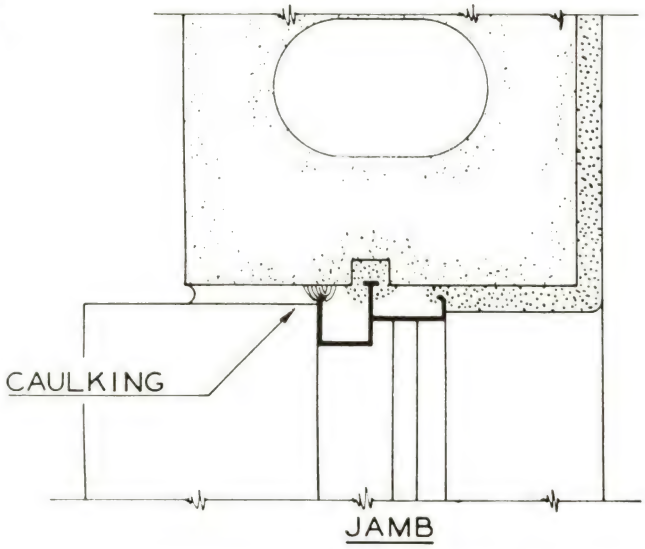
BRICK-VENEER



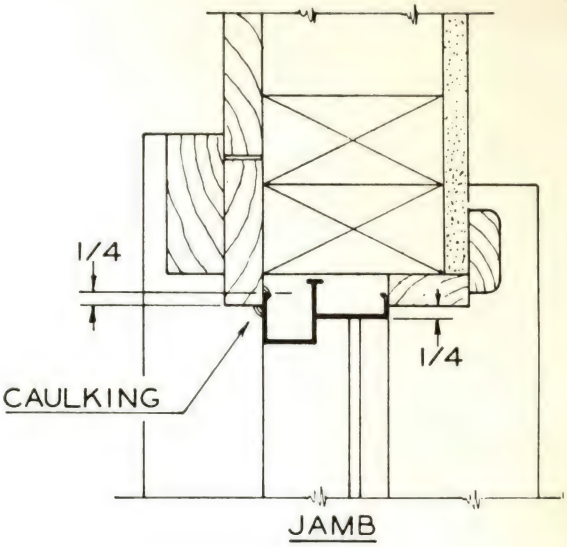
HEAD



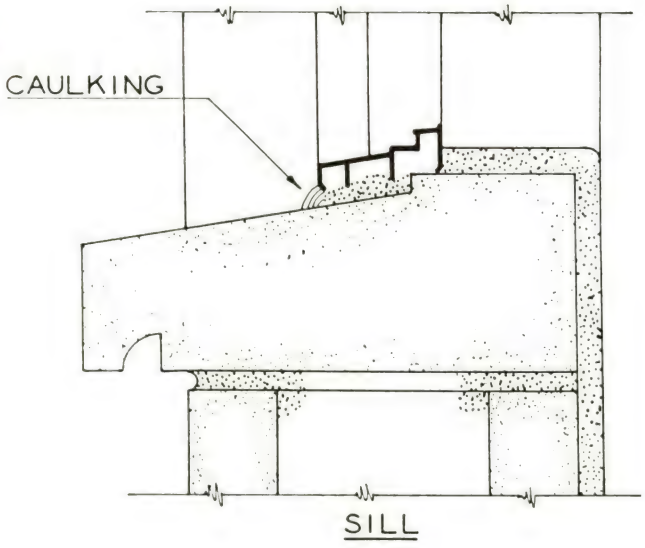
HEAD



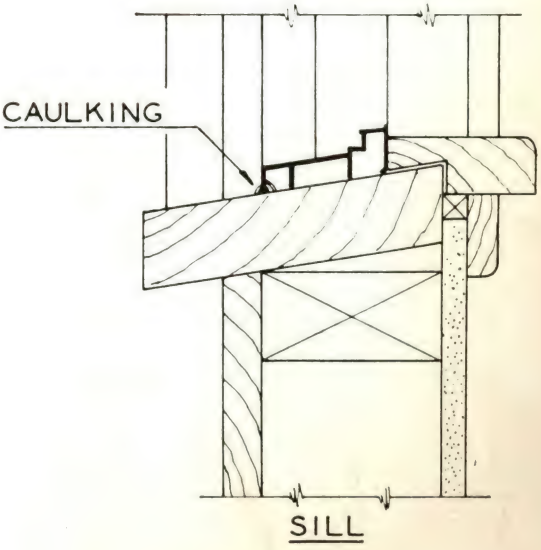
JAMB



JAMB



SILL



SILL

CONCRETE BLOCK

FRAME





Premier

recognized as the smartest of all aluminum windows

METAL
PAT. 2188023
HUNG









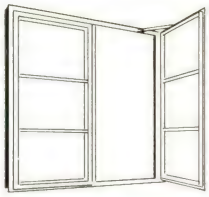
Premier
WINDOW OF THE WORLD

Manufacturers and Distributors

PREMIER METAL PRODUCTS CORPORATION

955 E. SLAUSON AVE • LOS ANGELES 11, CALIF • ADams 3-5141

CASEMENT 4-13



TRAVERSE 14-19

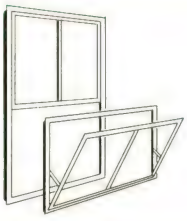


REYNOLDS ALUMINUM WINDOWS

AWNING 20-22



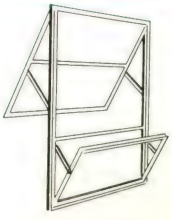
BASEMENT & UTILITY 23



DOUBLE-HUNG 24-26

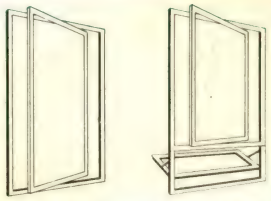


INTERMEDIATE 27-29



600 SERIES

VERTICALLY PIVOTED 30-32



100 SERIES 100H SERIES

QUALITY APPROVED
(TYPE)
A.W.M.A. Quality Specifications—Materials, Construction, Strength of sections and Air infiltration requirements—confirmed by PITTSBURGH TESTING LABORATORY
MEMBER—ALUMINUM WINDOW MANUFACTURERS ASSOCIATION

Copyright 1954, Reynolds Metals Company



CASEMENT WINDOW WITH PICTURE WINDOW

The soft gleam of aluminum windows in residences throughout the country is proof of a growing preference for the most modern building material—aluminum. No other material offers at low cost aluminum's freedom from rust and resistance to corrosion. No other material combines light weight with strength for slender window members, for long lasting beauty.

Reynolds Aluminum Windows offer architects, builders and owners alike a wide range of styles and sizes. For residential applications there are traditional double-hung windows, popular casement windows and the new horizontal sliding traverse windows. Awning, basement and utility windows complete the residential line. For industrial, commercial and institutional buildings Reynolds supplies a complete line of intermediate projected windows and a superior new pivoted window available with or without hopper vent.

These Reynolds windows carry the "Quality Approved" seal of the Aluminum Window Manufacturers Association and of the Pittsburgh Testing Laboratory, your assurance that these products comply with the rigid specifications established by the aluminum window industry.

In addition, Reynolds Aluminum Windows are guaranteed against defects in material and workmanship to the extent of replacing or repairing the window, or refunding the purchase price upon examination by Reynolds.

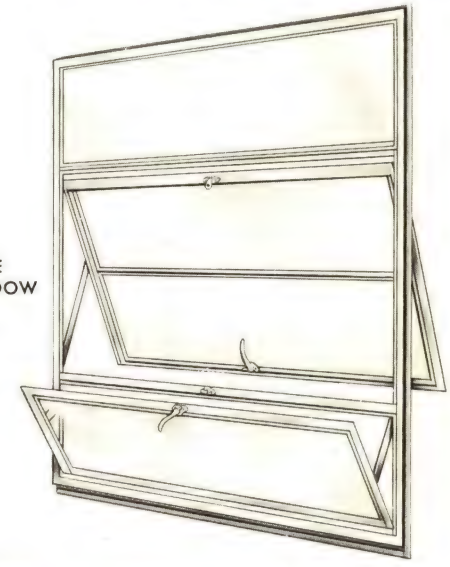


TRAVERSE WINDOW

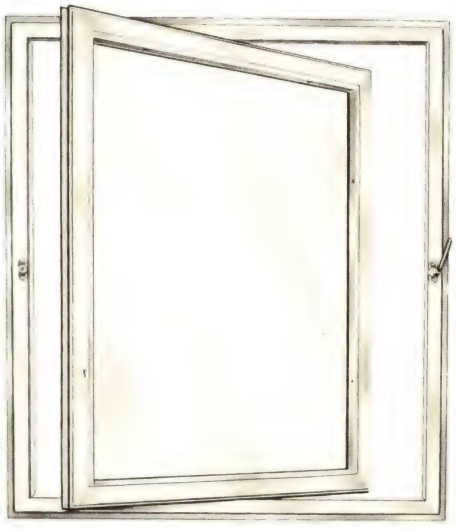
REYNOLDS ALUMINUM WINDOWS

Everything you want in a window!

- Handsome, functional lines. The lightweight strength of Reynolds aluminum permits slender window members . . . greater areas of light and vision.
- Attractive "satinized" finish. Aluminum blends beautifully with interior finishes, takes on hue of its surroundings.
- Non-staining, rustproof. Reynolds Aluminum Windows cannot cause ugly stains on outer surfaces. They are immune to rust.
- No painting—ever. Because it cannot rust, aluminum maintains itself without protective painting at any time. (Painting contractors estimate that window painting accounts for a substantial part of the cost of painting a house.)
- Warp-free and split-proof. Aluminum is not subject to common wear hazards such as warping, splitting and swelling. These windows keep their beauty through all types of weather.
- Fire and corrosion resistant. Aluminum adds to the protection of your home . . . also resists the inroads of corrosive atmosphere.
- All Reynolds Aluminum Windows are furnished in corrugated cartons for greater protection of the window, and for ease in storing and handling.



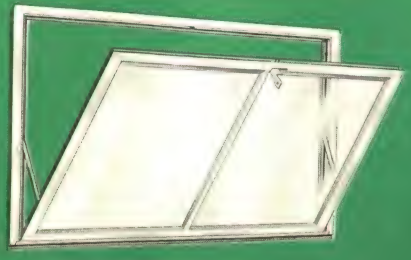
INTERMEDIATE PROJECTED WINDOW 600 SERIES



VERTICALLY PIVOTED WINDOW 100 SERIES



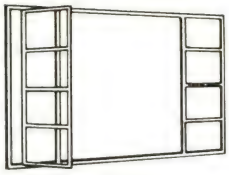
DOUBLE-HUNG WINDOW



BASEMENT WINDOW



AWNING WINDOW



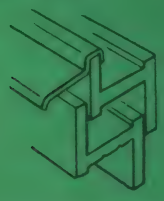
- **SUPERIOR DESIGN**
- **MAXIMUM BEAUTY**
- **MINIMUM MAINTENANCE**

Reynolds Aluminum Casement Windows never require paint, cannot rust and retain their beautiful satin finish permanently. Washing is just about the only maintenance required for these superior aluminum windows, and even the job of washing is simplified by special wide-opening extension hinges that allow easy cleaning of both sides of glass from indoors.

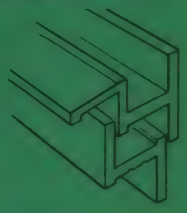


Roto-operator works freely . . . holds window rigid in any desired position . . . works underneath fixed screen or storm sash. Oversized worm gear assures trouble-free operation. Cam-and-lever lock operates easily, holds vent tightly against the frame.

A special water-tight lip directs wind-driven water to prepared "weep holes". This water drains outside instead of penetrating to the interior. Note double-contact frame.



A continuous drip rail at the transom bar is incorporated as part of the window frame, just one more premium feature in this economical line of aluminum windows.



Corners are electrically flash-welded for greater rigidity and weather-tightness. Smooth, uniform welded joints also add to clean styling of this superior window.



Standard size all-aluminum screens require no fitting, no marking for storage, are installed easily from inside. Window frames are predrilled for attaching simple clips. Neither screens nor storm sash interfere with operating hardware.

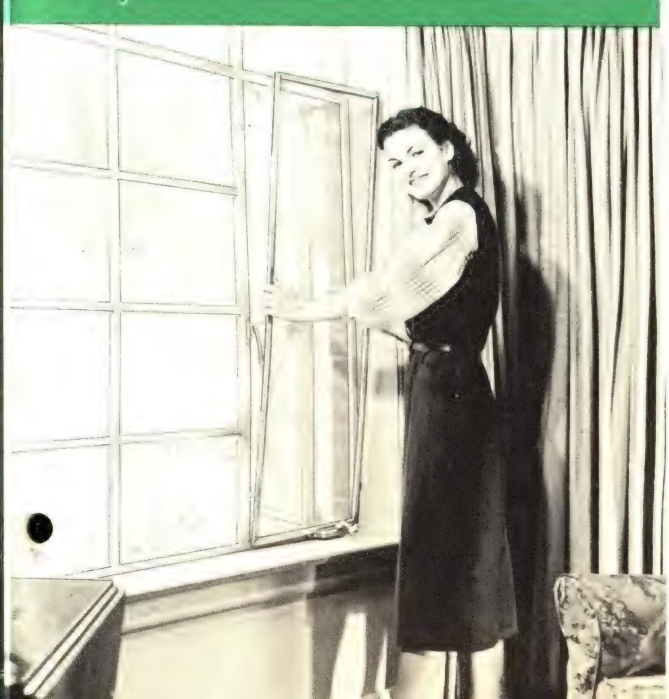
Aluminum, beautiful in itself, is made even more beautiful by Reynolds exclusive finishing process. The result is a soft satin-grey lustre that blends beautifully with any interior decoration. This finish is protected during construction by a baked-on lacquer.

The widest range of standard mullions are available for all types of bay windows, for all combinations of casement, fixed and picture windows. Load-bearing and non load-bearing types.

Windows are shipped two to a special cover-all corrugated container. Handling and stacking is easier, windows arrive on the job completely protected, stay in carton until installation.







SPECIFICATIONS

GENERAL Windows shall be Residential Aluminum Casements as manufactured by the Reynolds Metals Company and shall conform to the Aluminum Window Manufacturers Association specification C-A1 (or with design and/or engineering changes which will provide the user with equal or superior operation, appearance and service). Sizes and types shall be as shown on the general plans.

MATERIAL Sections shall be especially designed aluminum extruded shapes of 63S-T5 alloy having an ultimate tensile strength of not less than 22,000 *psi*, and shall be not less than 1″ in depth and ⅞″ in cross section. Where solid sections are used the minimum thickness shall be .125″. Where tubular sections are used the minimum thickness shall be .062″.

CONSTRUCTION Corners shall be of electrically flash-welded construction except where dissimilar shapes are joined and all welds shall be factory dressed to permit satisfactory weathering. Muntin bars shall be firmly attached at their cross joints and to their abutting sash section. Continuous double-contact weathering shall be provided as an integral part of the sections between frame and ventilator. All surfaces to be glazed shall have putty retaining lips of not less than ⅛″. A continuous drip rail shall be an integral part of the transom bar. Drip caps shall be provided at the head of all openings where the ventilators extend to the full height of the opening. Ventilators shall be side-hinged to open out on truss-type, self-cleaning extension hinges of aluminum. All hinges shall be securely fastened to the frame and ventilator by riveting, shall be provided with a stainless steel sleeve bushing about a 5/16″ pivot pin, and shall have washers of a non-corrosive type. The ventilator around its entire perimeter shall be provided with a ⅛″ lip where it contacts the frame on the interior side to insure against water seepage. The frame member under each ventilator shall contain two weep holes to allow for water run off.

HARDWARE Each residential aluminum casement shall be equipped complete with die cast, rotary type underscreen operator(s) and die cast fastener handle(s) of aluminum, or of a non-corrosive material. Keepers, vent guides and necessary screws for attachment shall be of aluminum or non-magnetic stainless steel.

FINISH All windows shall have a "Satinized" finish and a protective coating of a lime-resistant, water-white, methacrylate-type lacquer, dip applied after chemical cleaning.

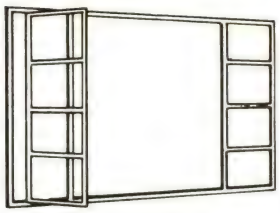
ERECTION All windows shall be set by others level, plumb and square without springing, forcing, or distortion, in accordance with the manufacturer's standard recommendations. Mastic provided by the window erector shall be used in sufficient quantity to provide a weather-tight seal between windows and surrounding construction. All such joints must be thoroughly caulked. In no case use non-compatible material with aluminum. Where unprotected aluminum comes into contact with lime-content masonry, the surfaces shall be coated by others with an approved type lacquer or a bitumastic paint.

GLAZING All windows are factory adjusted; but prior to glazing, windows shall be inspected to insure that ventilators correctly seat and weather as per manufacturer's recommendations. If found incorrect, windows should be adjusted prior to the application of glass and compound. (This work not by Reynolds Metals Company.) All windows shall be putty-glazed from the outside with an approved type aluminum window glazing compound. When using compound, glass shall be carefully bed-puttied and face-puttied in a neat manner being secured with spring type clips provided by the glazing contractor (not R.M.C.).

SCREENS AND STORM SASH Screens of the flat, fixed type shall be easily applied to, and removed from, all openings from the inside. Screen frames shall be tubular aluminum sections .75″ in depth and .438″ in thickness, securely joined at corners by force-fit inserts with a minimum thickness of .091″. Screen cloth shall be aluminum of 18-14 mesh. Screens shall be furnished by the manufacturer (at extra cost).

Storm sash panels of a flat fixed type shall be easily applied to, and removed from, the inside and shall cover entire window area. Glass shall be bedded in a neoprene or vinyl-type extrusion, which shall extend around the storm sash frame and provide a complete coverage between storm sash and window frame. Storm sash frame shall be aluminum with a minimum thickness of .062″. At extra cost, storm sash shall be furnished by the manufacturer, and shall be provided with ventilators when specified.

CASEMENT FIXED AND PICTURE



REYNOLDS

CROSS SECTION DETAILS



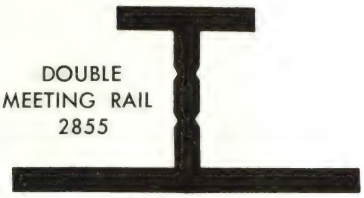










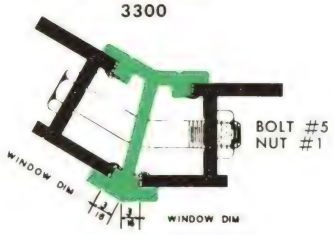




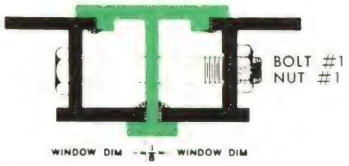


STANDARD MULLIONS

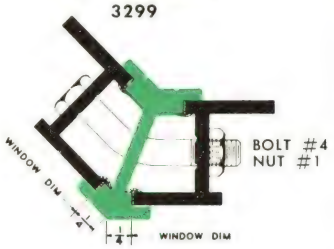
30° MULLION
3300



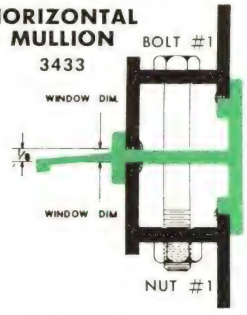
STRAIGHT MULLION
7298



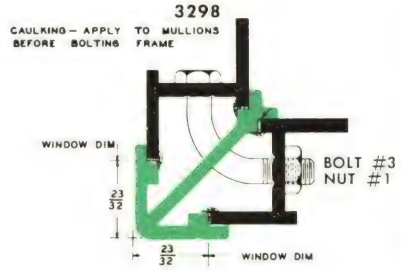
45° MULLION
3299



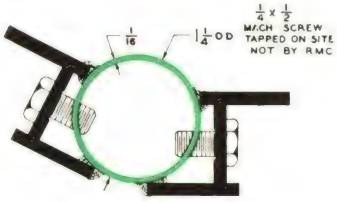
HORIZONTAL MULLION
3433

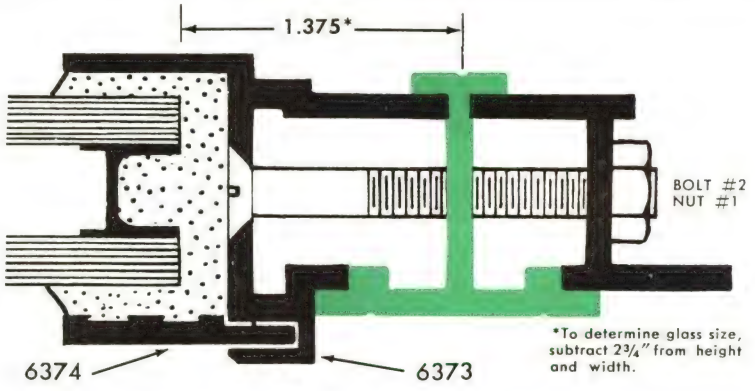


90° MULLION
3298



TUBULAR MULLION
Non load-bearing type





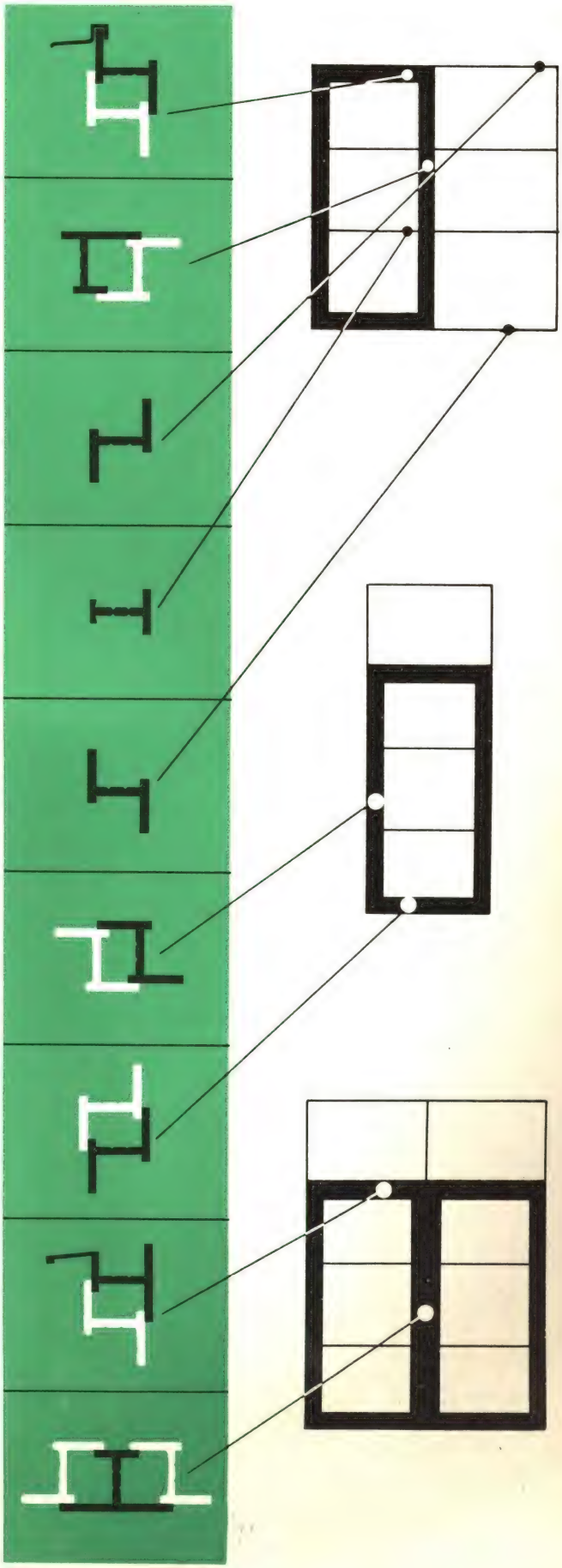
*To determine glass size, subtract 2¾" from height and width.

REYNOLDS DOUBLE INSULATING PICTURE WINDOW

Picture windows suitable for 1" standard double insulating glass. Frame is supplied in knock-down form for easy field assembly. Interior glazing. (Standard window sections permit use of ½" type double insulating glass.)

ALUMINUM WINDOWS

Reynolds standard mullions permit any desired vertical or horizontal combinations of fixed and casement types.



MULLION NOTES

Whenever possible head of mullion or fin bolt should be located inside fixed window. Where mullion or fin bolt protrude into light, glass should be cut accordingly.

When installing mullions, be sure bolt holes are in correct alignment with window frame installation holes.

Mullions should be bolted to adjacent windows before installation in the wall.

Adjacent fastener handles not to be used on 90° mullion. Not desirable on 45° and 30° mullions. Adjacent roto-operator handles not desirable on 90° mullions.

LOAD-BEARING PIPE MULLIONS

LENGTH (IN FT.)	No. 40 PIPE I. D. 2.469 O. D. 2.875 (IN LBS.)	No. 80 PIPE I. D. 2.323 O. D. 2.875 (IN LBS.)
2	30,100	39,600
3	28,250	37,100
4	26,450	34,700
5	24,600	32,200
6	22,800	29,750
7	21,000	27,250
8	19,120	24,750
9	17,300	22,300
10	15,480	19,850
11	13,650	17,350
12	11,820	14,900

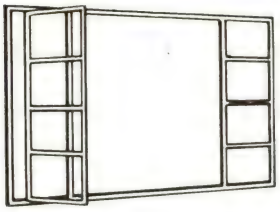
These are available in the form of No. 40 and No. 80 pipe, complete with head and sill castings. Allowable loads are given in the chart above. Safety factor—2.



PREMIUM QUALITY ROTO OPERATOR

Reynolds can supply a "deluxe" roto operator at extra cost. It features a heavier die cast aluminum casting with the exclusive Reynolds "satinized" finish.

CASEMENT C-A1 AWMA QUALITY APPROVED

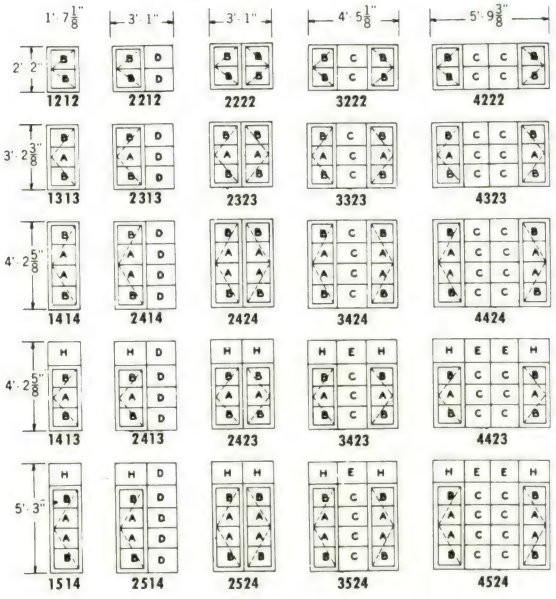


REYNOLDS

Five and six-light wide and six-light high standard casement windows are available on special request. Consult Reynolds Metals Company, Building Products Division, Louisville 1, Kentucky, for minimum quantities and other information.

STANDARD SIZE CASEMENT WINDOWS

WITH MUNTINS

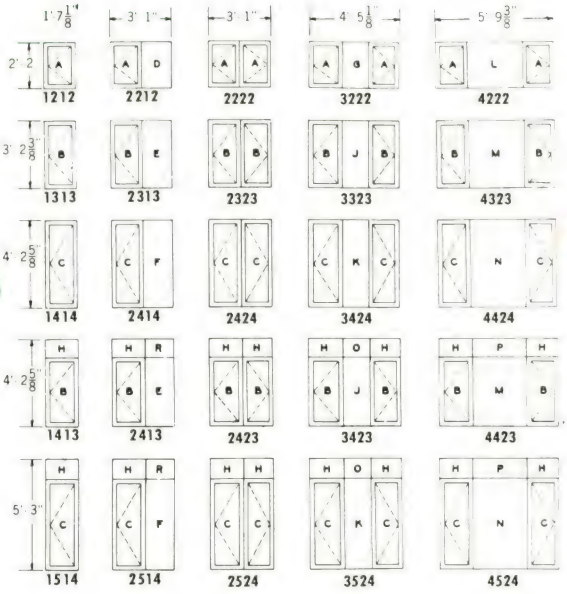


RECOMMENDED GLASS SIZES

A	15 3/16 x 12	D	17 5/16 x 12
B	15 3/16 x 11 1/4	E	15 11/16 x 11 7/8
C	15 11/16 x 12	H	17 1/8 x 11 3/4

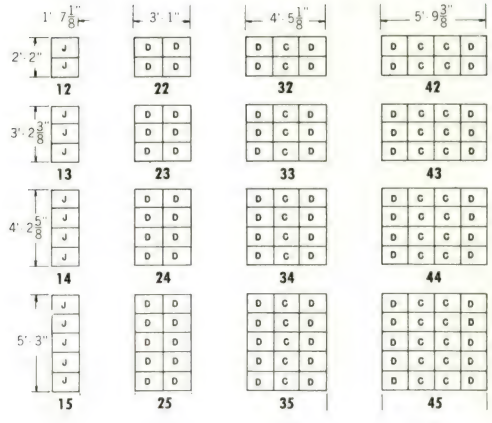
A	15 7/8 x 22 3/4	J	15 3/4 x 36 1/2
B	15 7/8 x 35 1/8	K	15 3/4 x 48 3/4
C	15 7/8 x 47 3/8	L	32 x 24 1/8
D	17 5/16 x 24 1/8	M	32 x 36 1/2
E	17 5/16 x 36 1/2	N	32 x 48 3/4
F	17 5/16 x 48 3/4	O	15 11/16 x 11 7/8
G	15 3/4 x 24 1/8	P	32 x 11 7/8
H	17 1/8 x 11 3/4	R	17 5/16 x 12

WITHOUT MUNTINS



STANDARD SIZE FIXED AND PICTURE WINDOWS

FIXED WINDOWS

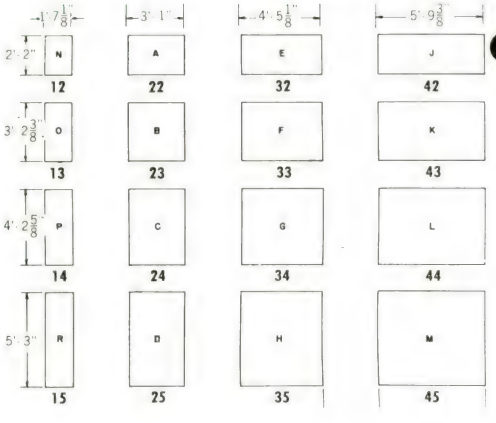


RECOMMENDED GLASS SIZES

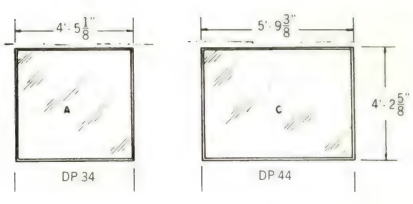
C 15 11/16 x 12 D 17 5/16 x 12 J 17 1/8 x 12

A	35 x 24	J	67 3/8 x 24
B	35 x 36 3/8	K	67 3/8 x 36 3/8
C	35 x 48 5/8	L	67 3/8 x 48 5/8
D	35 x 61	M	67 3/8 x 61
E	51 1/8 x 24	N	171/8 x 24
F	51 1/8 x 36 3/8	O	171/8 x 36 3/8
G	51 1/8 x 48 5/8	P	171/8 x 48 5/8
H	51 1/8 x 61	R	171/8 x 61

PICTURE WINDOWS

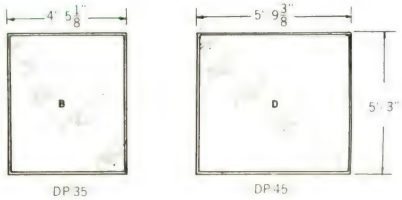


STANDARD DOUBLE INSULATING



STANDARD SIZE THERMOPANE OR TWINDOW 1" DOUBLE GLAZING

A	50 3/8 x 47 7/8
B	50 3/8 x 60 1/4
C	66 5/8 x 47 7/8
D	66 5/8 x 60 1/4

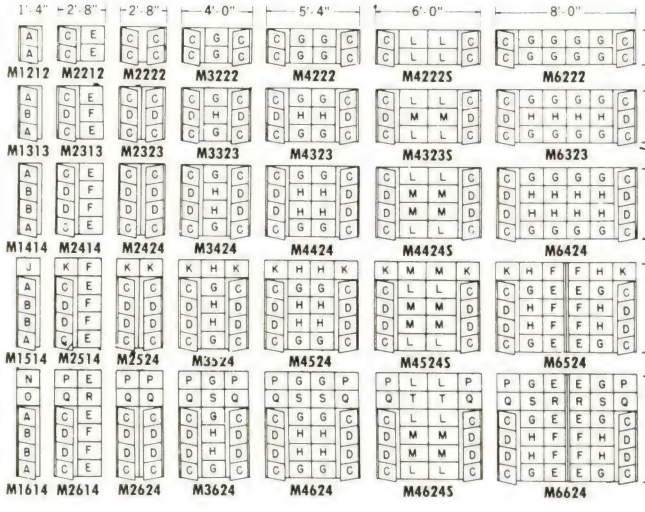


ALUMINUM WINDOWS

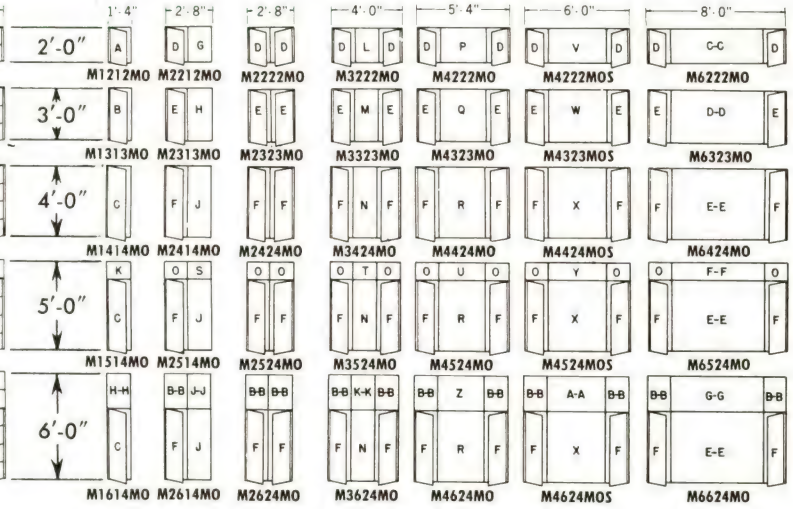
All single vent casement windows can be furnished either left-hand or right-hand.

MODULAR SIZE CASEMENT WINDOWS

WITH MUNTINS



WITHOUT MUNTINS



GLASS SIZES WITH MUNTINS

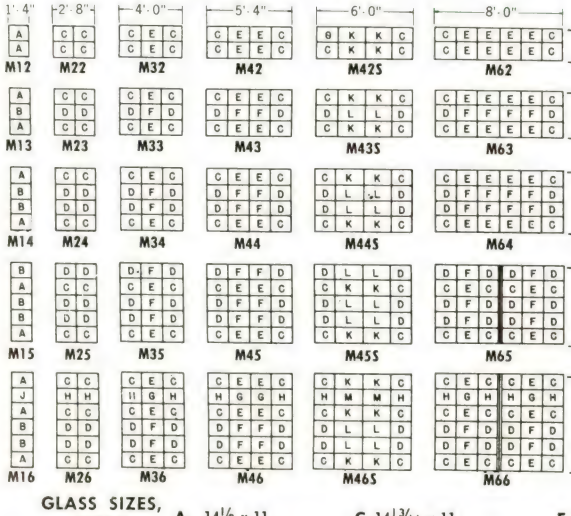
A 12¾ x 10⁵⁄₁₆	D 13¼ x 11¹¹⁄₁₆	G 15⁹⁄₁₆ x 11	K 14⅝ x 11⁹⁄₁₆	N 14⅛ x 11	Q 14⅝ x 12¼	S 15⁹⁄₁₆ x 12⅜
B 12¾ x 11¹¹⁄₁₆	E 14¹³⁄₁₆ x 11	H 15⁹⁄₁₆ x 11¹¹⁄₁₆	L 19⁹⁄₁₆ x 11	O 14⅛ x 12¼	R 14¹³⁄₁₆ x 12⅜	T 19⁹⁄₁₆ x 12⅜
C 13¼ x 10⁵⁄₁₆	F 14¹³⁄₁₆ x 11¹¹⁄₁₆	J 14⅛ x 11⁹⁄₁₆	M 19⁹⁄₁₆ x 11¹¹⁄₁₆	P 14⅝ x 11		

GLASS SIZES WITHOUT MUNTINS

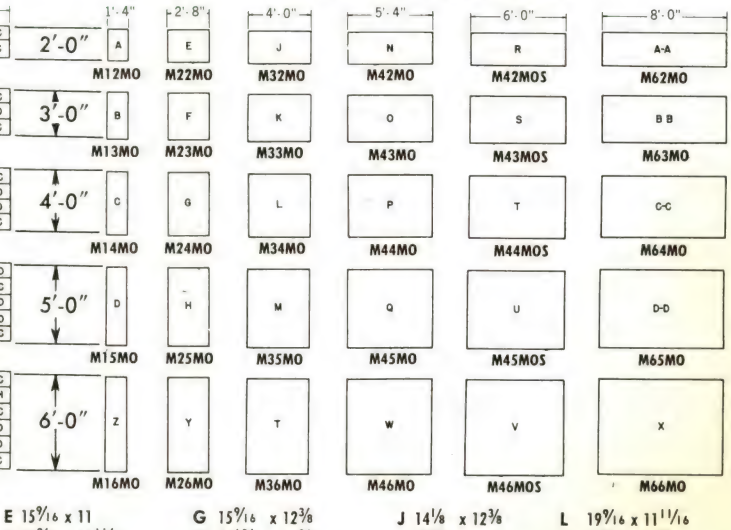
A 12¾ x 20¾	F 13¼ x 44¾	L 15⁹⁄₁₆ x 22⅛	Q 31⁹⁄₁₆ x 34⅛	V 39⁹⁄₁₆ x 22⅛	A-A 39⁹⁄₁₆ x 23¹¹⁄₁₆	F-F 63⁹⁄₁₆ x 11¹¹⁄₁₆
B 12¾ x 32¾	G 14¹³⁄₁₆ x 22⅛	M 15⁹⁄₁₆ x 34⅛	R 31⁹⁄₁₆ x 46⅛	W 39⁹⁄₁₆ x 34⅛	B-B 14⅝ x 23⁹⁄₁₆	G-G 63⁹⁄₁₆ x 23¹¹⁄₁₆
C 12¾ x 44¾	H 14¹³⁄₁₆ x 34⅛	N 15⁹⁄₁₆ x 46⅛	S 14¹³⁄₁₆ x 11¹¹⁄₁₆	X 39⁹⁄₁₆ x 46⅛	C-C 63⁹⁄₁₆ x 22⅛	H-H 14⅛ x 23⁹⁄₁₆
D 13¼ x 20¾	J 14¹³⁄₁₆ x 46⅛	O 14⅝ x 11⁹⁄₁₆	T 15⁹⁄₁₆ x 11¹¹⁄₁₆	Y 39⁹⁄₁₆ x 11¹¹⁄₁₆	D-D 63⁹⁄₁₆ x 34⅛	J-J 14¹³⁄₁₆ x 23¹¹⁄₁₆
E 13¼ x 32¾	K 14⅛ x 11⁹⁄₁₆	P 31⁹⁄₁₆ x 22⅛	U 31⁹⁄₁₆ x 11¹¹⁄₁₆	Z 31⁹⁄₁₆ x 23¹¹⁄₁₆	E-E 63⁹⁄₁₆ x 46⅛	K-K 15⁹⁄₁₆ x 23¹¹⁄₁₆

MODULAR SIZE FIXED AND PICTURE WINDOWS

FIXED WINDOWS



PICTURE WINDOWS



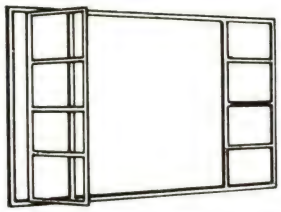
GLASS SIZES, FIXED WINDOWS

A 14⅛ x 11	C 14¹³⁄₁₆ x 11	E 15⁹⁄₁₆ x 11	G 15⁹⁄₁₆ x 12⅜	J 14⅛ x 12⅜	L 19⁹⁄₁₆ x 11¹¹⁄₁₆
B 14⅛ x 11¹¹⁄₁₆	D 14¹³⁄₁₆ x 11¹¹⁄₁₆	F 15⁹⁄₁₆ x 11¹¹⁄₁₆	H 14¹³⁄₁₆ x 12⅜	K 19⁹⁄₁₆ x 11	M 19⁹⁄₁₆ x 12⅜

GLASS SIZES, PICTURE WINDOWS

A 14 x 22	F 30 x 34	L 46 x 46	Q 62 x 58	V 70 x 70	A-A 94 x 22
B 14 x34	G 30 x 46	M 46 x 58	R 70 x 22	W 62 x 70	B-B 94 x 34
C 14 x 46	H 30 x 58	N 62 x 22	S 70 x 34	X 94 x 70	C-C 94 x 46
D 14 x 58	J 46 x 22	O 62 x 34	T 70 x 46	Y 30 x 70	D-D 94 x 58
E 30 x 22	K 46 x 34	P 62 x 46	U 70 x 58	Z 14 x 70	

CASEMENT C-A1 AWMA QUALITY APPROVED

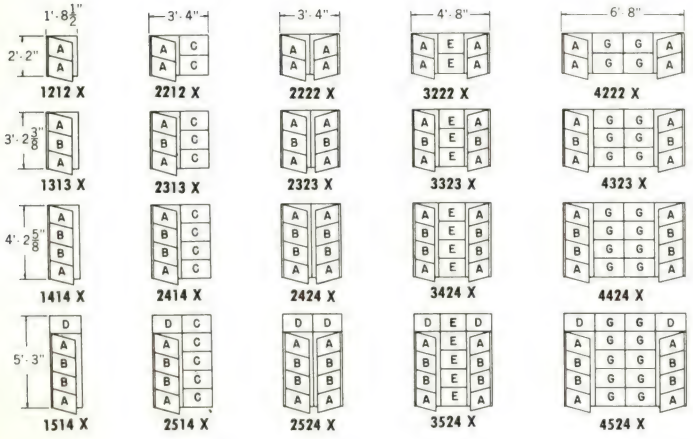


REYNOLDS

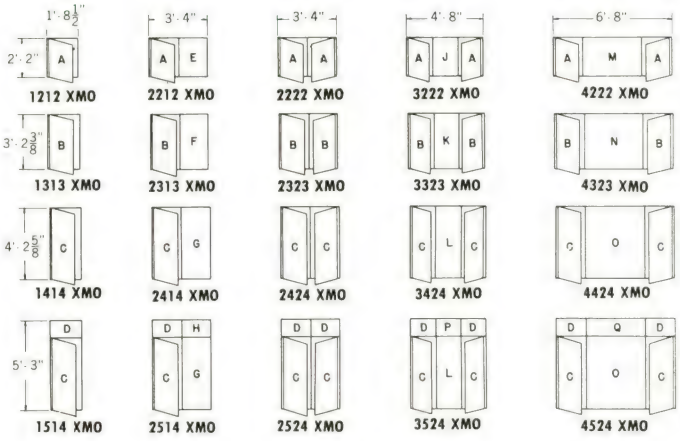
X and XW windows are available with fin trim on special order. Five and six-light wide and six-light high X and XW casement windows are available on special request. Consult Reynolds Metals Company, Building Products Division, Louisville 1, Kentucky, for minimum quantities and engineering limitations on sizes not listed.

"X" CASEMENT WINDOWS

WITH MUNTINS



WITHOUT MUNTINS

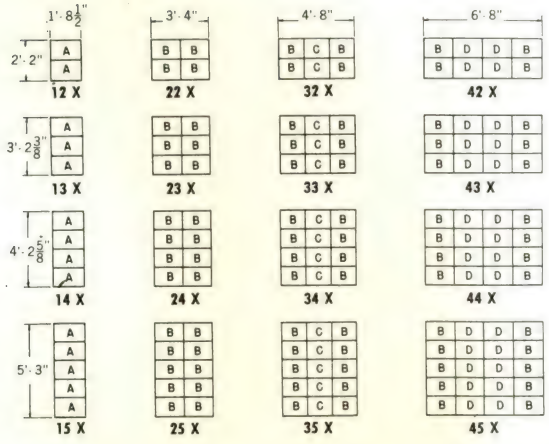


RECOMMENDED GLASS SIZES

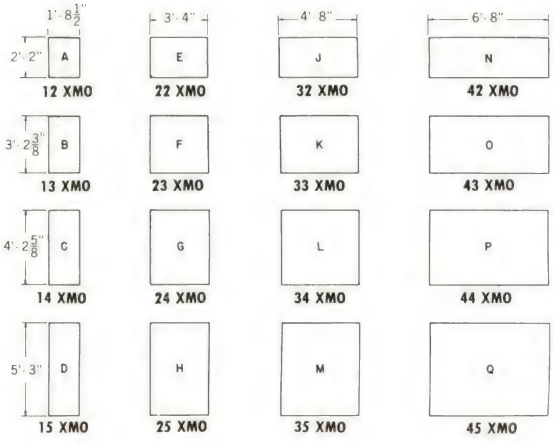
A	17¼ x 11¼	D	18⅝ x 11¾	A	17¼ x 22¾	F	18 13/16 x 36½	L	15 9/16 x 48¾
B	17¼ x 12	E	15 9/16 x 12	B	17¼ x 35⅛	G	18 13/16 x 48¾	M	39 9/16 x 24⅛
C	18 13/16 x 12	G	19 9/16 x 12	C	17¼ x 47⅜	H	18 13/16 x 12	N	39 9/16 x 36½
				D	18⅝ x 11¾	J	15 9/16 x 24⅛	O	39 9/16 x 48¾
				E	18 13/16 x 24⅛	K	15 9/16 x 36½	P	15 9/16 x 12
								Q	39 9/16 x 12

"X" FIXED AND PICTURE WINDOWS

FIXED WINDOWS



PICTURE WINDOWS



RECOMMENDED GLASS SIZES

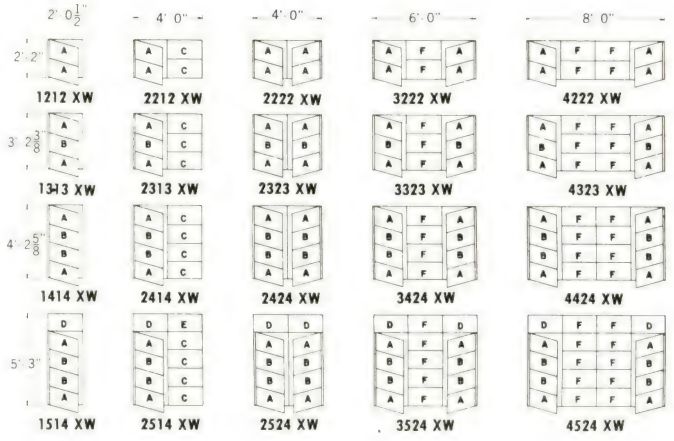
A	18⅝ x 12	A	18½ x 24	F	38 x 36⅜	L	54 x 48⅝
B	18 13/16 x 12	B	18½ x 36⅜	G	38 x 48⅝	M	54 x 61
C	15 9/16 x 12	C	18½ x 48⅝	H	38 x 61	N	78 x 24
D	19 9/16 x 12	D	18½ x 61	J	54 x 24	O	78 x 36⅜
		E	38 x 24	K	54 x 36⅜	P	78 x 48⅝
						Q	78 x 61

ALUMINUM WINDOWS

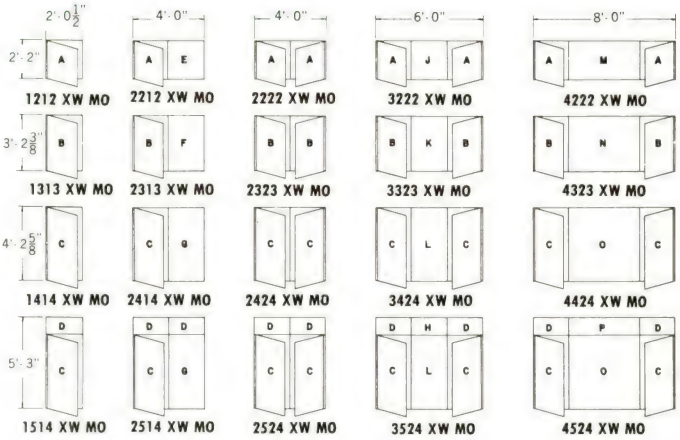
"X" and "XW" WINDOWS
NORMALLY USED ON THE WEST COAST

"XW" CASEMENT WINDOWS (with Tubular Vent Section)

WITH MUNTINS



WITHOUT MUNTINS



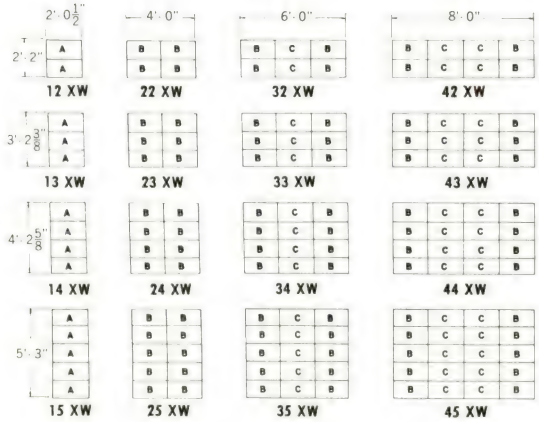
RECOMMENDED GLASS SIZES

A	20¾ x 11 1/16	D	22⅝ x 11¾	A	20¾ x 22⅜	F	22 13/16 x 36½
B	20¾ x 12 1/16	E	22 13/16 x 11¾	B	20¾ x 34¾	G	22 13/16 x 48¾
C	22 13/16 x 12	F	23 9/16 x 12	C	20¾ x 47	H	23 9/16 x 12
				D	22⅝ x 11¾	J	23 9/16 x 24⅛
				E	22 13/16 x 24⅛	K	23 9/16 x 36½

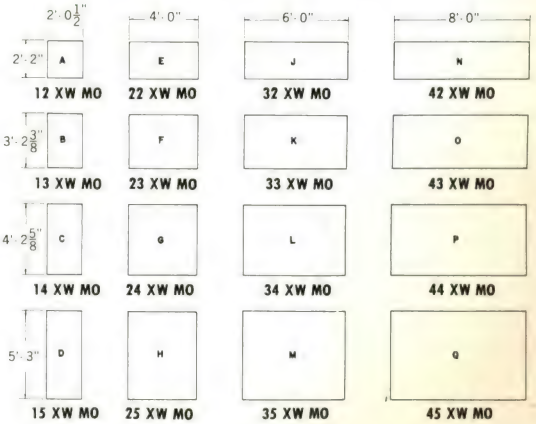
L	23 9/16 x 48¾		
M	47 9/16 x 24⅛		
N	47 9/16 x 36½		
O	47 9/16 x 48¾		
P	47 9/16 x 12		

"XW" FIXED AND PICTURE WINDOWS

FIXED WINDOWS



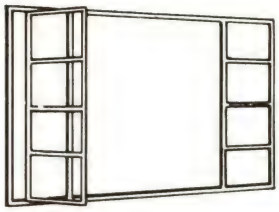
PICTURE WINDOWS



RECOMMENDED GLASS SIZES

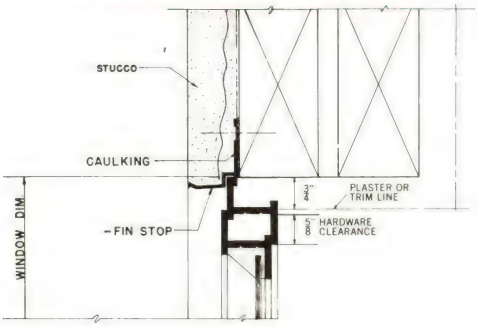
A	22⅝ x 12	A	22½ x 24	F	46 x 36⅜	M	70 x 61
B	22 13/16 x 12	B	22½ x 36⅜	G	46 x 48⅝	N	94 x 24
C	23½ x 12	C	22½ x 48⅝	H	46 x 61	O	94 x 36⅜
		D	22½ x 61	J	70 x 24	P	94 x 48⅝
		E	46 x 24	K	70 x 36⅜	Q	94 x 61
				L	70 x 48⅝		

CASEMENT FIXED AND PICTURE

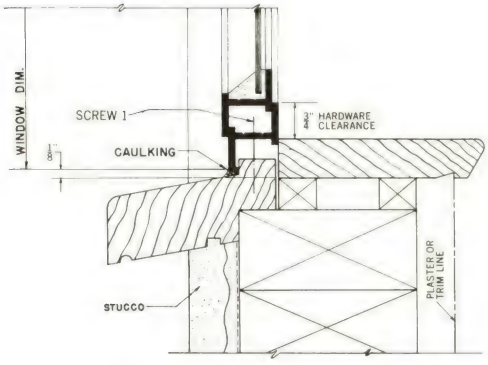


REYNOLDS

STUCCO WITH FIN STOP

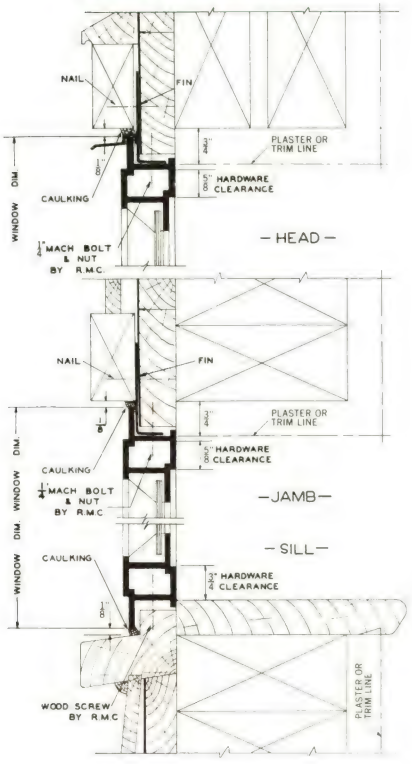


HEAD & JAMB

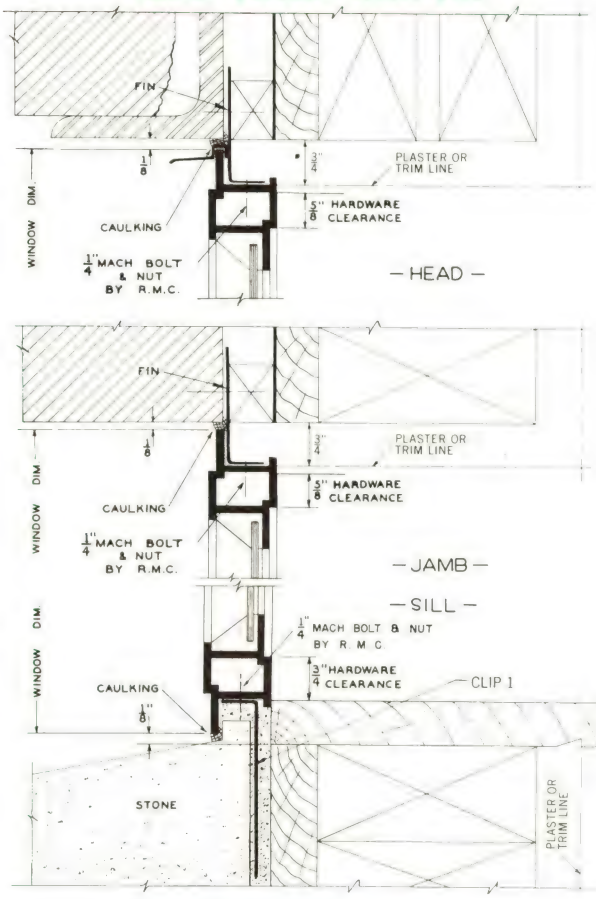


SILL

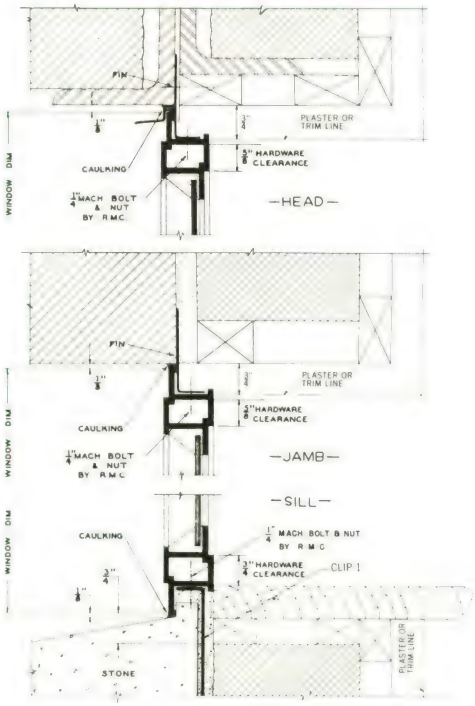
FRAME WITH FIN



BRICK VENEER WITH FIN



SOLID BRICK WITH FIN

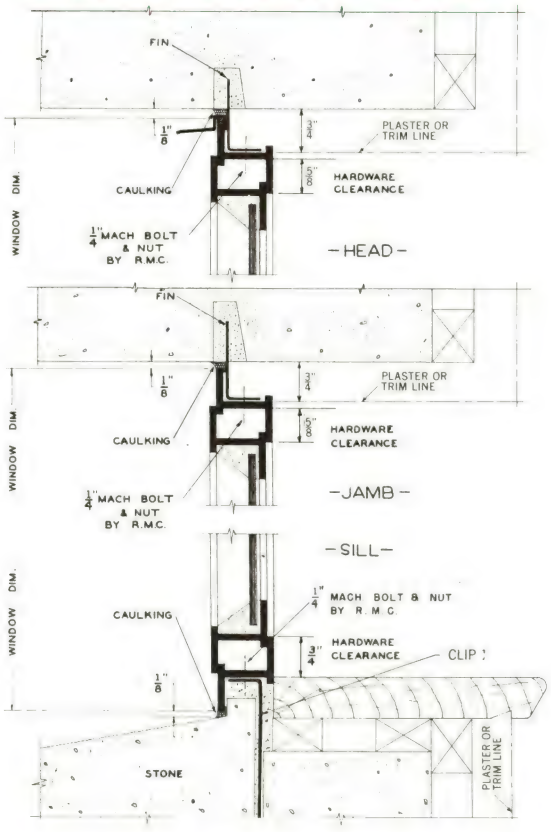


ALUMINUM WINDOWS

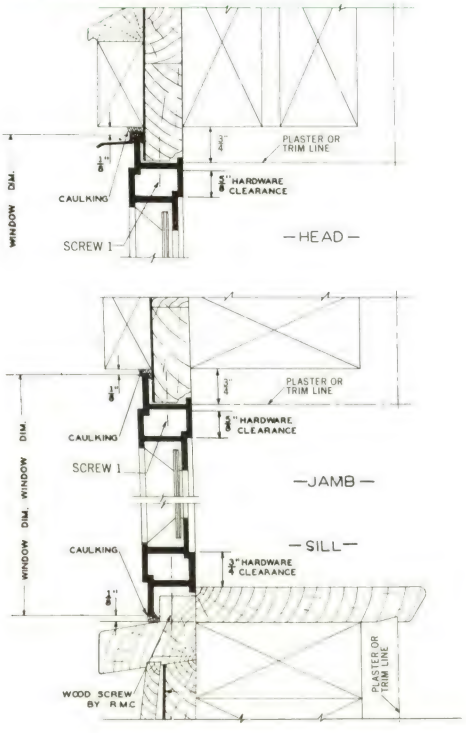
INSTALLATION

(Full size details available upon request)

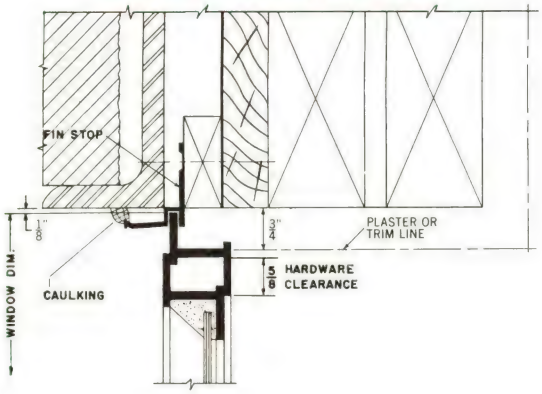
CONCRETE OR CONCRETE BLOCK, FIN



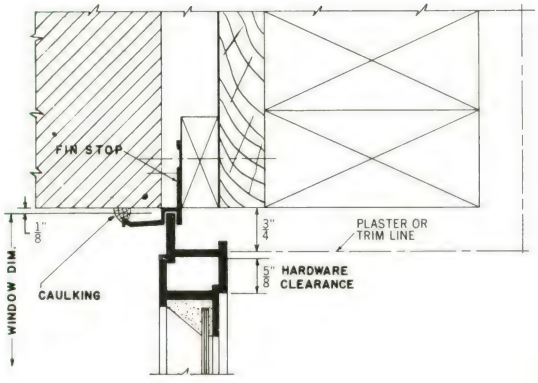
FRAME WITH WOOD STRIP



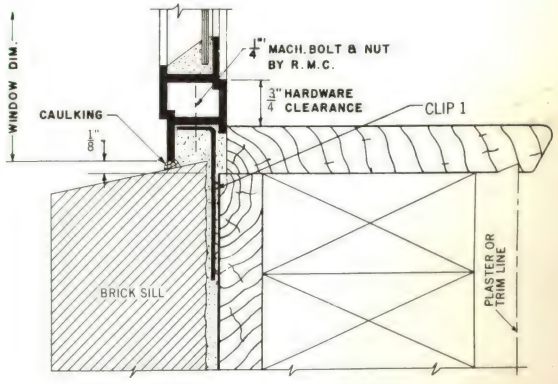
BRICK VENEER, FIN STOP



HEAD



JAMB



SILL

Sufficient wood screws (screw #1) and sill anchor clips (clip #1) will be furnished by Reynolds Metals Company when needed and requested.

TRAVERSE (HORIZONTAL SLIDING)

Principle, design and hardware patents applied for



REYNOLDS

Completely NEW in design

Reynolds is making window history with its new traverse window. Truly the window of tomorrow, it is completely unlike any other sliding window on the market. Low first cost and simple, unique design make the traverse window suitable for any standard type of home construction. Architects appreciate its beauty and adaptability. Home owners acclaim its ease of operation, complete weather tightness and freedom from upkeep costs. Contractors say that no other window is installed so easily and quickly. Reynolds Traverse Windows are now available with the new applied fin which makes installation simpler than ever—or they may be installed using the Reynolds Universal Installation Clip. Either way, window installations which used to take hours now take only minutes—and require only simple hand tools.



INTRODUCING THE AQUAWELL—
The aquawell or double sill feature, another example of Reynolds superior window engineering, is found in no other sliding type window. It drains off both wind driven water and moisture from interior condensation. In hurricane conditions when the force of the wind keeps the water from draining out, a head of water forms within the double sill and checks the entry of even hurricane driven rains.

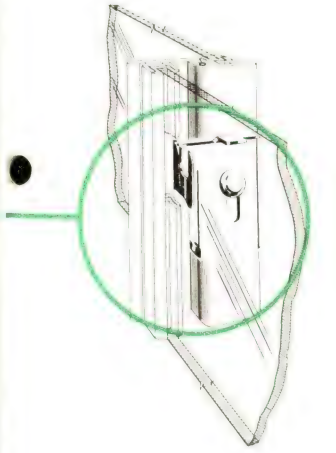


ALUMINUM WINDOWS



DIRECT MOUNTING SCREENS AND STORM SASH

No special fin trim or moldings are needed for screen and storm sash installations. They attach directly to the window frame by means of simple clips. No tedious fitting is required.



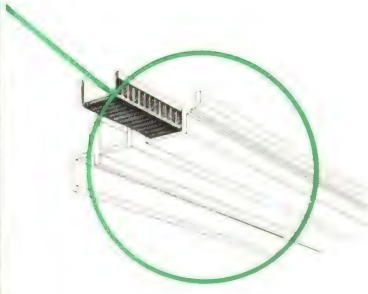
POSITIVE LOCKING VENTS

The sliding vents are provided with a stainless steel positive locking device that fits snugly against the frame and can be easily locked when the vent is closed. (In closed and locked position vents can not be removed.)



NEOPRENE WEATHERSTRIPPING AND DUST GUARDS

When closed, vent compresses special neoprene weatherstripping at jamb and meeting rail to give excellent protection against wind and water infiltration. Dust guards operate efficiently, yet do not interfere with easy removal of window for cleaning.



WOOL PILE PROVIDES WATER SEAL

Wool pile, on which the vents slide, assures smooth and silent operation, also contributes to the aquaseal feature. When wet, capillary action around the wool fibers gives added protection against air and water leakage even in the most extreme weather conditions.



Reynolds Traverse Windows are designed to delight every housewife with new window convenience. Vents operate easily and silently. To wash—simply remove vents.

Tested and proved by the HURRICANE TEST* . . . found as perfect as a window can be!

How weathertight can a window be? That was one of the questions Reynolds engineers had in mind when they designed the new Reynolds Aluminum Traverse Window. How well they succeeded in finding the answer is shown by the performance of the Traverse Window in the rugged Hurricane Test.

In this test, both a Reynolds Traverse Window and a different type window of another make, were exposed to wind blasts of from 70 to 120 m.p.h. and to wind driven water equalling a four-inch rain in only 12 minutes.

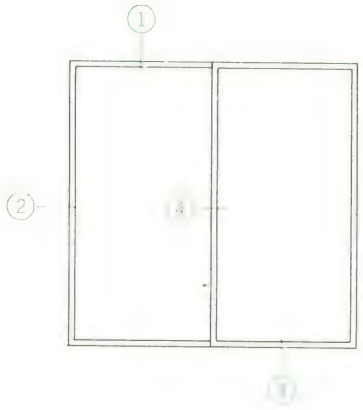
The results spoke for themselves. Water infiltration of the Traverse Window was almost too small to measure—actually about 1/100 of a gallon—while nearly seven gallons penetrated the other test window. What's more, there was absolutely NO measurable air infiltration in the Traverse Window! Here is proof that the Reynolds Aluminum Traverse Window offers maximum weather protection even under hurricane conditions—yet it is developed, designed and priced for everyday living!

**(Housing Research Laboratory, University of Miami)*

TRAVERSE (HORIZONTAL SLIDING)



REYNOLDS ALUMINUM WINDOWS



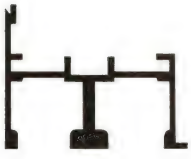
CROSS SECTION DETAILS (½ SIZE)



SASH SILL AND HEAD 8055



MULLION 8686



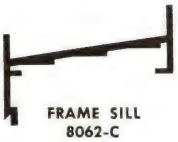
FRAME HEAD 8056-B



SASH JAMB 8053



SASH CORNER ANGLE 8057



FRAME SILL 8062-C



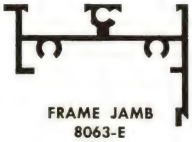
OUTER SASH MEETING RAIL 8054-C



FIXED MEETING RAIL 8075-D



PICTURE WINDOW FRAME 8688



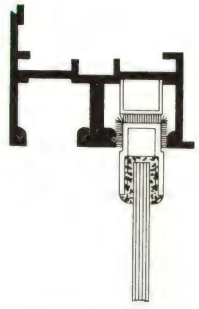
FRAME JAMB 8063-E



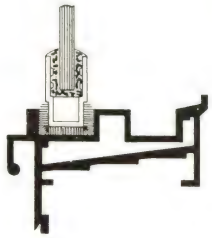
INNER SASH MEETING RAIL 8065



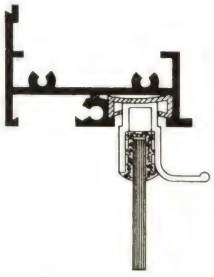
FRAME SILL TRACK 8064-B



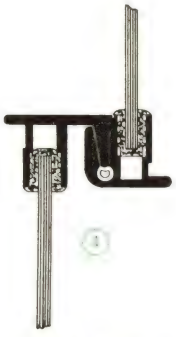
HEAD



SILL

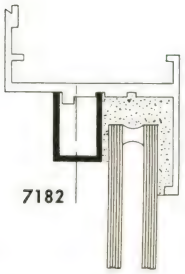


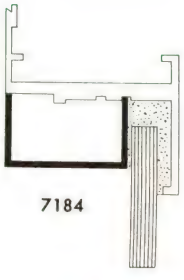
JAMB



DOUBLE MEETING RAIL

PICTURE WINDOW & GLAZING BEADS (extra)





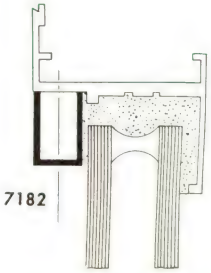


PLATE GLASS

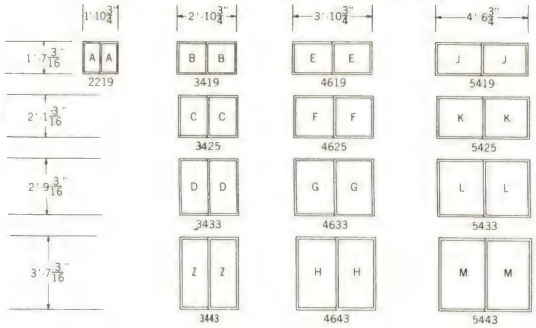
½" DOUBLE INSULATING GLASS

1" DOUBLE INSULATING GLA

To determine glass size, subtract 2¼" from height and width.

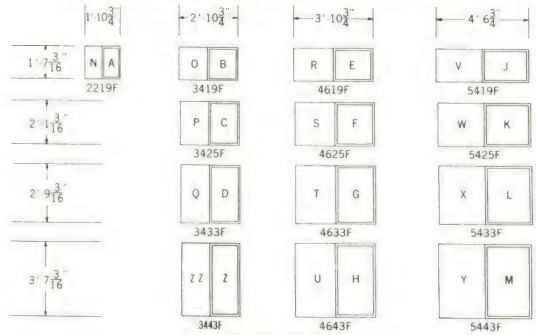
DOUBLE VENT SERIES

Interior vent located on right-hand side



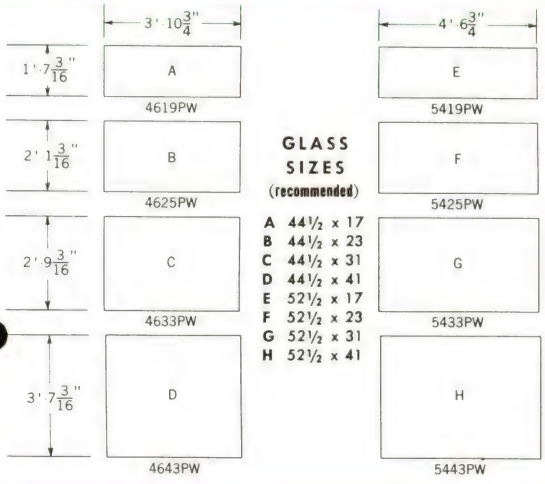
SINGLE VENT SERIES

Moving interior vent located on right-hand side



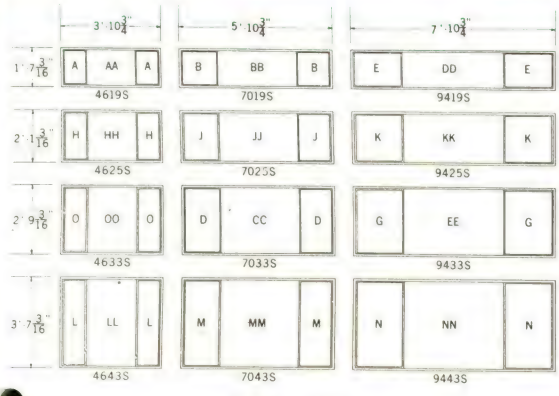
GLASS SIZES

A 10 x 16	K 26 x 22	S 22¼ x 23
B 16 x 16	L 26 x 30	T 22¼ x 31
C 16 x 22	M 26 x 40	U 22¼ x 41
D 16 x 30	N 10¼ x 17	V 26¼ x 17
E 22 x 16	O 16¼ x 17	W 26¼ x 23
F 22 x 22	P 16¼ x 23	X 26¼ x 31
G 22 x 30	Q 16¼ x 31	Y 26¼ x 41
H 22 x 40	R 22¼ x 17	Z 16 x 40
J 26 x 16		ZZ 16¼ x 41



GLASS SIZES (recommended)

A 44½ x 17	E 52½ x 17
B 44½ x 23	F 52½ x 23
C 44½ x 31	G 52½ x 31
D 44½ x 41	H 52½ x 41



GLASS SIZES

A 10 x 16	J 16 x 22	AA 24 x 17	JJ 36 x 23
B 16 x 16	K 22 x 22	BB 36 x 17	KK 48 x 23
D 16 x 30	L 10 x 40	CC 36 x 31	LL 24 x 41
E 22 x 16	M 16 x 40	DD 48 x 17	MM 36 x 41
G 22 x 30	N 22 x 40	EE 48 x 31	NN 48 x 41
H 10 x 22	O 10 x 30	HH 24 x 23	OO 24 x 31

SPECIFICATIONS

GENERAL Windows shall be Residential Traverse type as furnished by Reynolds Metals Company and shall conform to the Aluminum Window Manufacturers Association Specifications as outlined in Section I (or with design and/or engineering changes which will provide the user with equal or superior operation, appearance and service). Sizes and types shall be as shown on the general plans.

MATERIAL Sections shall be especially designed aluminum extruded shapes of 63S-T5 alloy having an ultimate tensile strength of not less than 22,000 *psi,* with a minimum thickness of .062″.

CONSTRUCTION Frame corners shall be securely connected by means of non-magnetic stainless steel screws, and further sealed with an approved caulking compound. Sash will slide in a separate sill track which will be fastened to the frame sill member by means of non-magnetic stainless steel screws.

The tubular sill section thus formed (Aqua-Seal) will provide for condensation run-off, drainage of sash grooves, and "sealing" of the window against air, moisture and dirt during severe climatic conditions.

All frame sections shall have a specially designed leg to provide for retention of caulking compound about the window perimeter.

Frames of the single sash type shall have the meeting rail securely fastened to the frame and caulked with an approved caulking mastic.

Sash members shall be assembled by means of extruded aluminum corner angles tightly fitted and secured with aluminum screws.

Sash shall be weatherstripped and shall glide on, a wool pile material covering a stainless steel channel, which shall be securely attached to the top and bottom horizontal sash members by means of aluminum screws.

Vertical members of sash shall, when in the closed and locked position, engage a neoprene extruded weatherstrip inserted into the frame jamb member.

Sash meeting rails shall be designed with interlocking contacts and an extruded neoprene tube which shall provide positive and efficient weathertightness for the entire length of the rail.

An aluminum guide of special design shall be provided at the head of each sash, attached to the frame, which shall prevent removal of the sash when in the closed and locked position, and provide a third point of contact with the weatherstrip glide material when the window is in operation.

These channels shall be provided with a neoprene weatherstrip gasket at meeting rail end, to prevent influx of air and/or water at these points.

On double vent windows both the top and bottom of the meeting rail shall be sealed with a neoprene molded shape, securely fastened to the frame to further prevent influx of air and water.

Sash members shall be accurately manufactured and fitted and shall be easily removed from the frame for cleaning or reglazing purposes, when in the unlocked position.

HARDWARE Interior moveable sash shall be equipped with stainless steel latch, and the exterior sash whether fixed or moveable shall be equipped with a stainless steel keeper.

Both are especially designed for trouble-free positive locking operation.

AIR INFILTRATION The infiltration of air through the window shall not exceed one third cubic foot (.330) per minute per linear foot of sash perimeter at a pressure equivalent to a wind velocity of 25 mph.

Evidence of this compliance from an impartial accredited testing laboratory shall be furnished upon request.

COMBINATION WATER-AIR INFILTRATION Window, when subjected to the simulated Hurricane condition as stipulated by the Florida Window Manufacturing Association, shall not exceed .15 cubic feet of air infiltration per minute per foot of crack perimeter and .001 gallons of water infiltration per minute per foot of crack perimeter.

FINISH All windows shall have a "Satinized finish", and a protective coating of a lime-resistant, water-white, mythacrylate-type lacquer, dip applied after chemical cleaning.

ERECTION All window frames shall be set by others without springing, forcing, or distortion in accordance with the manufacturers recommendations. Head and sill shall be aligned, parallel and square with jambs. A non hardening mastic, provided by the window erector, shall be used in sufficient quantity to provide a watertight seal between window and surrounding construction. In no case use non-compatible material with aluminum. Where unprotected aluminum comes into contact with lime-content masonry, the surfaces shall be coated by others with an approved type lacquer or a bitumastic paint.

GLASS INSTALLATION All windows, except picture windows, shall be furnished with single or double strength glass set into neoprene or vinyl strips of Reynolds Metals Company special design.

SCREENS AND STORM SASH Single piece screens shall be provided for all openings of sliding sash. Windows with single sliding sash require a half screen, and double sliding sash a full screen.

Screen frames shall be of Reynolds Metals Company special designed tubular aluminum sections securely joined at corners by force-fit inserts. Screen cloth shall be aluminum of an 18-14 mesh. Screens of both types shall be designed to permit installation from the interior and shall be furnished by the manufacturer (at extra cost).

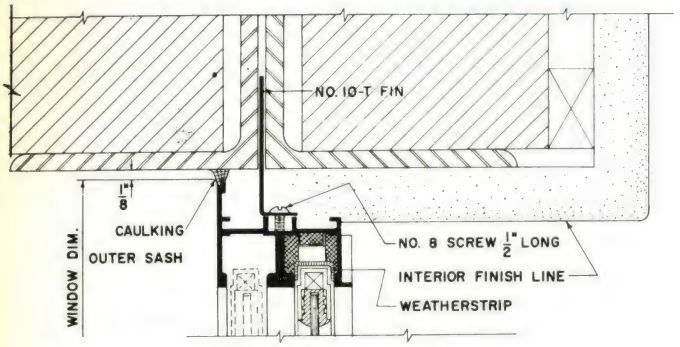
Storm sash panels shall be designed to cover entire window area. Glass shall be bedded in a neoprene or vinyl-type extrusion which shall extend around the storm sash frame and provide a complete seal between storm sash and window frame. Storm sash frame shall be aluminum with a minimum thickness of .062″. Storm sash shall be furnished by the manufacturer when specified (at extra cost).

TRAVERSE (HORIZONTAL SLIDING)

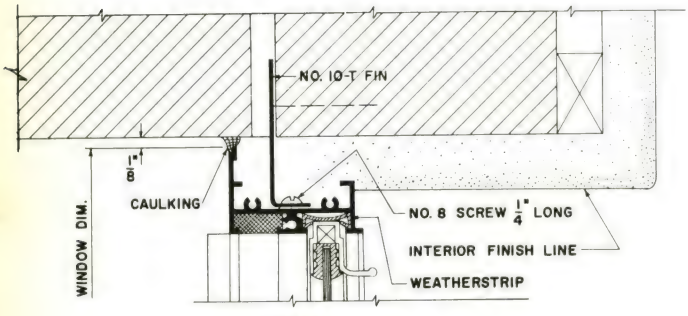


REYNOLDS

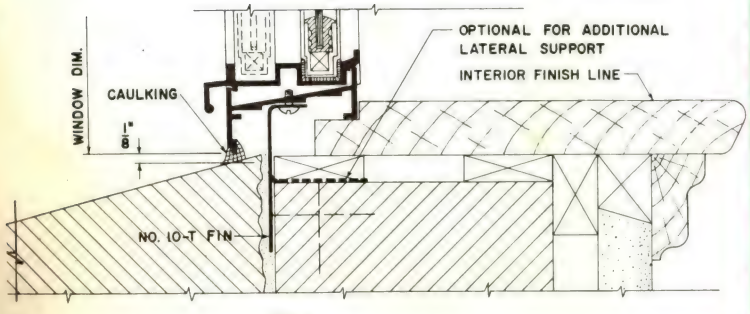
SOLID BRICK



HEAD

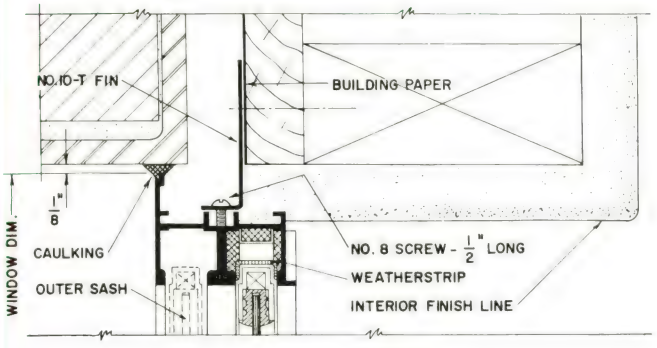


JAMB

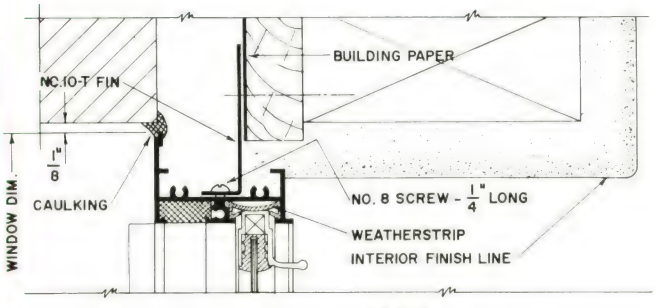


SILL

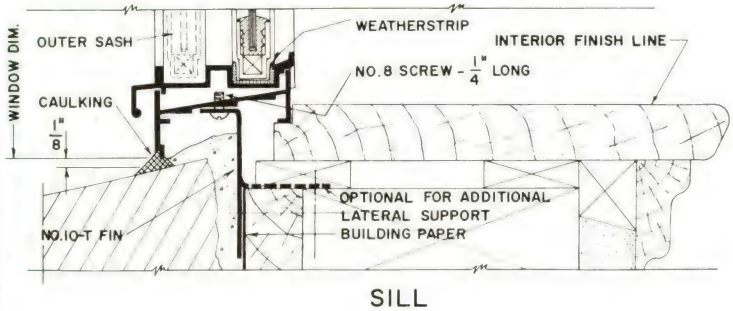
BRICK VENEER



HEAD



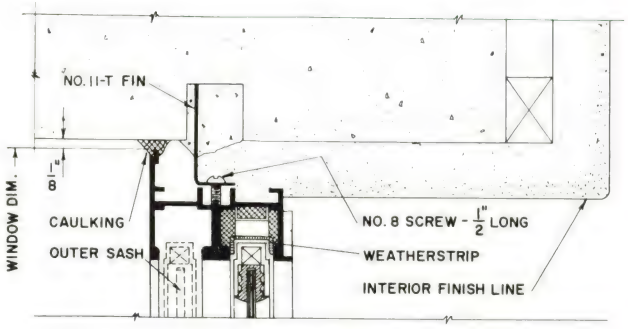
JAMB



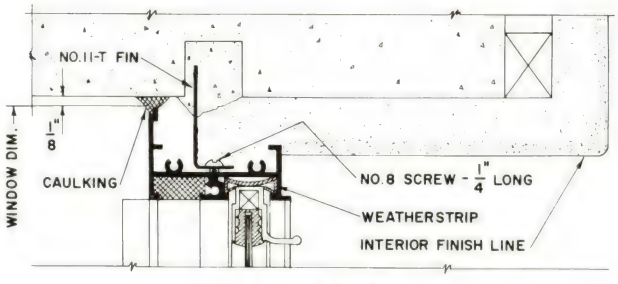
SILL

ALUMINUM WINDOWS

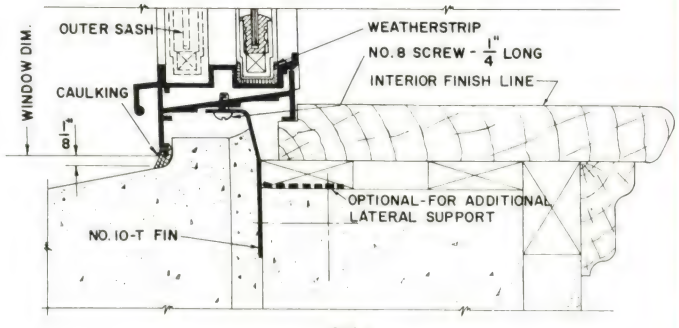
CONCRETE OR CONCRETE BLOCK



HEAD

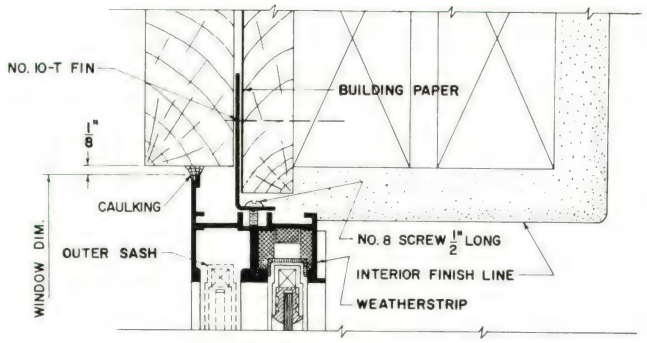


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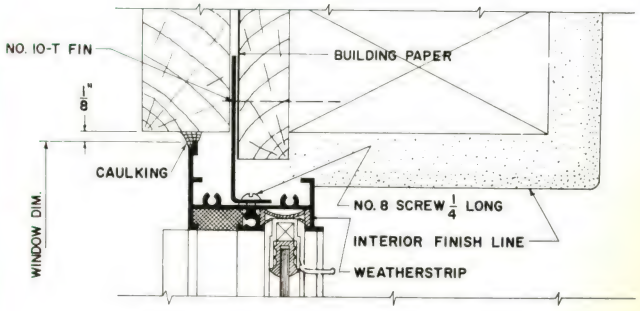


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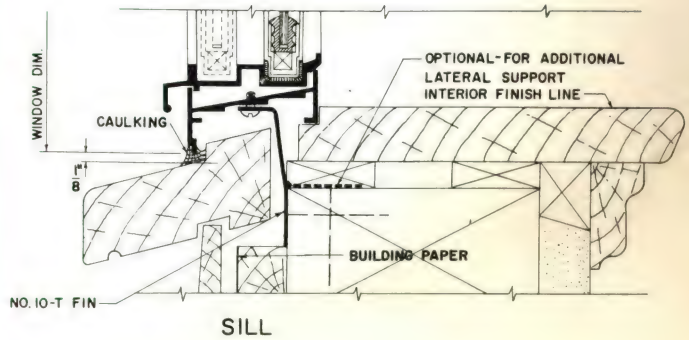
FRAME



HEAD



JAMB



SILL

AWNING



REYNOLDS ALUMINUM

UNMATCHED BEAUTY
CONVENIENCE AND PERFORMANCE

Here is a window that's truly "easy to live with". Home owners appreciate its complete freedom from upkeep, its lifetime beauty and its smooth, trouble-free operation. Women are quick to compliment its ease of cleaning. Even the top vent drops down to permit washing both sides of the glass from the inside.



QUICK, POSITIVE CLOSING

Improved Reynolds Roto-operator requires only a few turns to move vents from closed to full open—holds all vents rigid in any position—does not interfere with blinds, drapes, screens or storm sash. (Heavy duty operator available for windows with double insulating glass.)



QUICK-CLIP SCREENS AND STORM WINDOWS

Standard size screens require no fitting, no marking for storage. Ventilated or fixed storm sash also available. Both fit flush inside frame.

MAXIMUM VENTILATION

Here's the perfect "warm weather" window, permitting 100% controlled ventilation. Catches summer breezes from every angle with opening of complete window area.

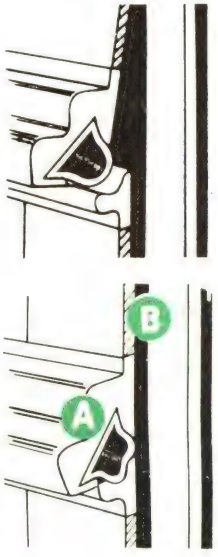


SHOWER INSURANCE

Special awning-type construction "sheds" water, yet allows ventilation at the same time. Reynolds Awning Windows give you protection against quick summer showers—even with the windows open!

CROSS-LAP WEATHERSTRIPPING

Every closing surface is protected against air and water infiltration by special vinyl weatherstripping. Top illustration at right shows vent open. When vent is closed and locked (bottom illustration) this elastic material is compressed to provide an effective weather seal. For extra protection, horizontal weather-stripping (A) "cross-laps" vertical weatherstripping (B) at all corner joints.



THE MAINTENANCE-FREE WINDOW THAT LETS YOU DECIDE THE WEATHER

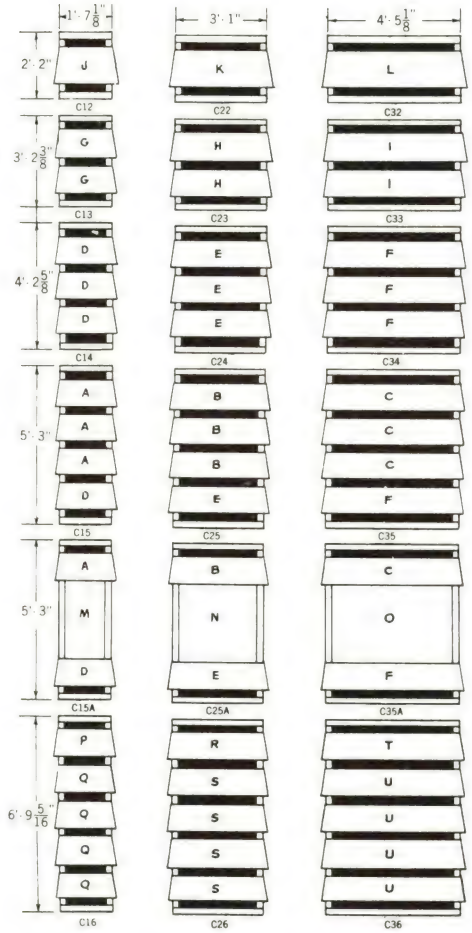
WINDOWS

- Fixed (Picture window) units can be made up to any desired size
- Standard widths and heights available from stock
- All window dimensions shown are to outside of window flanges
- Picture window glass sizes may be determined from details on opposite page

STANDARD GLASS SIZES

A	14¾ x 12⅞	H	32⅝ x 15½	O	48¾ x 27 5/16
B	32⅝ x 12⅞	I	48¾ x 15½	P	14¾ x 11 7/16
C	48¾ x 12⅞	J	14¾ x 20⅛	Q	14¾ x 14 7/16
D	14¾ x 13⅞	K	32⅝ x 20⅛	R	32⅝ x 11 7/16
E	32⅝ x 13⅞	L	48¾ x 20⅛	S	32⅝ x 14 7/16
F	48¾ x 13⅞	M	14¾ x 27 5/16	T	48¾ x 11 7/16
G	14¾ x 15½	N	32⅝ x 27 5/16	U	48¾ x 14 7/16

Consult Reynolds Metals Company before installing double insulating glass in awning widows.

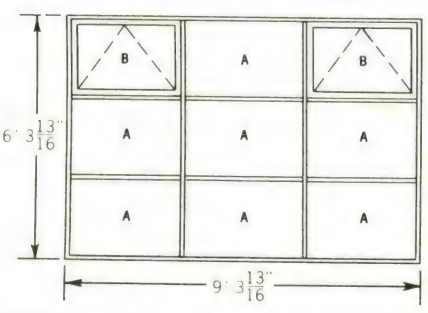


RANCH TYPE WINDOWS

- NON LOAD BEARING
- VENT LOCATION OPTIONAL

GLASS SIZES

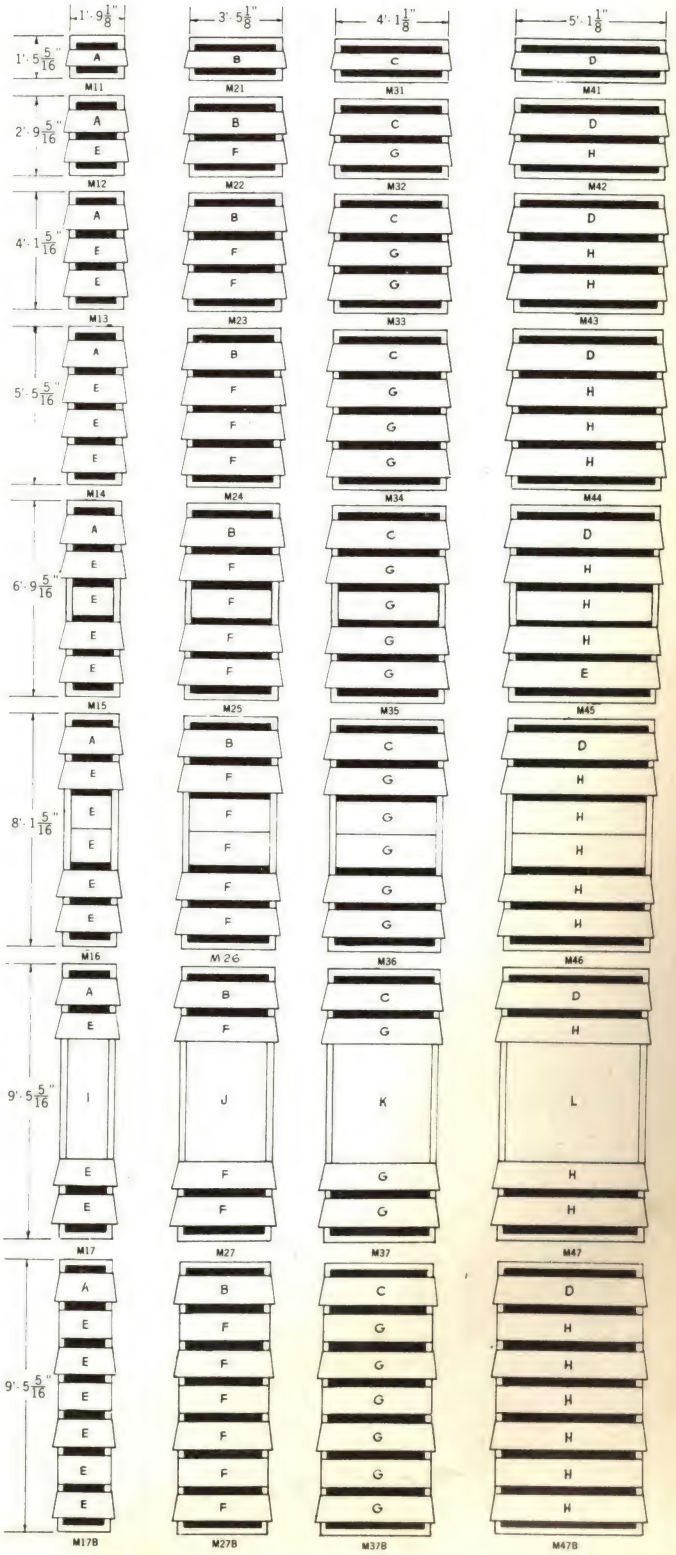
D S GLASS	½" DOUBLE INSULATING GLASS
A 36 x 24⅛	A 36 x 24
B 34 1/16 x 22 3/16	B 34 1/16 x 22 1/16



Reynolds Ranch Type Windows are fabricated from Z-bar sections (see page 6). Vents are manually operated.

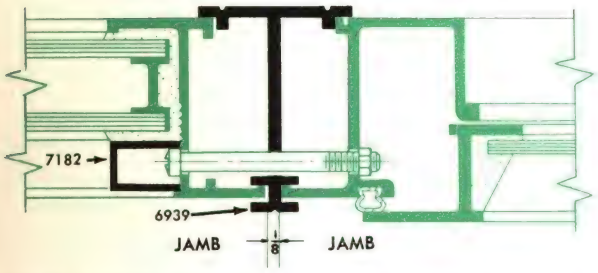
ARCHITECTURAL GLASS SIZES

A	16¾ x 11 7/16	E	16¾ x 14 7/16	I	16¾ x 46 7/16
B	36¾ x 11 7/16	F	36¾ x 14 7/16	J	36¾ x 46 7/16
C	44¾ x 11 7/16	G	44¾ x 14 7/16	K	44¾ x 46 7/16
D	56¾ x 11 7/16	H	56¾ x 14 7/16	L	56¾ x 46 7/16





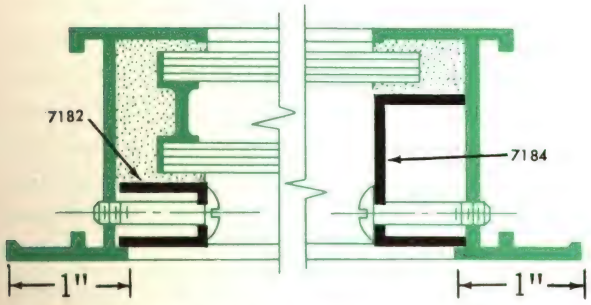
STANDARD 180° MULLION



PICTURE WINDOW DIMENSION ⊣ ⊢ AWNING WINDOW DIMENSION

To determine glass size, subtract 2¼" from height and width.

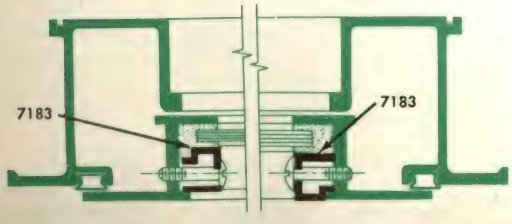
GLAZING BEADS



Glazing bead #7182 for use with 1" double-insulating window in picture window frame.

Glazing bead #7184 for use with either ⅛" or ¼" glass in picture window frame.

Glazing beads furnished by Reynolds Metals Company when requested and at extra cost. Beads to be cut and installed by others.



Universal glazing bead #7183 as used with ⅛" glass on vent section. Glass to be cut and installed in awning window by others.

Note how same bead (#7183) reverses to accommodate ¼" glass. Either beads or glazing compound may be used on all Reynolds Awning Windows.

Glazing beads furnished by Reynolds Metals Company when requested and at extra cost.

SPECIFICATIONS

GENERAL Windows shall be Residential Aluminum Awning Windows as furnished by the Reynolds Metals Company and shall conform to the Aluminum Window Manufacturers Association Specification A-A1 (or with design and/or engineering changes which will provide the user with equal or superior operation, appearance and service). Sizes and types shall be as shown on the general plans.

MATERIALS Main frame and sash members, including sills, shall not be less than .062" in thickness. Detached hardware and sliding shoes having component parts which are exposed shall be aluminum, non-magnetic stainless steel, or other non-corrosive materials which are compatible with aluminum and of sufficient strength to perform the functions for which they are used. Bronze hardware may be used provided that it have a heavy deposit of chrome plate and is properly insulated from direct contact with the aluminum.

HARDWARE Satisfactory hardware shall be provided to control and securely lock the ventilators. Detached hardware shall consist of roto-type operator for crank type operation or locking handle for manual operation of ventilators in unison or sequence.

PERFORMANCE REQUIREMENTS

Physical Load Tests

NOTE: Sample window submitted for Physical Load Tests shall be of standard construction of manufacturer's largest standard size containing maximum number of largest standard size ventilators.

A. HORIZONTAL DEFLECTION TEST on ventilators installed in window frame, closed and locked, without muntins, unglazed. A concentrated load of 20 pounds acting individually on each lower corner of all ventilators shall not cause a deflection at the corner greater than ⅜ inches, and at the conclusion of the test the ventilators shall properly close and operate.

NOTE: Load of 20 pounds arbitrarily chosen to establish this standard test.

B. HARDWARE LOAD TEST on ventilators. Standard window having ventilators of manufacturer's largest standard size shall be securely mounted in such a position that when ventilators are opened to their fullest extent they will be horizontal. The hardware shall be strong enough to support a uniform load equivalent to a wind velocity of 45 miles per hour, and at the conclusion of the test the operators shall function in such a manner as to satisfactorily close and weather the ventilators. There shall be no failure of screws, hardware parts or permanent deformation of arm allowed.

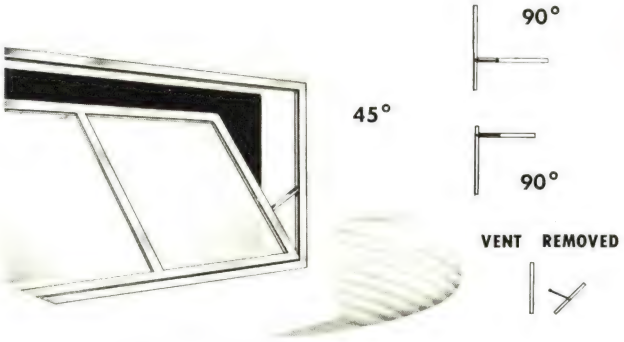
C. UNIFORM LOAD TEST on complete unit. A glazed window with ventilators closed and locked shall be continuously supported around the outside perimeter and securely anchored. When subjected to an exterior uniform load of 10 pounds per square foot, applied perpendicular to and on the surface corresponding to the outside of the window, no member of a window unit or vertical or horizontal mullions, shall deflect more than 1/175 of its span.

Air Infiltration Test

When tested in accordance with the procedure as outlined in Section 1 under AIR INFILTRATION, AWMA Specifications, the air infiltration shall not exceed one cubic foot per minute per foot of crack length with ventilators in closed position and locked. The window tested shall be of a nominal size of 3' wide x 4' high and shall be 100% ventilated, using manufacturer's standard ventilator arrangement.

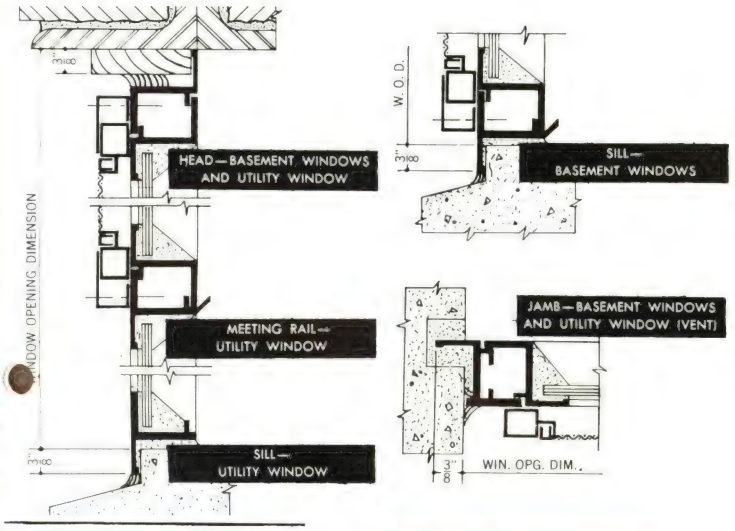


REYNOLDS ALUMINUM WINDOWS

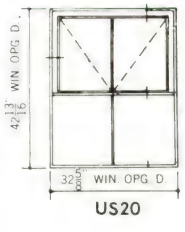


BUILT OF SECTIONS SPECIFICALLY ENGINEERED FOR BASEMENT WINDOWS

Other features: Serrated edges that grip masonry, double contact between window vent and frame, removable vent for easy cleaning, two guide arms to hold vent rigid in all open positions, no over-lapping edges—vent and frame fit flush inside and out.

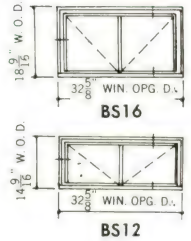


UTILITY WINDOW

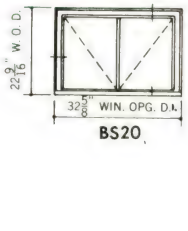


US20

BASEMENT WINDOWS



BS16



BS20

BS12

GLASS SIZES

US20 (vent)—15 x 20
US20 (fixed)—15½ x 20
BS20—15 x 20
BS16—15 x 16
BS12—15 x 12

SPECIFICATIONS

GENERAL Windows shall be Aluminum Basement and/or Utility type as manufactured by the Reynolds Metals Company and designed for use in basements, garages, areaways, etc. (or with design and/or engineering changes which will provide the user with equal or superior operation, appearance and service). Sizes and types shall be as shown on the general plans.

MATERIAL Sections shall be especially designed aluminum extruded shapes of 63S-T5 alloy having an ultimate tensile strength of not less than 22,000 *psi*, with a minimum thickness of .062″. Frame and ventilator sections shall be Z-Sections 1″ in depth with offset weathering.

CONSTRUCTION All corners shall be of the mortise and tenon type, securely riveted to provide sturdy tight corners. Vent arms shall be securely riveted to ventilator and slide in the frame tracks which shall be an integral part of the frame jamb extrusions. Frame members under the ventilator shall contain two weep holes to allow for water run off. Vent shall open in at the top and pivot on the sill to a 45 degree angle. They shall further open to 90 degrees at any location on the frame from center of window frame to top. Vents shall also be designed for complete removal, if necessary, for cleaning of glass or to permit use of a clear opening for passage or materials to and from the basement. Sections shall provide continuous double contact between frame and ventilator members. Sections shall be designed so as to provide a flush surface on both the interior and exterior. In no case shall the ventilator overlap the outside or inside face of frame. All window sections shall be provided with serrated edges to insure the adherence of either glazing compound or grouting material.

HARDWARE Each window shall be provided with a cam-type catch of aluminum riveted to the head of the ventilator which will pivot about a riveted pin to securely close and lock the window. Catch shall come attached to window.

FINISH All windows shall have a "Satinized" finish and a protective coating of a lime-resistant, water-white, methacrylate-type lacquer, dip applied after chemical cleaning.

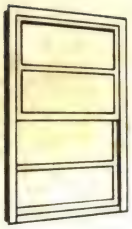
ERECTION All windows shall be set by others level, plumb and square without springing, forcing or distortion, in accordance with the manufacturer's standard recommendations. When possible, windows shall be installed in the closed and locked position to insure proper ventilator alignment. Mastic provided by the window erector shall be used in sufficient quantity to provide a weather-tight seal between windows and surrounding construction. All such joints must be thoroughly caulked. In no case use non-compatible materials with aluminum. Where unprotected aluminum comes into contact with lime-content masonry, the surfaces shall be coated by others with an approved type lacquer or bitumastic paint.

GLAZING All windows are factory adjusted; but prior to glazing, window shall be inspected to insure that ventilators correctly seat and weather as per manufacturer's recommendations. If found incorrect, windows should be adjusted prior to the application of glass and compound. (This work not by Reynolds Metals Company.) All windows shall be putty glazed from the inside with an approved type aluminum window glazing compound, or bead glazed (beads furnished by Reynolds Metals Company at extra cost) on the inside as per manufacturer's recommendations. When using compound, glass shall be carefully bed-puttied and face-puttied in a neat manner, being secured with spring-type clips provided by the glazing contractor (not R.M.C.).

SCREENS AND STORM SASH Screens of the flat, fixed type shall be easily applied to, and removed from, all openings from the outside. Screen frames shall be tubular aluminum sections .75″ in thickness and .438″ in depth, securely joined at corners by force-fit inserts with a minimum thickness of .091″. Screen cloth shall be aluminum of an 18-14 mesh. Screens shall be furnished by the manufacturer (at extra cost).

Storm sash panels of a flat, fixed type shall be easily applied to, and removed from, the outside and shall cover entire window area. Glass shall be bedded in a neoprene or vinyl-type extrusion, which shall extend around the storm sash frame and provide a complete coverage between storm sash and window frame. Storm sash shall be furnished by the manufacturer (at extra cost).

DOUBLE-HUNG

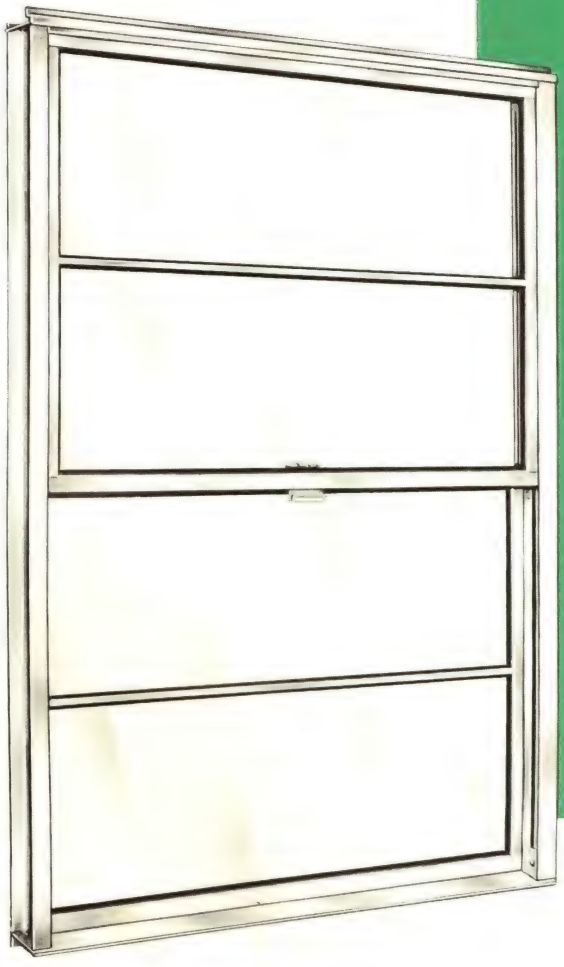


REYNOLDS ALUMINUM

NOW! NEW ENGINEERING, NEW BEAUTY

PLUS - TRADITIONAL STYLING . . . IN REYNOLDS SUPERIOR NEW DOUBLE-HUNG WINDOW!

Here's the most familiar window style—with new improvements that make its performance as modern as tomorrow! Reynolds window engineers have added even greater beauty and weather-tightness to double-hung windows. What's more, they've increased the ease of operation, too. Add to this the maintenance-free advantages of Reynolds Aluminum itself—and you will know why Reynolds Double-Hung Windows are the outstanding value in their field.



HERE ARE ADVANTAGES NO OTHER DOUBLE-HUNG WINDOW CAN MATCH!

NEW HARDWARE

New spiral balances assure fingertip control and smooth, quiet operation. Each balance is sealed in an aluminum tube—yet tension can easily be adjusted at any time. New extruded pull handle. Stainless steel adjustable sweep locks, dust guards, screws and double-contact jamb weatherstripping.

NEW FRAME SECTIONS

New frame design makes these double-hung windows stronger and more rigid than ever before and readily adaptable to all standard types of construction. All frame joints are secured with stainless steel screws.

NEW BEAUTY

New sash design allows greater areas of light and vision. New exterior fin trim is available. Picture windows can be supplied in all standard sizes. Exclusive Reynolds "Satinized" finish adds the finishing touch to make these the most beautiful double-hung windows you can install!

ALUMINUM SCREENS AND STORM SASH

A complete line of standard size screens and storm sash is available for Reynolds Aluminum Double-Hung Windows. Both attach flush to outside of window frame and are easily installed from the inside. No marking for storage is necessary.

NEOPRENE GLAZING

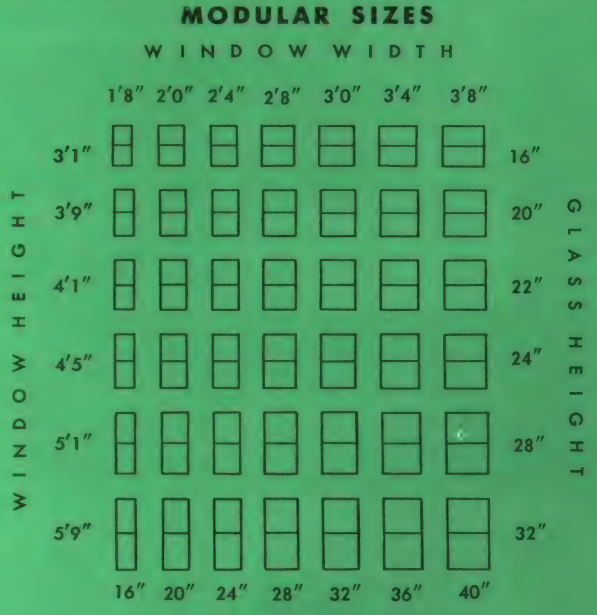
Glazing with neoprene extrusions cushions the glass and improves the appearance of Reynolds Aluminum Double-Hung Windows. When reglazing, cost of compound removal is eliminated and same glazing strips can be re-used. Windows may be compound-glazed if desired.

A COMPLETE WINDOW

When you compare window prices be sure to find out the total cost of a window installed—completely fitted with hardware, balances, and weatherstripping. There are no extras to buy, or install, with Reynolds Aluminum Double-Hung Windows.

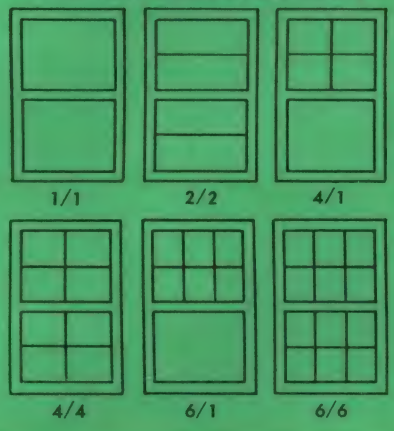
WINDOWS

MODULAR SIZES



For glass sizes of muntin arrangements other than 1/1 deduct ⅜" for each muntin bar.

MUNTIN ARRANGEMENTS



STYLE NUMBERS Style numbers are made up of the width and height respectively in feet and inches. Example: a window 2'8" wide, 4'5" high and glazed with muntin arrangement 6/6 is designated style #2845—6/6.

ROUGH OPENING For rough opening width of single window add 1¾" to window widths as shown above; for mullioned windows add additional ⅝" for each 180° non load-bearing mullion or 4½" for each load-bearing mullion.

For rough opening height add ⅞" to the window heights as shown above for windows with tape balances.

FINISHED OPENING Finished window opening widths of single window are window widths as shown above plus ½"; for mullioned windows add an additional ⅝" for each 180° non load-bearing mullion, or 4½" for each load-bearing mullion. Finished window opening heights are window heights as shown above plus ¼". Outside frame dimensions are ½" wider and ¼" higher than window dimensions shown above.

FULL SIZE INSTALLATION DETAILS ARE AVAILABLE UPON REQUEST.

GENERAL Windows shall be Residential Double Hung as furnished by Reynolds Metals Company and shall conform to the Aluminum Window Manufacturers Association specifications DH-A1 (or with design and/or engineering changes which will provide the user with equal or superior operation, appearance and service). Sizes and types shall be as shown on the general plans.

MATERIAL Sections shall be especially designed aluminum extruded shapes of 63S-T5 alloy having an ultimate tensile strength of not less than 22,000 *psi.* All sections shall be commercially .062" thick. Frame members shall be not less than 3¼" deep.

CONSTRUCTION Frame and sash corners shall be securely connected by means of non-magnetic stainless steel screws, and are to be fitted together in such a manner as to form a hairline, weather-tight joint. Further, the junction of the sill and side frame member shall be sealed with an approved caulking compound. The window is to be equipped with double contact stainless steel vertical weatherstripping. Horizontal weatherstripping shall be Neoprene extrusions.

Where two or more members are to be installed in a single wall opening, provision shall be made to assemble the abutting frame members into a structurally satisfactory vertical mullion. Window frames shall be especially prepared to take full screens, half screens and storm windows.

HARDWARE The windows shall be equipped with adjustable spiral balances which will hold the window stationary at any open position. Windows shall have continuous lift on lower sash, with one extruded pull down handle on upper sash for sash up to and including 3'4" width (2 handles and 2 locks on sash over 3'4" in width). Windows will have stainless steel locks and dust guards.

FINISH All windows shall have a "Satinized finish", and a protective coating of a lime-resistant, water-white, mythacrylate-type lacquer, dip applied after chemical cleaning.

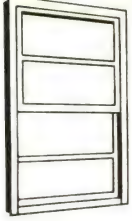
ERECTION The erection contractor shall set all windows straight, plumb and level, shall securely anchor them in place and install them according to the manufacturers' standard recommendations. The caulking contractor shall apply an approved caulking compound in the rebate between the window frame and adjacent construction materials. In no case use non-compatible material with aluminum.

GLAZING Sash will be glazed at the factory with either single strength or double strength glass and Neoprene extrusions in accordance with customer's specifications. Windows shall be suitable for site glazing with glazing compound, as well. Muntin bars shall be firmly secured at the cross-joints and at the ends where attached to the abutting sash.

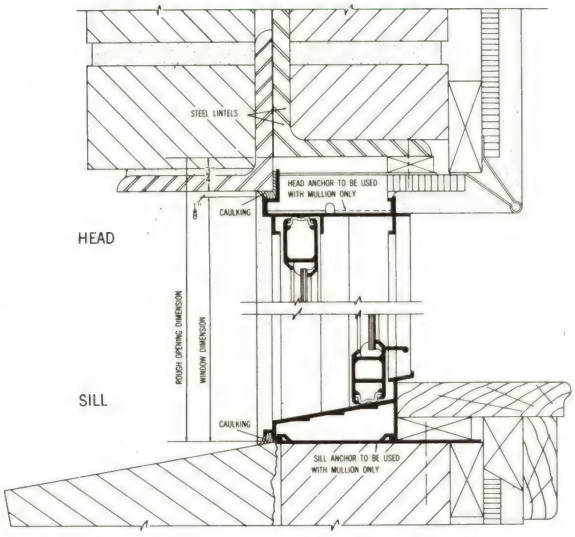
SCREENS AND STORM SASH Full (or half) screens of the flat, fixed type and storm sash shall be easily applied to and removed from all openings from the inside. Screens and storm sash shall be furnished by the manufacturer (at extra cost).

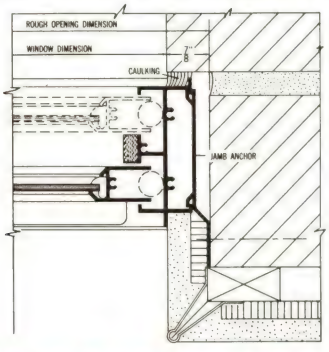
FIN TRIM The jambs, head and sill of the windows are to be equipped with an extruded Fin Trim (at extra cost). The Fin Trim is to be securely attached to the window frame.

DOUBLE-HUNG

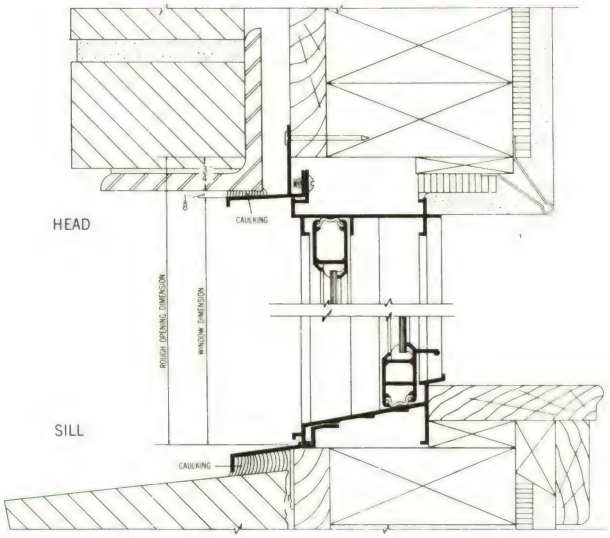


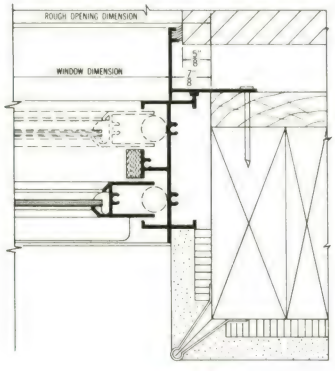
SOLID BRICK



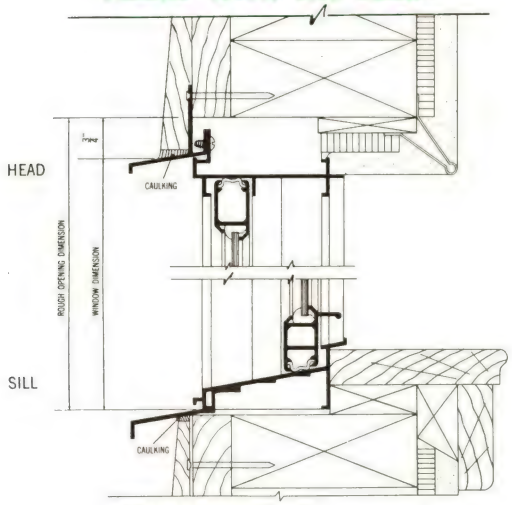


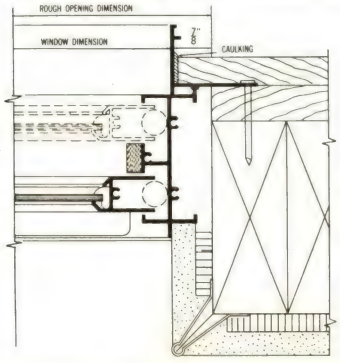
BRICK VENEER WITH FIN TRIM



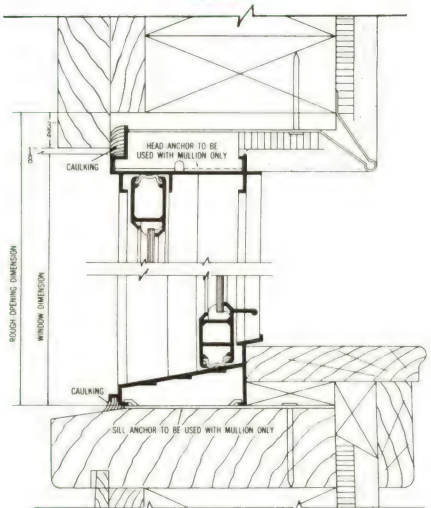


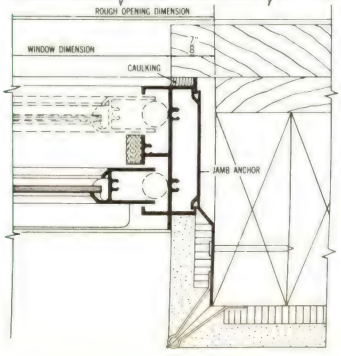
FRAME WITH FIN TRIM

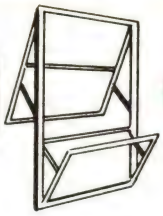




FRAME







Designed for long life and maintenance-free service



in Schools

in Hospitals

in Factories

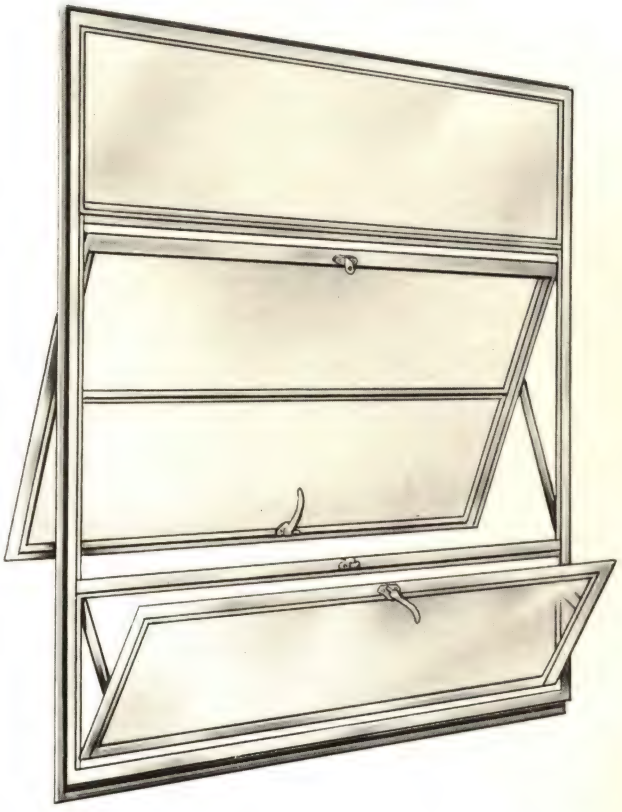
in Offices

in Apartments

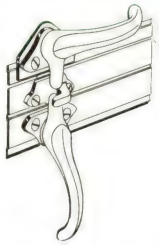
Here are modern, practical all-aluminum windows specifically designed for institutional, industrial and apartment use. Beautiful new Reynolds Intermediate Projected Windows combine minimum maintenance with lifetime serviceability. Add such other advantages as the modern appearance, flush-inside-and-out frames, structural strength, and functional operation—and you have America's most useful intermediate windows.

Reynolds 600 Series Intermediate Projected Windows are the only windows of their type with a *completely electrically flash welded frame.* This, plus an adjustable friction shoe and nylon slide, means still greater durability and maximum performance through the years. These new Reynolds windows are available with or without complete neoprene perimeter weatherstripping, an optional feature which can mean important savings in heating and air conditioning costs.

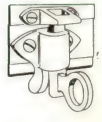
Ease of installation is still another advantage. Reynolds 600 Series Intermediate Projected Windows have serrated webs and glazed compound retaining lips to make glazing easier and more secure. All glazing is done from the outside with the use of glazing compound or glazing beads.



CORROSION-PROOF HARDWARE TO MATCH THE LONG LIFE OF THE WINDOW



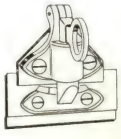
LOCKING HANDLE



SPRING LATCH



SPRING LATCH



SPRING LATCH

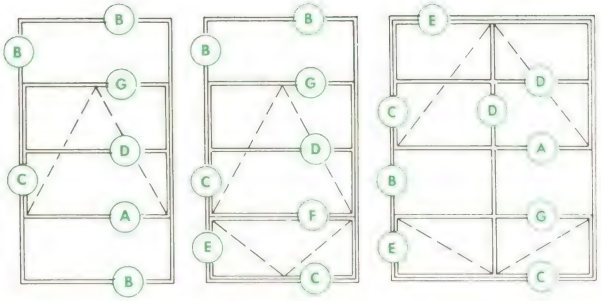


HOOK RING

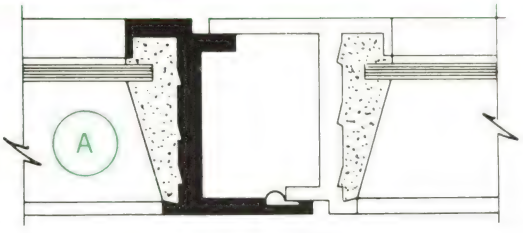


	2'0⅞"	2'8⅞"	3'4⅞"	3'8⅞"	4'0⅞"	5'0⅞"	5'0⅞"
1'5"	PJ11	PJ31	PJ51	PJ71	PJ91	PJ111	PJ131
1'7⅛"	PJ12	PJ32	PJ52	PJ72	PJ92	PJ112	PJ132
2'9"	PJ13	PJ33	PJ53	PJ73	PJ93	PJ113	PJ133
2'9"	PJ14	PJ34	PJ54	PJ74	PJ94	PJ114	PJ134
4'1"	PJ15	PJ35	PJ55	PJ75	PJ95	PJ115	PJ135
4'1"	PJ16	PJ36	PJ56	PJ76	PJ96	PJ116	PJ136
5'5"	PJ17	PJ37	PJ57	PJ77	PJ97	PJ117	PJ137
5'5"	PJ18	PJ38	PJ58	PJ78	PJ98	PJ118	PJ138
6'9"	PJ19	PJ39	PJ59	PJ79	PJ99	PJ119	PJ139
8'1"	PJ20	PJ40	PJ60	PJ80	PJ100	PJ120	PJ140
8'1"	PJ21	PJ41	PJ61	PJ81	PJ101	PJ121	PJ141
8'1"	PJ22	PJ42	PJ62	PJ82	PJ102	PJ122	PJ142
9'5"	PJ23	PJ43	PJ63	PJ83	PJ103	PJ123	PJ143

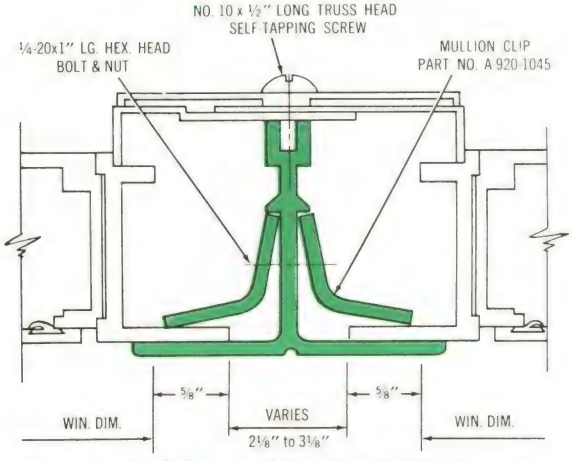
600 Series Intermediate Windows are available with vertical and/or horizontal muntins. Picture windows are also available.
600 Series Intermediate Windows will be manufactured to architects' specifications in any size and in any combination of fixed and operating panels within the limits of the materials.



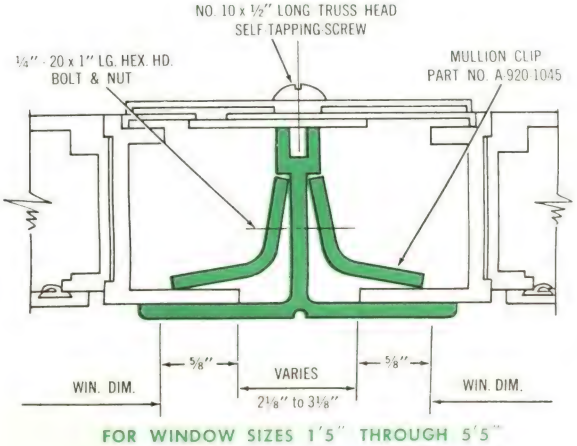
CROSS SECTION DETAILS



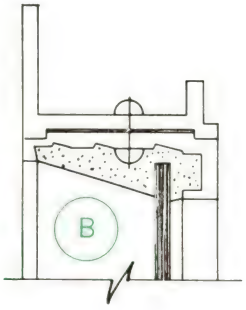
ADJUSTABLE MULLION ASSEMBLIES

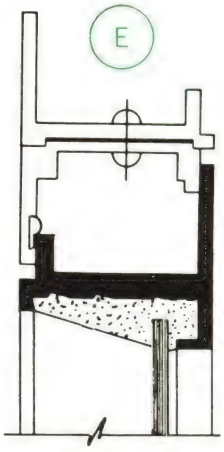


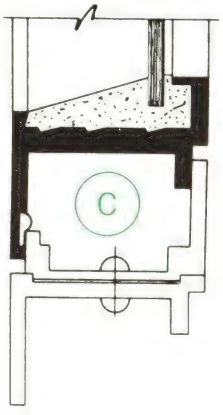
FOR 6'9" AND 8'1" WINDOWS ONLY

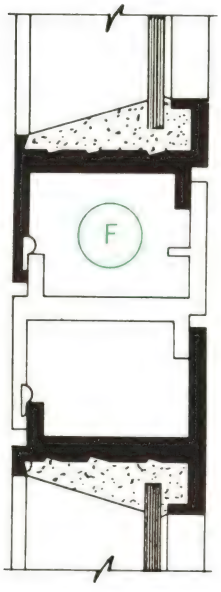


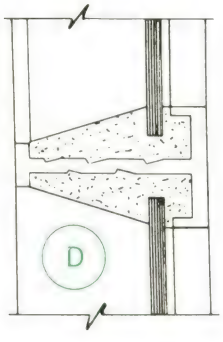
FOR WINDOW SIZES 1'5" THROUGH 5'5"

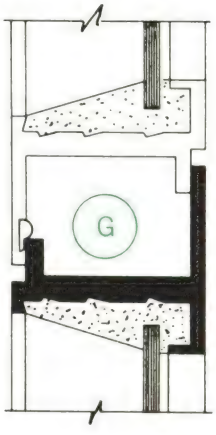












GENERAL Windows shall be Intermediate aluminum projected types of the 600 Series as manufactured by the Reynolds Metals Company and shall conform to the Aluminum Window Manufacturers Association specifications C-A2 and P-A2 (or with design and/or engineering changes which will provide the user with equal or superior operation, appearance and service). Sizes and types shall be as shown on the general plans.

MATERIAL Window sections shall be especially designed aluminum extruded shapes of 63S-T5 alloy having an ultimate tensile strength of not less than 22,000 *psi,* with a minimum thickness of $\frac{1}{8}$". Where weathering is applied, combined wall thickness shall be a minimum of $\frac{3}{16}$". Overall depth of any frame or ventilator section shall be not less than $1\frac{5}{8}$".

CONSTRUCTION FRAME Corners shall be of electrically flash-welded construction and all welds shall be factory dressed in a neat and workmanlike manner to permit satisfactory weathering. Muntin bars shall be firmly attached at their cross joints and to their abutting sash section. Continuous weathering shall be provided as an integral part of the sections between the frame and all ventilators. All surfaces to be glazed shall have putty retaining lips of not less than $\frac{1}{8}$" and serrated webs for compound retention.

VENTILATORS Corners of all ventilators shall be electrically flash-welded except where dissimilar shapes are joined (top corner of project-out ventilator, bottom corner of project-in ventilator). These corners shall be of mortise and tenon construction securely riveted.

Project-in and project-out vents shall open on adjustable sliding pivots with non-abrasive friction shoes with concealed compression springs, and balance arms. Project-in ventilators open in at top, project-out ventilators out at bottom. Ventilators shall have about their entire perimeter an extruded groove on the exterior contact between frame and ventilator for insertion of a vinyl or neoprene weatherstrip channel of special design, which can be furnished if specified.

Frame and ventilator sections shall provide for continuous double contact between frame and ventilators. Sections shall be designed so as to provide a flush surface on both the interior and exterior free of any protruding ends or corners.

HARDWARE Each projected window shall be furnished, where required, with complete operating hardware of aluminum, or of a non-corrosive material. Keepers, vent guides, and necessary screws shall be of aluminum or non-magnetic stainless steel. All hardware shall be attached at point of manufacture, except operator and handles which are easily assembled after window installation. Operator and handle shall operate without interference with screen.

FINISH All windows shall have a "Satinized" finish, and a protective coating of lime-resistant, water-white, methacrylate-type lacquer, dip applied after chemical cleaning.

GLAZING All windows are factory adjusted; but prior to glazing, windows shall be inspected to insure that all ventilators correctly seat as per manufacturer's recommendations. If found incorrect, windows should be adjusted prior to application of glass and glazing compound. (This work not done by Reynolds Metals Company.) All windows shall be putty glazed from the outside with an approved type aluminum window glazing compound, or bead glazed as per manufacturer's recommendations (beads furnished by Reynolds Metals Company at extra cost). When using compound, glass shall be carefully bed-puttied and face-puttied in a neat manner, being secured with spring-type glazing clips provided by the glazing contractor (not Reynolds Metals Company).

ERECTION All windows shall be set by others level, plumb and square without springing, forcing, or distorting, in accordance with the manufacturer's standard recommendations. Mastic provided by the window erector shall be used in sufficient quantity to provide a weather-tight seal between windows and surrounding construction. All such joints must be thoroughly caulked. In no case use non-compatible material with aluminum. Where unprotected aluminum comes into contact with lime-content masonry, the surfaces shall be coated by others with an approved type lacquer or a bitumastic paint.

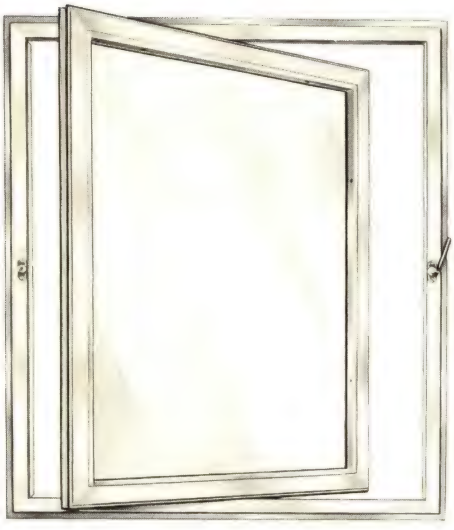
SCREEN All screens for project-out ventilators shall be of the fixed type, applied from inside with arrangements for thru-screen operation where required. All screens for project-in ventilators shall be of the flat, fixed type applied from outside. Screen cloth shall be aluminum of 18-14 mesh. Screens greater than 5′ in height shall be provided with a cross-supporting aluminum member. All windows are prepared for screens. All screens shall be furnished by Reynolds Metals Company at extra cost.

ANCHORS & CLIPS All anchors and clips shall be of aluminum or non-corrosive material with necessary screws and bolts, and shall be provided by Reynolds Metals Company (at extra cost).

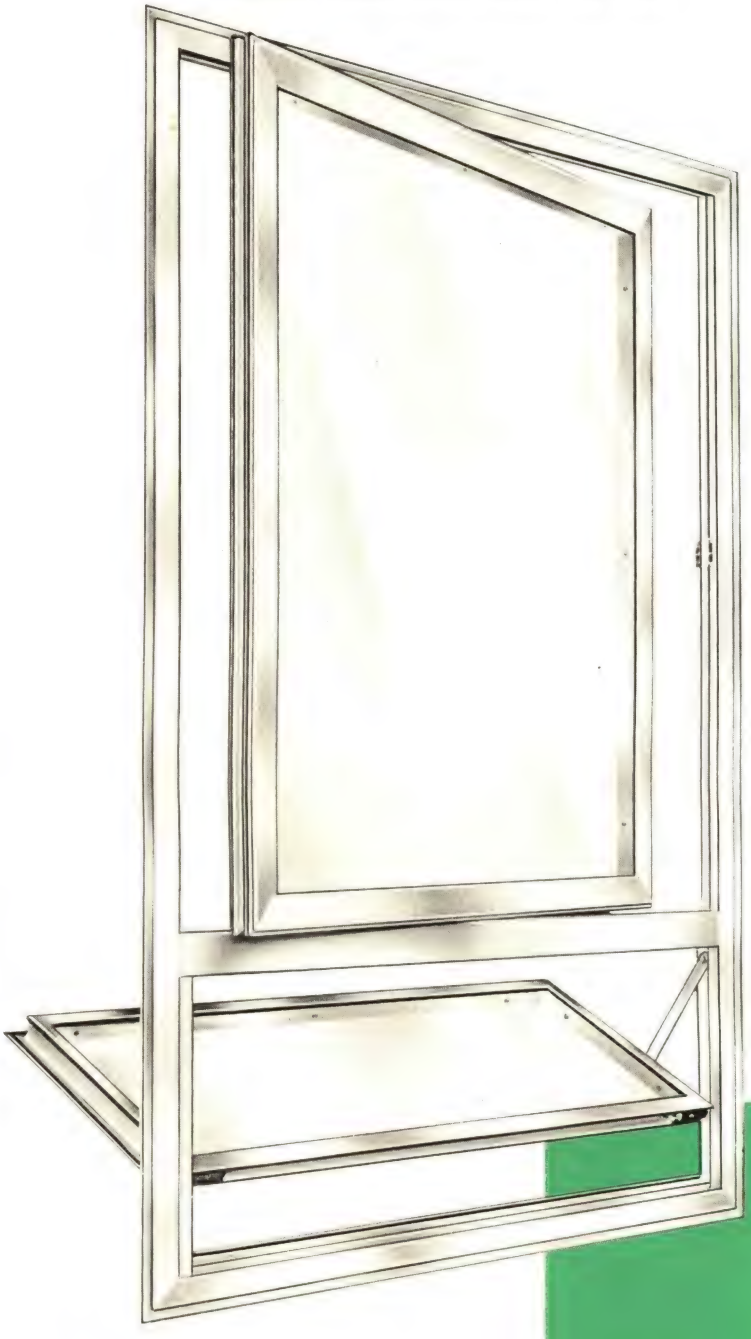


VERTICALLY PIVOTED, 100 SERIES



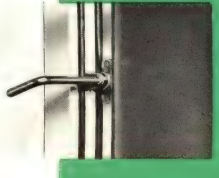


VERTICALLY PIVOTED HOPPER VENT, 100H SERIES









EASY, SAFE WINDOW CLEANING is assured because Reynolds 100 Series Vertically Pivoted Windows are reversible—both sides of pane can be washed from inside. Vent locks in both reversed and full-closed positions. As a further safety feature, window must be fully closed and locked before key can be removed.

ALUMINUM WINDOWS

FOR MODERN MULTI-STORY BUILDINGS, EASY AND SAFE TO WASH . . . AIR-TIGHT

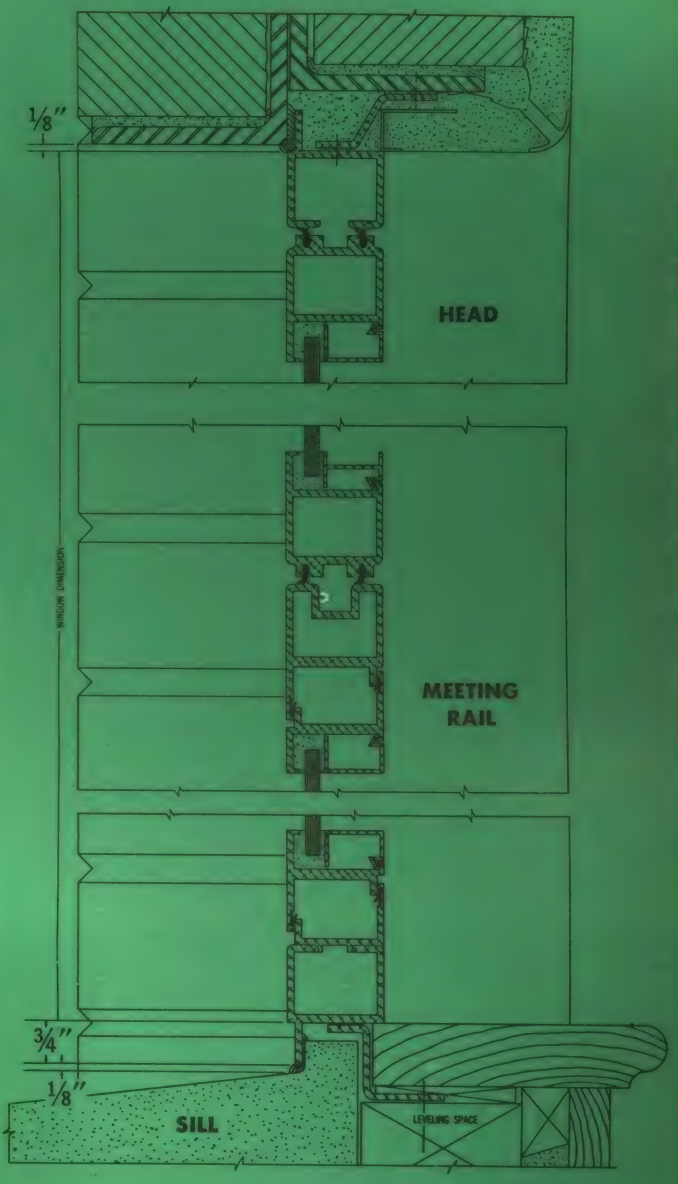
Modern multi-story buildings require special windows designed to answer specific functional needs . . . windows that also complement the architectural beauty of the design. The new Reynolds 100 Series Vertically Pivoted Windows meet all of these requirements—and more.

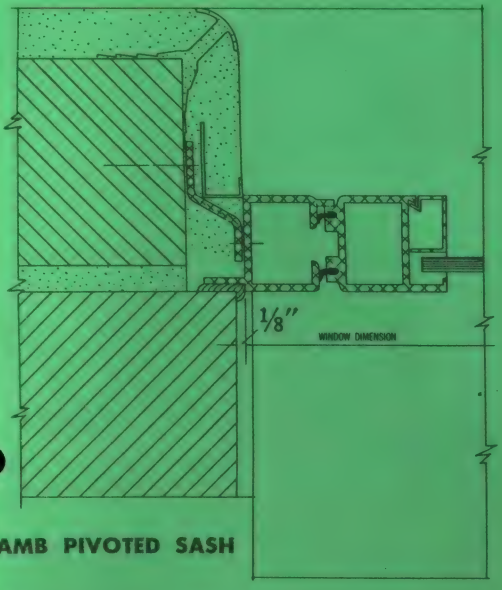
Their double gasket, friction seal weatherstripping operates efficiently under all types of weather conditions to provide *weather-tightness* satisfying rigid test requirements. Reynolds 100 Series Vertically Pivoted Windows provide a minimum of *air-infiltration* which is so important in the design of modern air conditioned buildings. They are especially designed for *ease of cleaning* from the interior of the building with *added safety features* built into a patented new key lock which unlocks at an easy half turn of the key. These and many other design features, plus the well known advantages of Reynolds Aluminum construction, make the new 100 Series windows a leading consideration for every multi-story job.

Reynolds 100 Series Vertically Pivoted Windows are manufactured to the architects' specifications. The frame sections may be modified to meet the requirements of any type of multi-story wall construction. Window types may be constructed as illustrated; or modified to meet architects' specifications within the limitations of the window sections (maximum: 5′ x 7′).

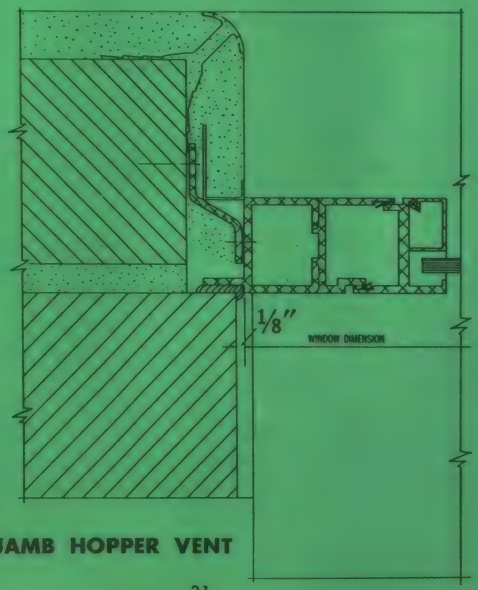
- **SPECIAL JAMB DESIGN** accurately positions window in fully closed and washing positions; provides additional weathering contact.
- **NEW SAFETY FEATURE** eliminates possibility of window remaining in unlocked position.
- **SELF-DRAINING, all-welded frame construction**
- **STAINLESS STEEL HARDWARE and pivot pins**
- **PIVOTED VENTS REMOVABLE without unglazing window**
- **ADJUSTABLE NYLON SHOE in hopper vent**
- **FRICTION SEALED with double neoprene weatherstripping**
- **GLAZING BEAD INTERLOCKED with frame**
- **ACCOMMODATES ANY SIZE of single or double glazing up to ¾″ thick**

Consult your Reynolds Window Engineer or write Reynolds Metals Company, Building Products Division, Louisville 1, Kentucky, for complete information and help for any specific window problem. Inquire about Reynolds 1000 Series *De Luxe* Vertically Pivoted Windows.



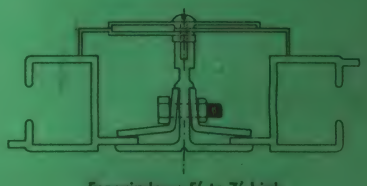


JAMB PIVOTED SASH

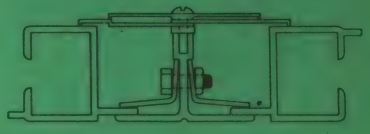


JAMB HOPPER VENT

MULLIONS



For windows 5′ to 7′ high



For windows up to 5′ high

VERTICALLY PIVOTED • 100 SERIES



REYNOLDS ALUMINUM WINDOWS

SPECIFICATIONS

GENERAL Windows shall be 100 Series Vertically Pivoted Sash as furnished by the Reynolds Metals Company, and shall conform to the Aluminum Window Manufacturers Association specifications as outlined in Section I. Windows shall be furnished with or without hopper vents to the sizes and types as shown on the drawings.

MATERIAL Sections shall be especially designed aluminum extruded shapes of 63S-T5 alloy having an ultimate tensile strength of not less than 22,000 *psi* with a minimum metal thickness in all principal window members of not less than .125″. All pivot pins, bearings and miscellaneous window parts shall be Series 300 non-magnetic stainless steel, white bronze, or aluminum of sufficient strength and design to perform the function for which they are designed. Specially extruded Neoprene sealing strips shall be designed for maximum elasticity and proper operation over a long period of time, to meet minimum and maximum temperatures under all climatic conditions. Neoprene extrusions must not adhere to the window member when left pressed against the frame for a long period of time.

CONSTRUCTION

FRAMES: Corners of frame sections shall be securely welded from the inside around the entire perimeter of the joint. Joint design and welding shall be such as to permit anodizing of frame without discoloration or deformation of the exposed faces. Frames shall be of special design which permits collection and drainage of any water passing exterior weathering seal down through frame and out weep holes provided in the sill section. Frame sections, at jambs only, shall have integrally extruded flanges which accurately position the pivoted sash in the washing position as well as the fully closed position. The flange design shall be such as to provide an additional weathering contact with the pivoted vent along each jamb; to insure accurate alignment between frame and pivoted sash of double Neoprene weathering seals and locking devices; and to insure that the original position of the exterior and interior faces of the pivoted sash will remain fixed. (Uniformity of weathering and appearance can best be maintained, both with respect to the interior and exterior surfaces, if the design of the window permits only one surface to be continually exposed to the weather.) The frame sections shall be fitted with locking devices as described under the "Hardware" paragraph below.

PIVOTED SASH: Sash members shall be fastened at the corners by means of concealed die-cast aluminum corner inserts, accurately fitted into the hollow portion of the sash frame and securely fastened by means of concealed non-magnetic stainless steel screws. Before assembly, these inserts shall be coated with an approved type sealing compound. Design of pivoted sash shall be such as to permit the sash to revolve counter-clockwise approximately 180°, in which position the sash may be securely locked to permit washing of exterior surfaces from the interior of the building. Design of sash also shall be such as to permit the rapid removal of the entire pivoted portion and easy replacement with a spare vent. This operation may be accomplished by removing the two horizontal glazing beads and the two pivot pins, which procedure does not involve the removal of the glass except in cases where the glass is greater than ¼″ in thickness.

WEATHERSTRIPPING: Two parallel extruded Neoprene weathering strips of special design and with vulcanized corners shall be provided to effect a positive seal between the pivoted sash and the window frame. These strips shall be securely anchored in special slots in the sash, shall contact the window frame firmly around its perimeter at two mating positions, and shall permit manual opening and closing of the sash. Also the weathering strips shall be of such design and type as to afford weather-tightness meeting the performance requirements listed under "Tests" below. Design of weatherstripping shall be such as to permit replacement.

HARDWARE: Locking devices shall consist of two cam-type locks made of aluminum, non-magnetic stainless steel, or white bronze and mounted in the jambs of the window frame. Locks shall provide positive locking action when the pivoted sash is in the fully closed position and in the washing position. Operation of the locks shall be by means of a special key (insuring janitor control of the pivoted sash) which can only be removed from the locks when the pivoted sash is in a fully locked position (insuring positive locking of pivoted sash in the proper position on completion of service operations). Locking keys (provided in the quantity specified) shall be made from stainless steel. Pivots and pivot seats shall be made of non-magnetic stainless steel. All hardware parts shall be so designed as to permit replacement.

HOPPER VENTS: Where windows are scheduled and specified to be provided with hopper vents, special inward-operating vents shall be furnished to the sizes shown on the drawings. Vents shall be designed for inside glazing and provided with operating arms and adjustable friction shoes, which will effectvely hold the vent in any open position to a maximum of 45°. Design of vent sections shall be such as to provide flush interior and exterior surfaces conforming to the lines of the window frame and pivoted sash and to provide double extruded Neoprene weathering contacts around the perimeter of the vent, which afford the same general weather-tightness as that of the pivoted sash. Design of the hopper vent will also permit entrapment of any water leakage past lower contact and drainage through weep holes in frame as described above. Cam action locking handles and strikes shall be white bronze; shoe housings shall be die cast aluminum, and shall have nylon friction shoes.

GLAZING Glazing shall be as specified under the "Glass and Glazing" Section of the general specifications and shall be furnished and installed by the Contractor for that portion of the work. Standard sash are designed to receive any thickness of glass from 7/32″ thickness up to and including ¾″ insulating glass. Glazing shall be effected by means of special aluminum glazing beads applied on the interior and furnished as a part of the window to conform to the glass thickness specified. Where double or insulating glass is used, sizes of glass and pivoted sash to accommodate same shall be approved by Reynolds Metals Company.

FINISH All windows shall be furnished with a chemically cleaned, etched, and oven-dried, dip-lacquered finish as a standard finish. All lacquer used shall be of a clear, water-white methacrylate type which is resistant to the action of lime mortar. Other types of finishes such as anodized, anodized and lacquered, plain, etc., will be furnished to meet the architects' specifications.

TESTS Windows when subjected to the simulated hurricane conditions as stipulated by the Florida Window Manufacturing Association shall show no evidence of water leakage into the building interior when 20 gallons of water per minute are injected into the air stream at wind velocities from 50 to 110 m.p.h. for a duration of not less than 15 minutes. Total air infiltration through the window when subjected to the Florida Window Manufacturers' tests shall not be greater than .025 c.f.m. at an average wind velocity of 50 m.p.h.

Upon request, manufacturer will provide evidence from the University of Miami Housing Research Laboratory showing compliance with these specifications.

THE MOST COMPLETE LINE OF ALUMINUM BUILDING PRODUCTS

CORRUGATED ROOFING AND SIDING • NAILS
RIBBED EMBOSSED SIDING • WEATHERBOARD SIDING
WINDOWS • 5-V AND 8-V CRIMP ROOFING AND SIDING
GUTTERS AND DOWNSPOUTS • FLASHING
INDUSTRIAL CORRUGATED • REFLECTIVE INSULATION
GARAGE DOORS • COMPLETE ROOFING
AND SIDING ACCESSORIES

REYNOLDS METALS COMPANY

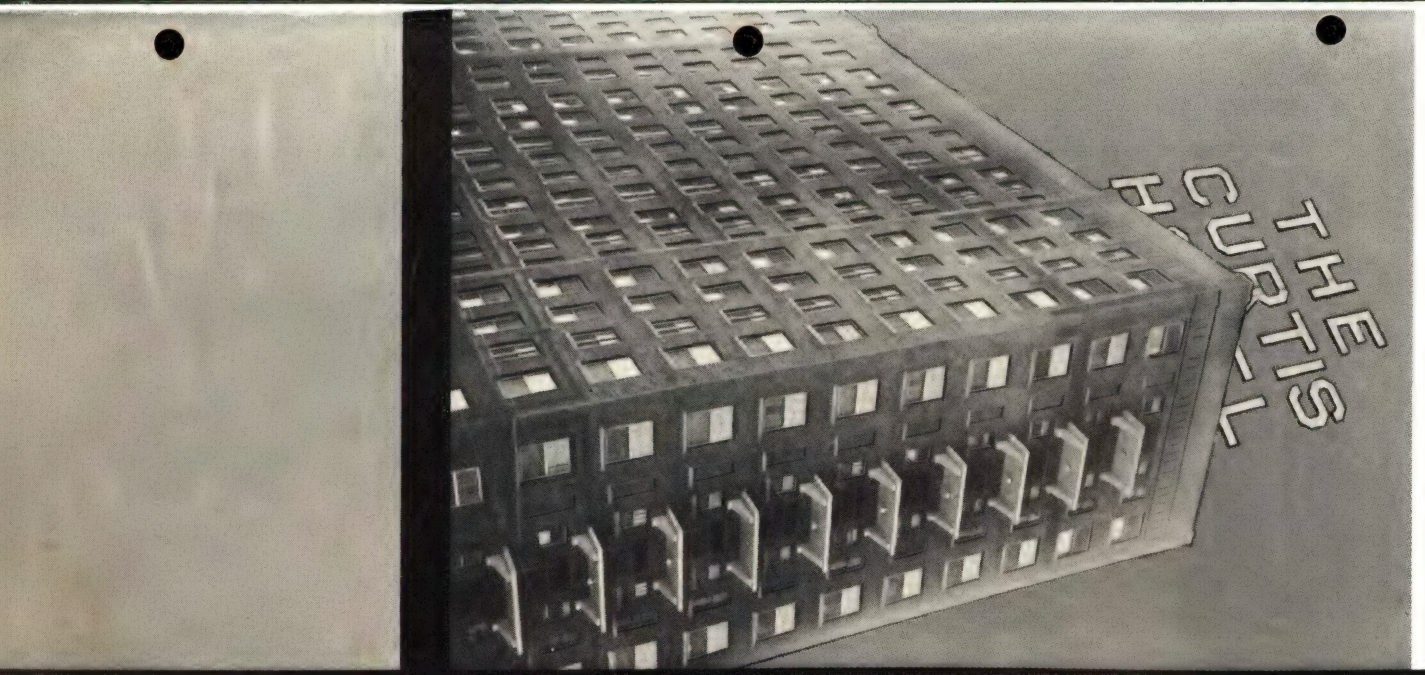
(Contact your nearest Building Products Sales Office listed below or write direct to Building Products Division, 2000 So. Ninth Street, Louisville 1, Kentucky.)

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Atlanta, Baltimore, Birmingham, Boston, Charlotte, Chicago, Cincinnati, Cleveland, Columbus, Dallas, Denver, Des Moines, Detroit, Grand Rapids, Houston, Indianapolis, Kansas City, Los Angeles, Louisville, Memphis, Milwaukee, Minneapolis, New Orleans, New York, Phoenix, Pittsburgh, Portland, Richmond, Salt Lake City, San Francisco, Seattle, St. Louis, Tampa.

BP-309-J-10/54

Litho In U.S.A.





DeVAC

SELF STORING WINDOW CO., INC.

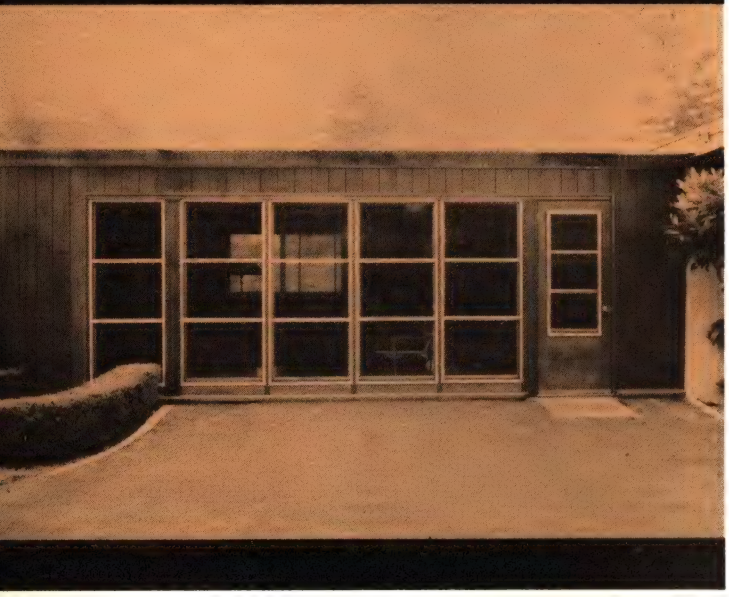
5901 Wayzata Boulevard, Minneapolis 16, Minnesota



5A
SeL

DeVAC GLASSWALLS





DeVAC GlassWalls are modern, floor-to-ceiling windows that allow up to two-thirds ventilation. Their clean, simple lines make them perfect for any type of architecture from contemporary to colonial.

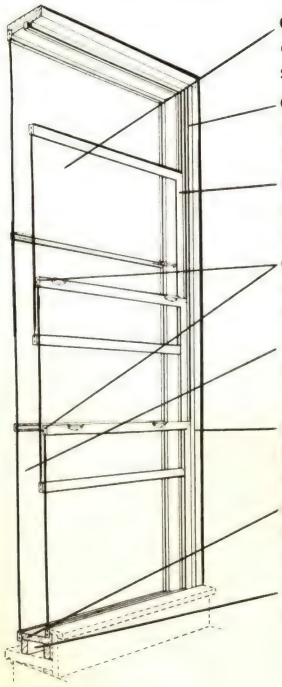
DeVAC GlassWalls can be used in any number of applications. While first used as porch enclosures, they have been gaining wide popularity in other uses.

Porches, breezeways or patio areas can be enclosed simply, effectively and beautifully with the application of DeVAC Glasswalls. Home owners find that where they normally use screened-in porches only a brief period throughout the year because of inclement weather, they can install DeVAC GlassWalls and have extra living space in any climate.

In many regions, DeVAC GlassWalls are being widely used as prime windows. A full length screen outside completes the unit to provide a perfect prime window for any area of the home where floor-to-ceiling glass is desirable.

The simple addition of a DeVAC storm sash to the GlassWalls produces a double glazed prime window which gives complete weather protection.

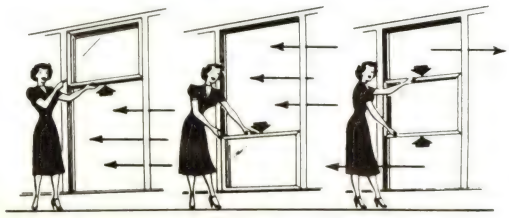
The DeVAC GlassWall actually is a very flexible window with a number of interesting applications. The architect or builder who employs this unit in home construction will find it well designed and expertly constructed window made of the very best of materials.



- Glass is rubber set in anodized aluminum frames, extruded for added strength.
- Each panel slides vertically in separate metal alloy channel. Adjusts to any position.
- Sash are spring mounted to provide perfect tension and cushion against shock or strain.
- Weatherstripped, overlapping sash completely seals out wind, dust and moisture.
- Full length, 18x14 Fiber Glass screening assures complete ventilation. Will not rust, corrode or sag.
- Wood frames treated with "woodlife" for protection against termites and decay.
- Joints in wood frame are mortised and permanently joined with aluminum screws.
- Box sill assures proper drainage, insulation and snug, easy installation.



Close-up photo shows triple-track channel and sash.



Sash all at top—ventilation below head level

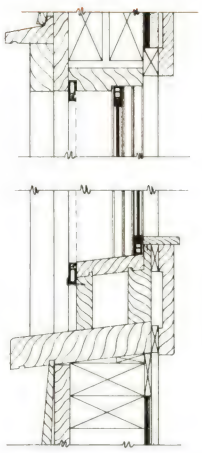
Sash all at bottom—ventilation above knee level

Sash all in center gives 100% thermo-air circulation

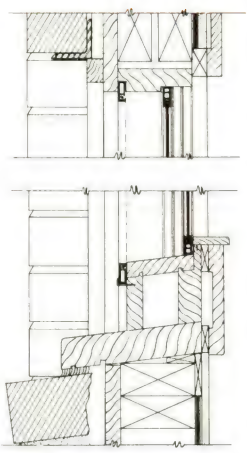
DETAILS AND SPECIFICATIONS



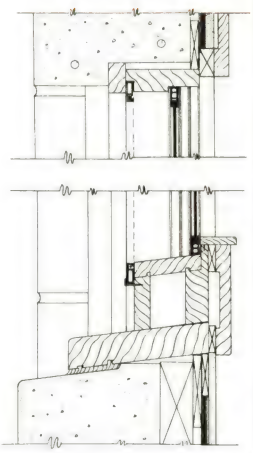
BREEZEWAY ENCLOSURES



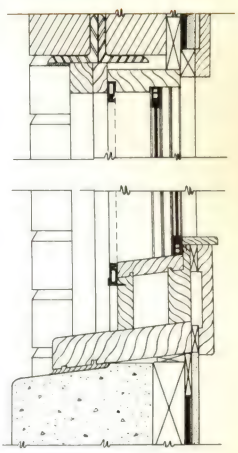
FRAME CONSTRUCTION



BRICK VENEER



CONCRETE BLOCK



SOLID BRICK

SPECIFICATIONS

Scope: Windows shall be all DeVAC Glass Walls as manufactured by Self Storing Window Co., Inc. of Minneapolis, Minnesota in standard sizes and types as indicated by reference numbers on the drawings.

Construction: Units shall be constructed of exterior wood frames by window manufacturer clear of defects and preservative treated to nationally recognized specifications for toxic, water repellent preservatives. All joints of frames and sash shall be neatly mitered and fitted and shall be tight to keep out weather. All sash shall be of extruded aluminum not less than 1 1/16" in depth and 3/8" in width.

Material: Window and screen sash shall be made from accurately extruded sections of anodized aluminum alloy (63ST6). Minimum thickness of metal shall not be less than .080 inch.

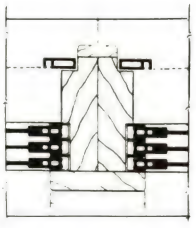
Glazing: Windows shall be factory glazed with SSB glass set in plastic glazing channel. Windows shall be designed for factory glazing but in case of replacement, sash may be dismantled and glass replaced on the premises without special tools.

Screens: Screens shall be furnished by the window manufacturer, carefully packed and separately shipped. Screening shall be 18 x 14 fiber glass to be installed at factory and held securely in place with vinyl spline but also removable in case of replacement.

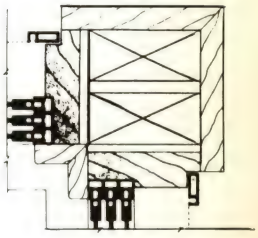
Hardware: All sash shall be hung on tempered steel tension springs guided in rolled metal channels. Stainless steel sash lifts shall be provided on all windows.

Installation: All windows shall be installed in a workmanlike manner, adjusted and guaranteed weather tight.

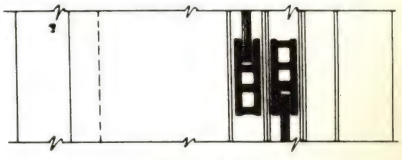
Operation: Each glass panel shall operate vertically in separate zinc alloy channel. Sash will be spring mounted to adjust to predetermined positions.



NON STRUCTURAL MULL



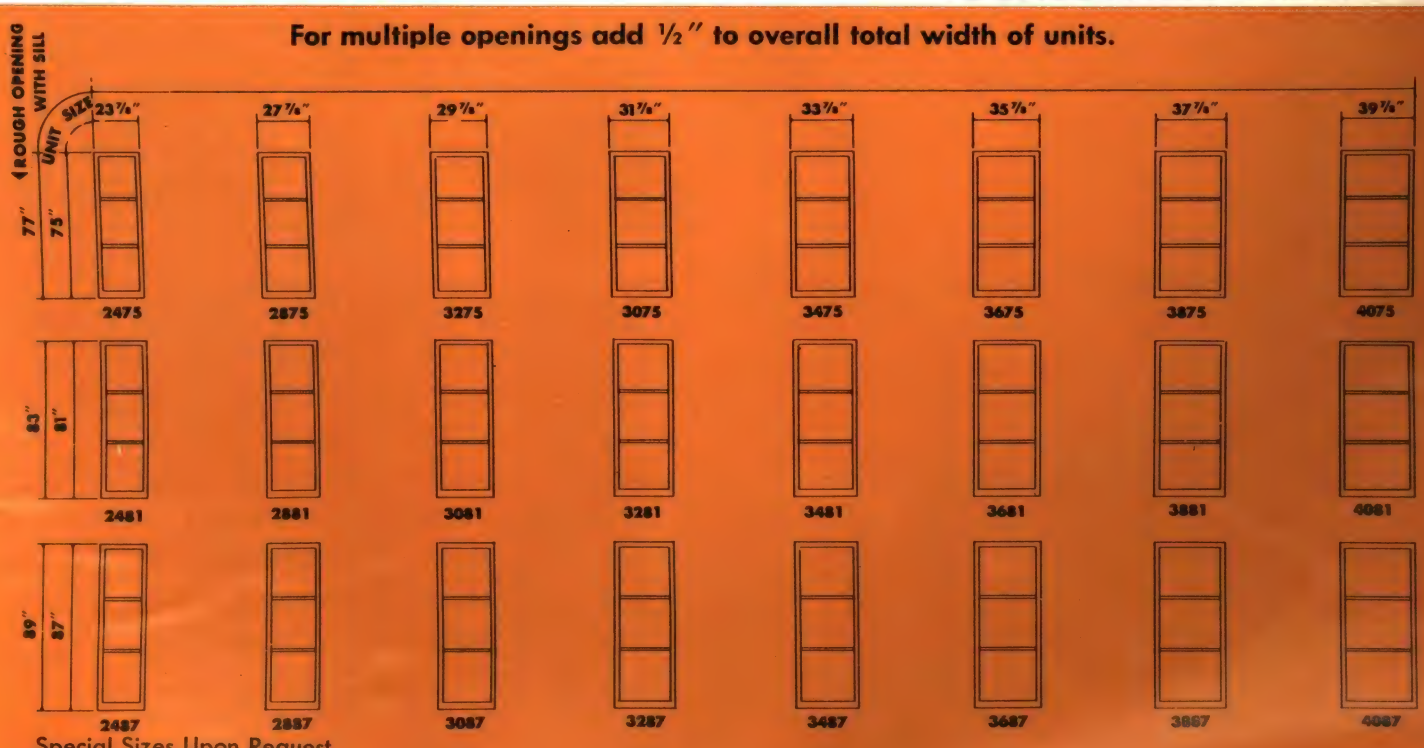
CORNER MULL



MEETING RAIL

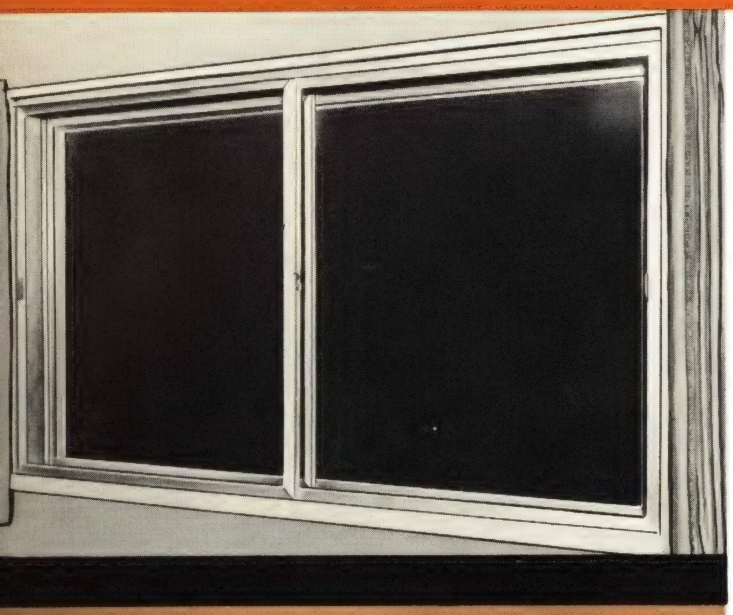
GLASSWALL SIZES

For multiple openings add ½" to overall total width of units.



Special Sizes Upon Request

DeVAC CONTEMPO (HORIZONTAL SLIDING)



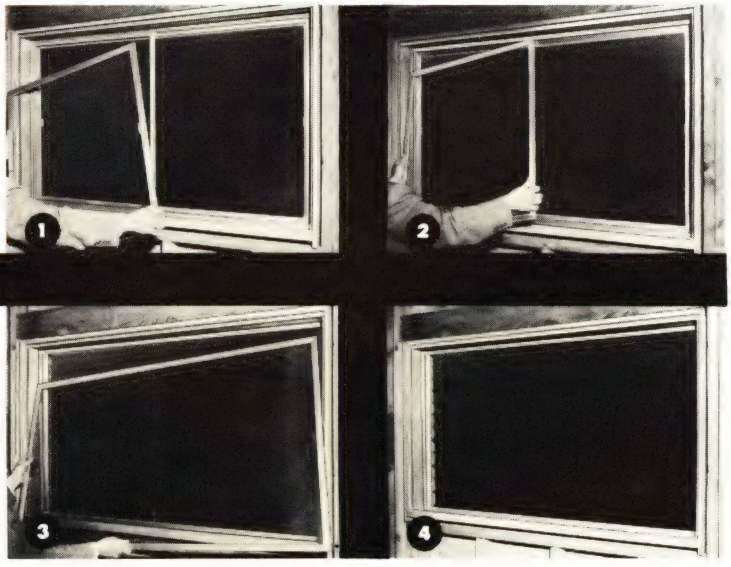
The DeVAC Contempo was designed to meet the increasing demand for an all-around window which would fit contemporary architecture in residential, commercial and industrial construction.

The DeVAC Contempo is a horizontal sliding or glider-type window with a number of varied applications. Its greatest advantage is the clean, contemporary design combined with the self-storing features of having a prime window, storm sash and full-length screen all combined in one basic unit..

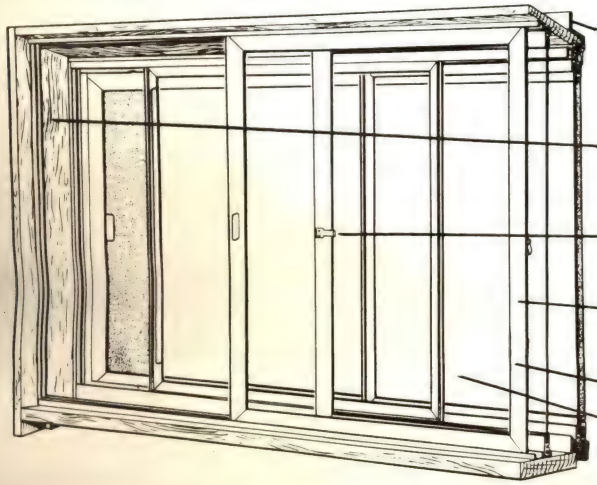
Installation is very simple, and once installed the two inside sash, two storm sash and full screen can all be removed from *inside* the room. This, of course, offers tremendous advantages from a functional and utility standpoint.



(**1**) A simple up and out at bottom motion removes the two inside sash from their metal channels. (**2**) Next, the two sliding storm sash may be slipped out in the same manner as the prime sash. (**3**) The full-length 18x14 Fiber Glass Screen lifts out completely. (**4**) Last photo shows opening with all sash and screens removed.

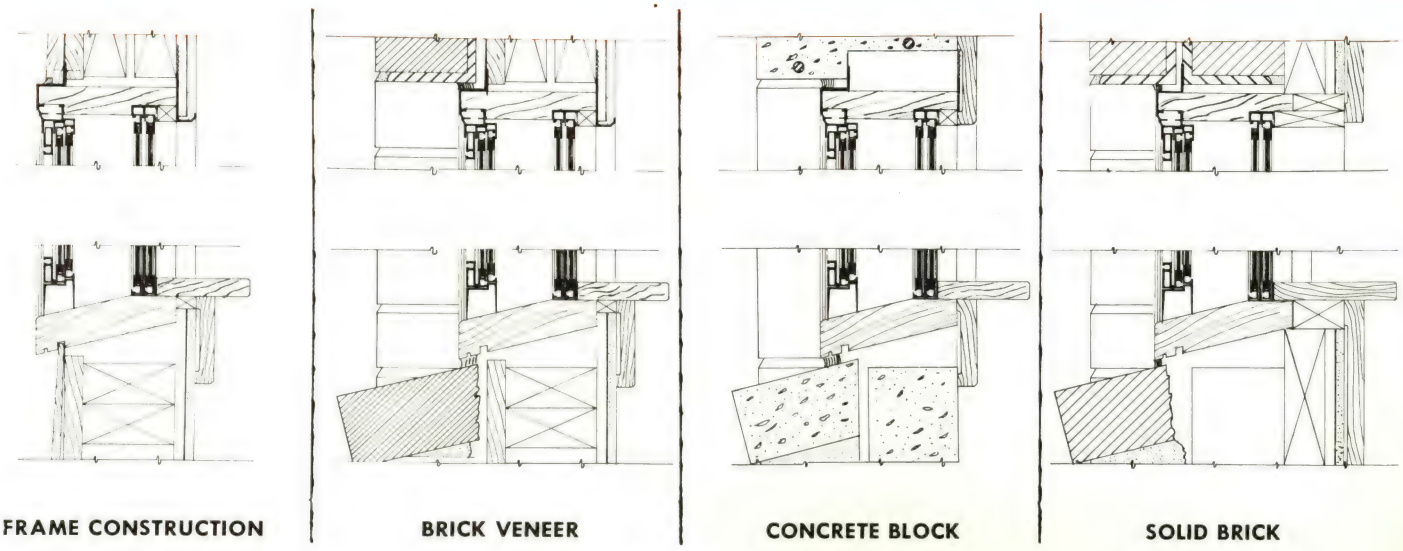


Unit illustrated here has double glazing for severe climates. The DeVAC *Contempo is also available in single glazing and screen for more temperate regions. Details available on request.*



- Lap-Fin for easy, fast installation.
- Perfect ventilation control, operates freely.
- Wood jambs for greater insulation.
- Complete unit—No storm or screen to change.
- Unit complete with hardware installed.
- Eliminates on the job construction on wood frames.
- Aluminum is all anodized for lifetime finish.
- Simple installation, no painting required.
- Extra heavy duty, 63ST6 aluminum extrusion.
- Greater glass area, more light, wider view.

DETAILS AND SPECIFICATIONS



FRAME CONSTRUCTION | BRICK VENEER | CONCRETE BLOCK | SOLID BRICK

SPECIFICATIONS

Scope: Windows shall be all DeVAC Contempos (horizontal sliding) as manufactured by Self Storing Window Co., Inc. of Minneapolis, Minnesota in standard sizes and types as indicated by reference numbers on the drawings.

Construction: Units shall be constructed with wood frames by window manufacturer clear of defects and preservative treated to nationally recognized specifications for toxic, water repellent preservatives. All joints of frames and sash shall be neatly mitered and fitted and shall be tight to keep out weather. All sash shall be not less than 13/16—3/4" in depth and 1 1/32" in width. Brick mold facing shall include aluminum lap fin extending 1 1/4".

Material: Window and screen sash shall be made from accurately extruded sections of anodized aluminum alloy (63ST5). Minimum thickness of metal shall not be less than .065 inch.

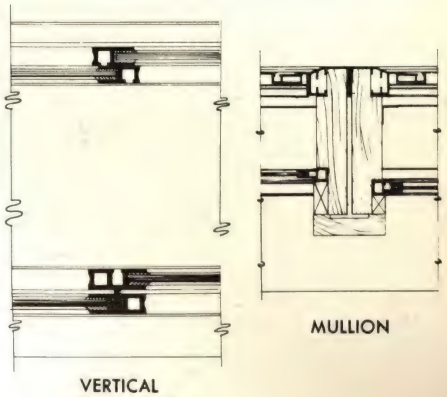
Glazing: Windows shall be factory glazed with SSB glass set in plastic glazing channel. Windows shall be designed for factory glazing but in case of replacement, sash may be dismantled and glass replaced on the premises without special tools.

Screens: Screens shall be furnished by the window manufacturer. Screening shall be 18 x 14 fiber glass to be installed at factory and held securely in place with vinyl spline but also removable in case of replacement.

Hardware: Prime sash locks shall be optional.

Installation: All windows shall be installed in a workmanlike manner, adjusted and guaranteed weather tight.

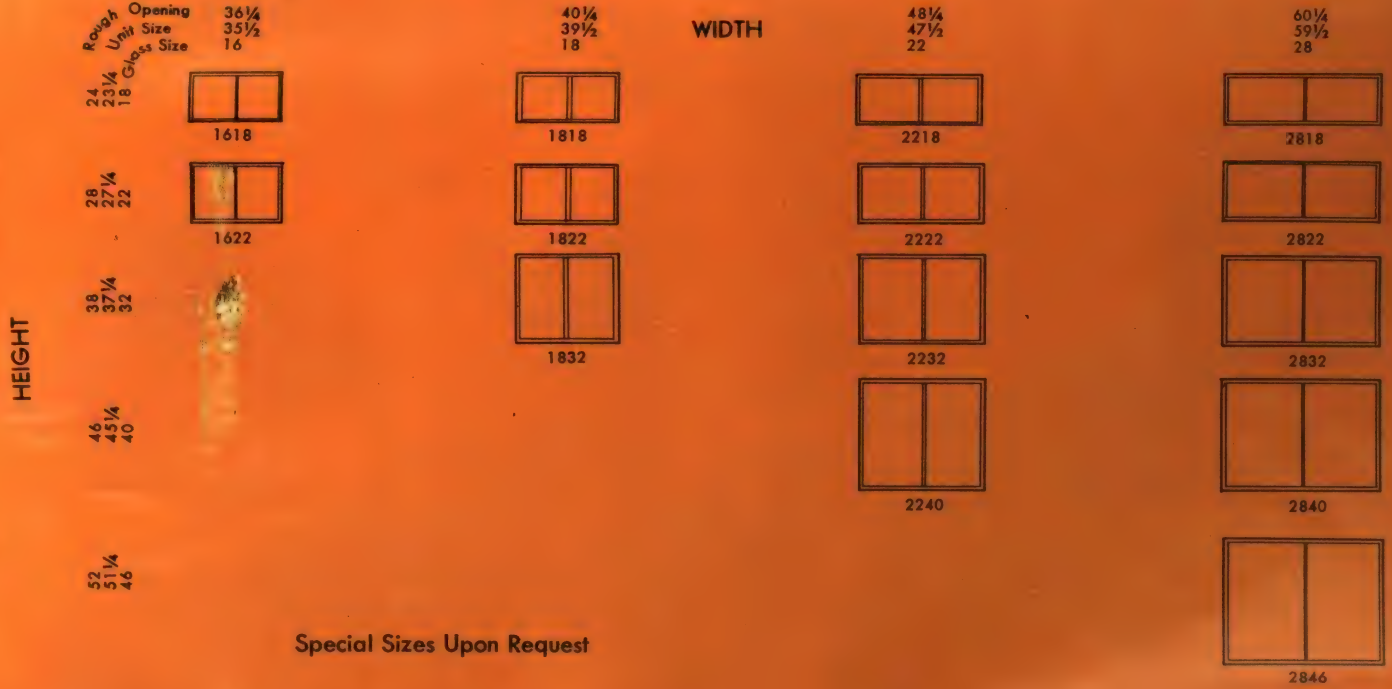
Operation: Prime glass panels shall slide horizontally in separate zinc alloy tracks. Storm sash shall slide in aluminum channels. All prime sash, storm sash and screen shall be removable from the inside.



VERTICAL MEETING RAIL

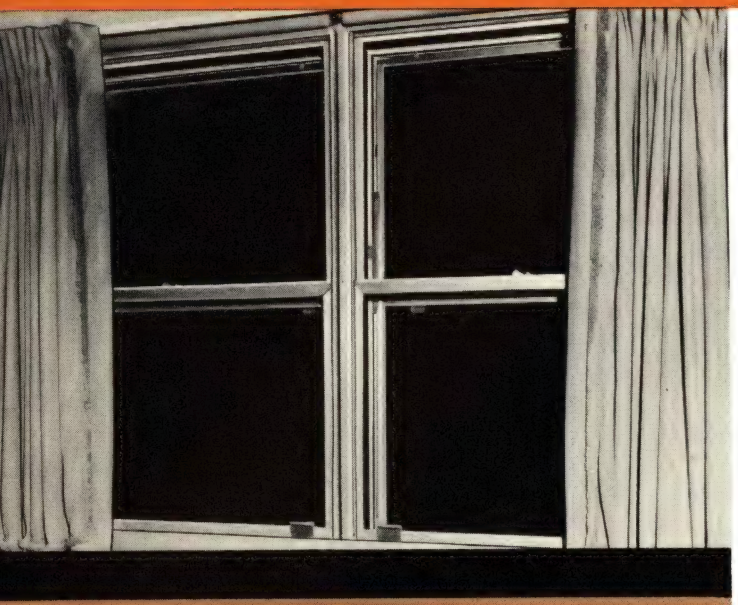
MULLION

CONTEMPO SIZES



Special Sizes Upon Request

DeVAC DOUBLE HUNG



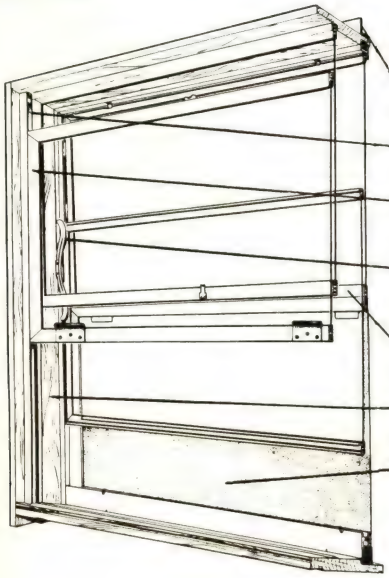


The DeVAC Double Hung is a conventional aluminum window. One basic unit includes a prime sash, plus built-in combination self-storing storm window and screen.

Homes and apartment houses have found this window the near perfect solution because of its simple installation, elimination of maintenance and the great feature of completely eliminating storm and screen changes.

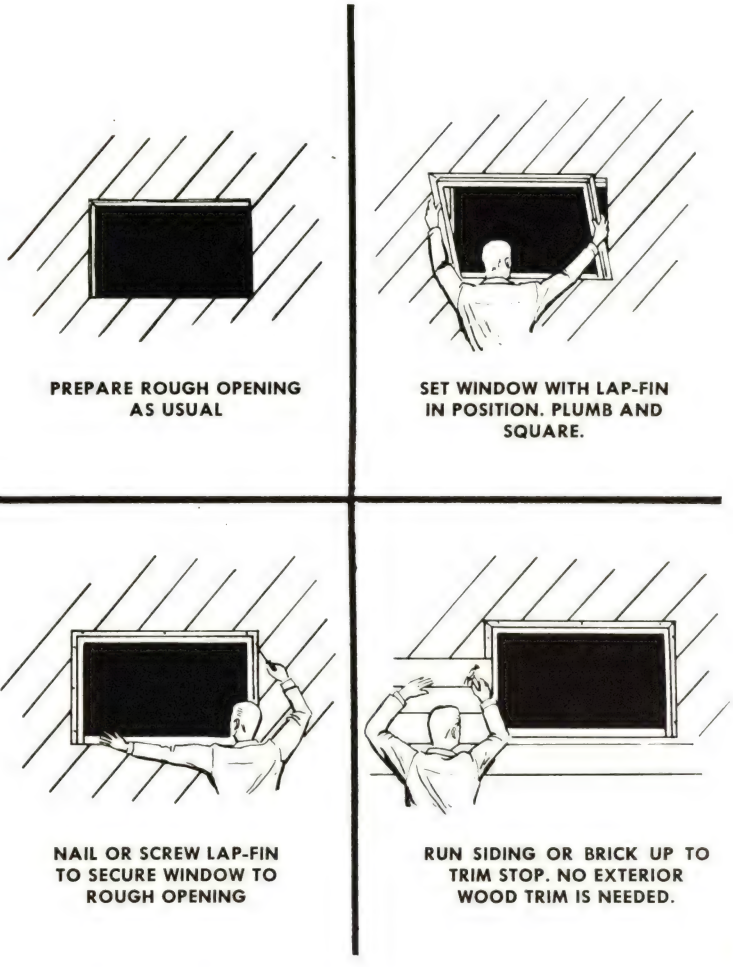
Flexibility of the unit is illustrated in the above photographs, showing two DeVAC Double-Hung units, mulled together.

DeVAC's special Lap-Fin construction makes installation extra easy and the unit perfectly weathertight. Lap-Fin installation is featured in both the DeVAC double-hung and the DeVAC Contempo unit.



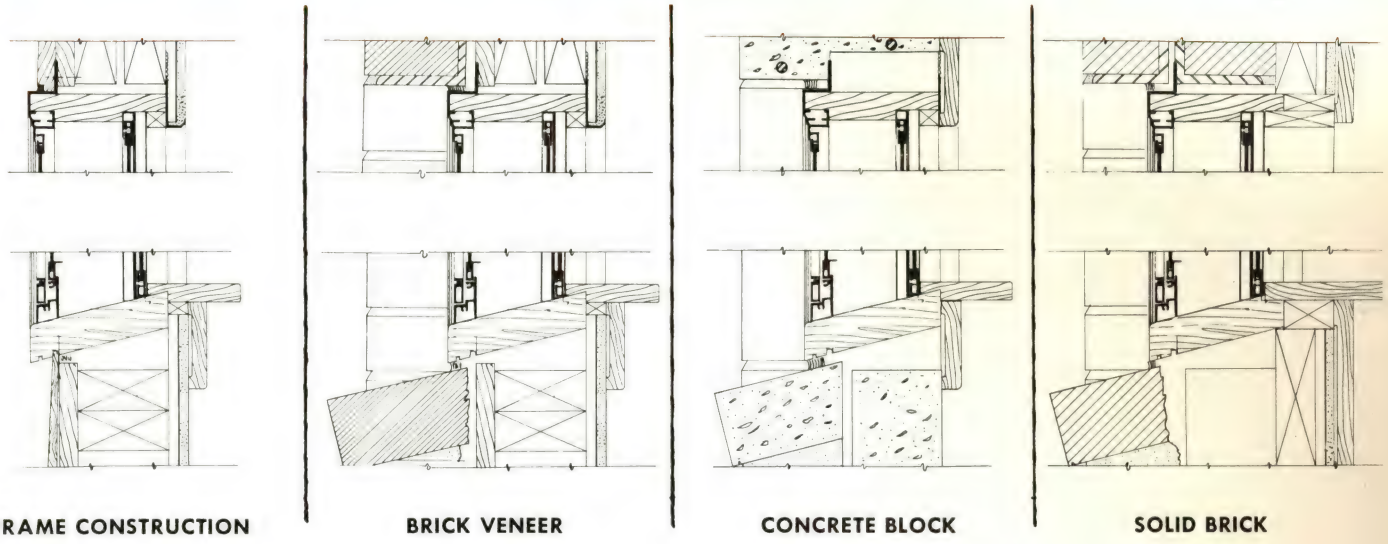
- Complete unit—prime window, storm, sash and screens.
- Lap-Fin Construction for easy, fast installation.
- Sash slide is separate metal alloy channels.
- Aluminum is all anodized for lifetime finish.
- Tempered steel spring sash balance Nylon Glide-Stays for easy operation.
- Extra heavy-duty 63ST6 aluminum extrusion.
- Wood jamb prevents heat loss, gives top insulation.
- Full length lifetime 18x14 fiber glass.

Unit illustrated here has double glazing for severe climates. The DeVAC *Double-Hung is also available in single glazing and screen for more temperate regions. Details available on request.*



DeVAC's LAP-FIN construction is a great time and labor saver. Lap-Fin makes window installation double easy, double fast.

DETAILS AND SPECIFICATIONS



FRAME CONSTRUCTION | BRICK VENEER | CONCRETE BLOCK | SOLID BRICK

SPECIFICATIONS

Scope: Windows shall be all DeVAC double hung as manufactured by Self Storing Window Co., Inc. of Minneapolis, Minnesota in standard sizes and types as indicated by reference numbers on the drawings.

Construction: Units shall be constructed with wood frames by window manufacturer clear of defects and preservative treated to nationally recognized specifications for toxic, water repellent preservatives. All joints of frames and sash will be neatly mitered and fitted and shall be tight to keep out weather. All prime sash shall be not less than 1 1/16" wide and 3/8" thick. All storm sash shall be not less than 13/16" wide and 11/32" thick. Brick mold facing shall include a lap fin of extruded aluminum extending 1 1/4".

Material: Window and screen sash shall be made from accurately extruded sections of anodized aluminum alloy (63ST5). Minimum thickness of metal shall not be less than .065 inches.

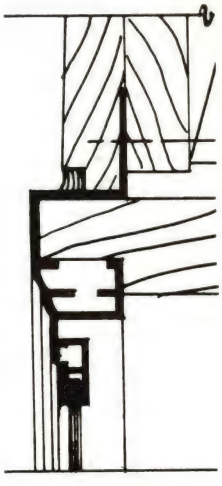
Glazing: Windows shall be factory glazed with SSB glass set in plastic glazing channel. Windows shall be designed for factory glazing but in case of replacement, sash may be dismantled and glass replaced on the premises without special tools.

Screens: Screens shall be furnished by the window manufacturer, carefully packed and separately shipped. Screening shall be 18x14 fiber glass to be installed at factory and held securely in place with vinyl spline but also removable in case of replacement.

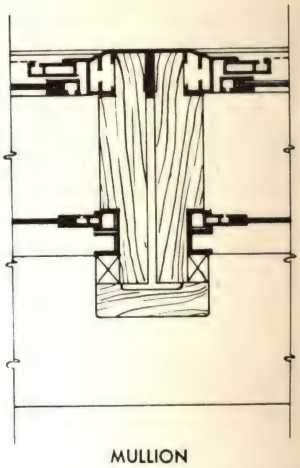
Hardware: All prime sash shall be hung on tempered steel tension springs guided in rolled metal channels. Stainless steel sash lifts shall be provided on all inside windows. Prime sash locks shall be optional.

Installation: All windows shall be installed in a workmanlike manner, adjusted and guaranteed weather tight.

Operation: Prime sash shall operate vertically. Storm sash and screen shall be self storing and be removable from the inside.

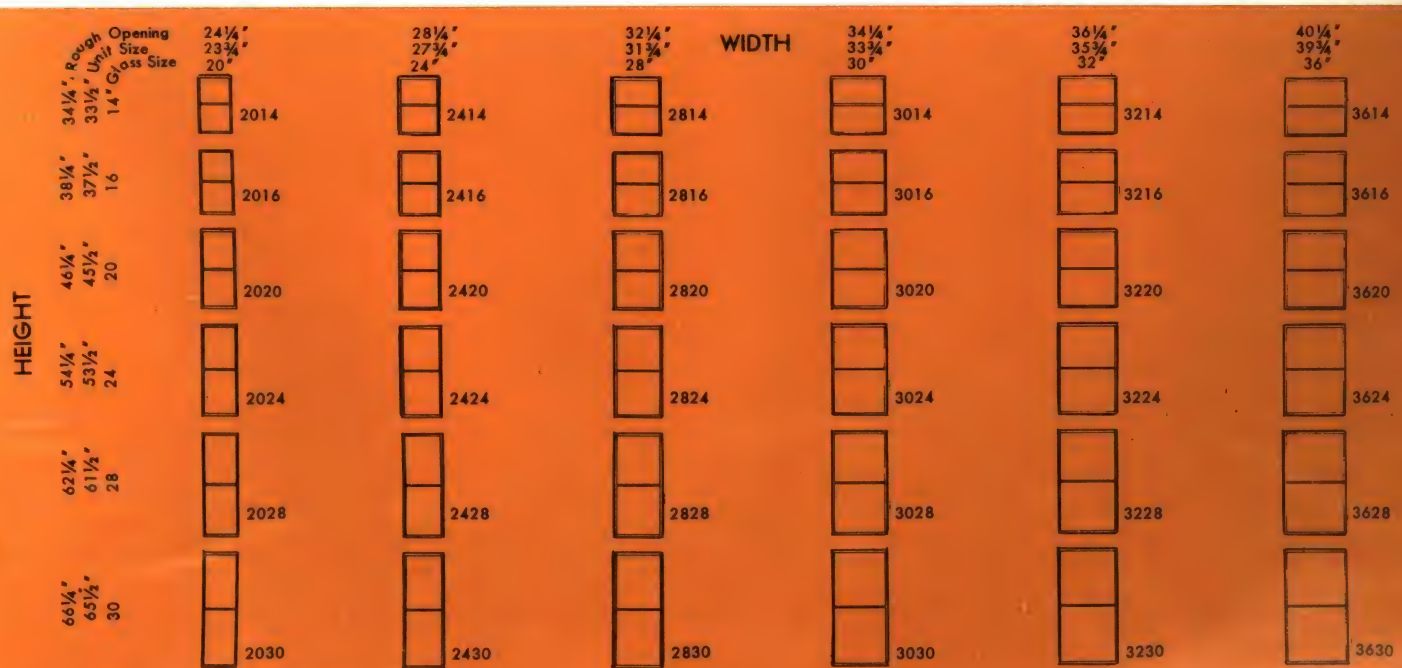


LAP FIN



MULLION

DOUBLE HUNG SIZES

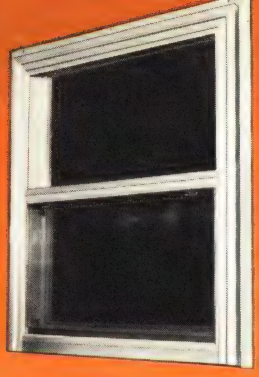


Special Sizes Upon Request

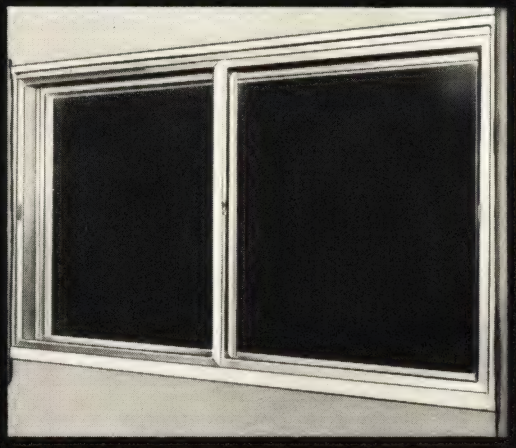


PORCH
BREEZEWAY
ENCLOSURES,
PRIME WINDOWS

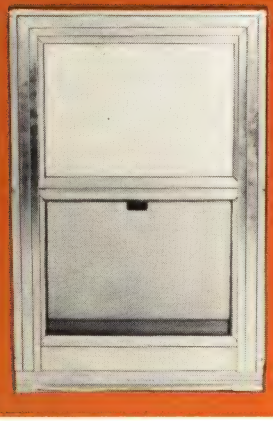
DOUBLE
HUNG
UNITS



FOR RESIDENTIAL,
COMMERCIAL AND
INDUSTRIAL



HORIZONTAL
SLIDING
UNIT



COMBINATION
WINDOWS

COMBINATION
DOORS



PARTIAL DISTRIBUTOR LISTING — WRITE FACTORY FOR COMPLETE DATA

Aluminum Products, Hawaii
663 Sheridan Street
Honolulu, Hawaii

Arthur Anthony Windows
2137 Bruxelles
New Orleans 12, La.

Bonesteel Conditioning Co.
219½ South Broadway
Rochester, Minnesota

Bardwell-Robinson Company
P. O. Box 7
Fargo, North Dakota

John Buhler Company
2503 North 36th Street
Milwaukee, Wisconsin

Building Specialties, Inc.
P. O. Box 773
Charlottesville, Va.

California Breezeway, Inc.
1833 Harbor Avenue
Long Beach, California

DeVAC of South Carolina
451 Union Street
Spartanburg, South Carolina

DeVAC Windows of Cleveland
2123 Stearns Road
Cleveland, Ohio

DeVAC Window Co. of Lincoln
5105 Holdrege
Lincoln, Neb.

DeVAC Window Co. of Southern Minn.
400 South German
New Ulm, Minnesota

Bert Flora
317 South Brainerd
LaGrange, Ill.

Hartford Home Improvement Co.
7311 Knollwood Rd.
Towson 4, Maryland

Indiana Door and Home Equip. Co.
6715 Indianapolis Blvd.
Hammond, Ind.

Knecht's Lumberman's Supply
301 East 8th
Rapid City, S. Dakota

Lander & Landon
1603 West Main
Marshalltown, Iowa

C. B. Lott
2935 Dover Street
Houston, Texas

Pittsburgh Plate Glass Company
2410 Albin Street
Toledo 6, Ohio

H. G. Purdy Co.
100 Wildwood Drive
P. O. Box 8027, Laurel Heights Station
San Antonio, Texas

Self Storing Window Co., Inc.
1110 Grand
St. Paul, Minnesota

United Roofing Co.
203 E. Fleshiem St.
Iron Mountain, Mich.

Walter Wray, Ltd.
1075 Arlington Street
Winnipeg, Manitoba

Walter Wray, Ltd.
10066 Whyte Ave.
Edmonton, Alberta, Canada

DeVAC

SELF STORING WINDOW CO., INC.

5901 Wayzata Boulevard, Minneapolis 16, Minnesota

TRU-SEAL®

5a
Tru

ALUMINUM AWNING WINDOWS



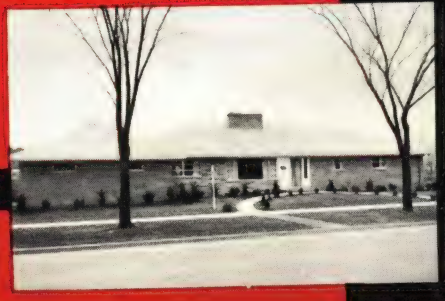
SCHOOL



TULSA COUNTY COURT HOUSE
Tulsa, Oklahoma



COMMERCIAL



RESIDENTIAL

- Micromatic Adjustment
- Torque Bar Operation
- Mitered and Flash Welded Corners
- Smoothline Frame
- .059 c.f.m. Air Infiltration
- Concealed Weatherstripping
- Heavy Duty Operator

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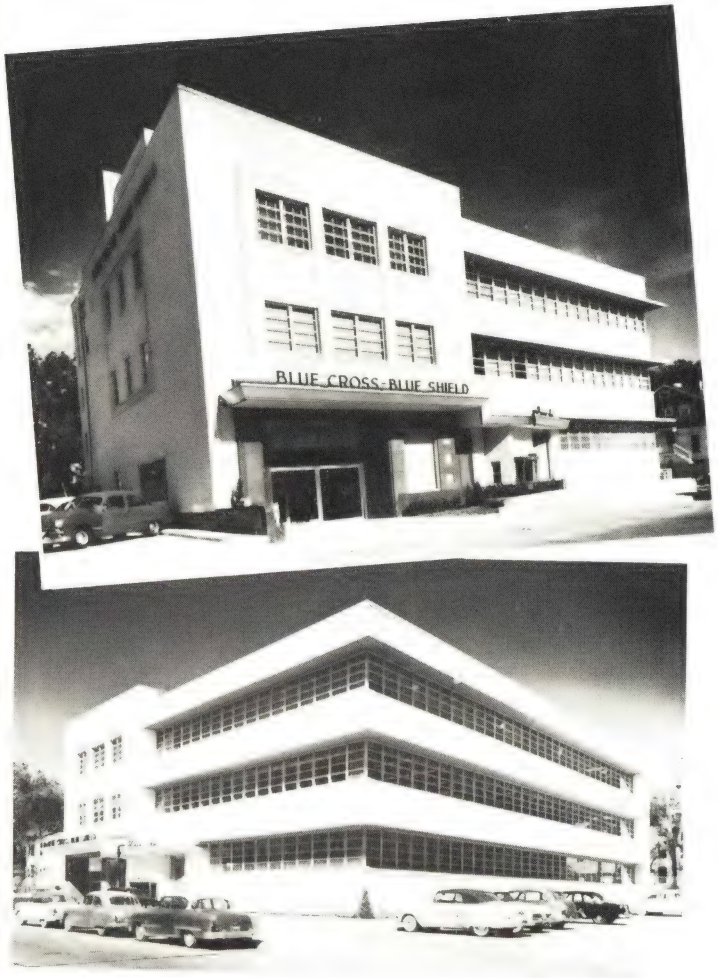
The Cover Pictures

1—The Tulsa County Court House in Tulsa, Oklahoma
Architect—Black & West, A.I.A., in Tulsa, Oklahoma
Contractor—Manhattan Construction Co., in Muskogee, Oklahoma

2—The Department of Health in Union City, New Jersey
Architect—
Contractor—Bartolucci & Sons in Union City, New Jersey

3—Residence in Dearborn, Michigan
Architect—Merle W. Hogan, A.I.A.

4—Sunday School
Zion Evangelical Lutheran Church
Mt. Clemens, Michigan
Pellerin & Dworski, Architects
Alex Gow, Contractor



The Blue-Cross—Blue-Shield Building, Tulsa, Oklahoma

Architect—Koberling & Brandborg, A.I.A., Tulsa, Oklahoma

Contractor—John B. Martin Construction Co., Oklahoma City and Tulsa, Oklahoma

Manufactured under Patents
No. 2383912 & 2688779
Other Patents Pending

Litho in U.S.A.

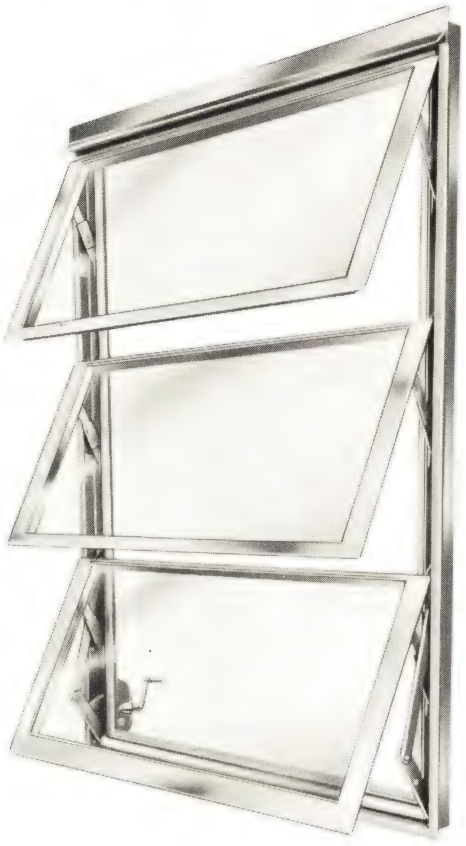
The Story of Tru-Seal..

TRU-SEAL®

. . . is the story of progress

No story of engineering progress during the last half century would be complete without a chapter devoted to the contributions of the Industrial Machine Tool Co., Inc. Established 39 years ago in Fenton, Michigan, this company takes great pride in its now famous TRU-SEAL Window Division which manufactures TRU-SEAL aluminum awning windows.

At the right, from TRU-SEAL'S "Zero Test" Series 53, is one of the many weather-stripped awning windows available from TRU-SEAL. Into its carefully conceived basic design has gone all the skill and foresight of TRU-SEAL'S top engineering staff. Here is the window with low, low air infiltration . . . tested for only 0.059 c.f.m.! See page 15 for reproduction of the photostatic copies of the Pittsburgh Testing Laboratory report.



The TRU-SEAL "Zero Test"

Series 53 windows feature:

Concealed Weather-Stripping

Genuine vinyl weather-stripping is used both on the outside perimeter for each operating vent and on the inside of the frame. It is so designed that it resists and deflects any wind pressure when the vents are in a closed position.

A Smoothline Frame

All corners are mitered and flash welded with the exposed surfaces dressed smooth. There are no screws, mechanical fasteners or protrusions of any kind on the inside face of the frame . . . giving you a rich and smooth appearance.

Micromatic Adjustment

Assures the seal on both perimeters and along the meeting rails of those vents.

Torque Bar Operation

For smooth easy opening and closing . . . eliminates need for any manual locking device.

Heavy Duty Operator

Efficient and quiet—and most important, jam-free!

All tools, dies, jigs and fixtures used in the manufacture of TRU-SEAL windows are as accurate as Industrial's 39 years of experience and skill can make them.

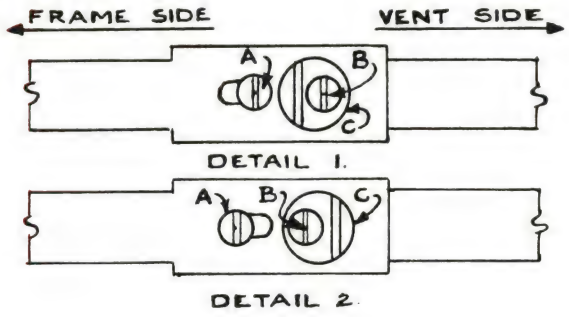
TRU-SEAL®

These FOUR STAR TRU-SEAL FEATURES

mean better service in every detail

Micromatic Vent Adjustment

On both sides of each operating vent, TRU-SEAL'S famous patented micromatic adjustment assures the seal on both perimeters and along the meeting rails of those vents.



1. To adjust, loosen screws "A" and "B". Turn eccentric cam "C" for desired adjustment. Tighten screw "A" to hold adjustment. Tighten screw "B". In adjusting, cam "C" may be turned either clockwise or counter-clockwise.
2. When slots in eccentric cam "C" is on *frame* side of screw "B" as illustrated in detail 1, vent is a maximum outward adjustment. When slot is on *vent* side of screw "B" as in detail 2 vent is at maximum inward adjustment. Total range of adjustment is ¼ inch.

Smooth Operating Mechanism

The vents of TRU-SEAL windows are operated by a simple system of levers with all linkage concealed inside the channel members. The motion is smooth, easy and quiet. Power is supplied by a simple crank and gear operator attached to one jamb at the sill. Each vent is attached to a slide bar united by a powerful cross shaft, thus reducing the number of moving parts and adding strength to the entire assembly. The side opposite the operator is turned still further, greater seal and tension is set up through the torque of the cross shaft, eliminating the need for any manual locking device. The vents remain locked in any position of opening.

Flash Welded Frame

All corners are mitered and flash-welded to provide maximum strength, rigidity and safety. All exposed surfaces are dressed smooth.

The Finest in Materials

All frame and vent members are made of extruded 63S-5 aluminum alloy. All metal parts within the frame are of aluminum or stainless steel.

Maximum Opening

Each operating vent has a maximum opening of not less than 80 degrees with the upper vent dropping to a sufficient degree to permit the cleaning of that vent from within. No need to go outside to wash TRU-SEAL windows. With the vents in open position, both sides of each glass can be easily reached from the inside.

Easy-to-Install Screens and Storm Sash

Both may be easily and quickly removed and installed from the inside. They fit snugly inside the frame completely free of the operating mechanism, permitting all vents to be opened and closed for ventilation.

Controlled Ventilation

Control ventilation all year long. Exclusive patented micromatic adjustment assures perfect dual seal around the entire perimeter of each vent. Concealed cross shaft permits every window to be opened and locked into any position to allow circulating ventilation. The glass panels form awning protection against rain when open and a wind, water and dust-proof seal when closed.

Flexibility of Design

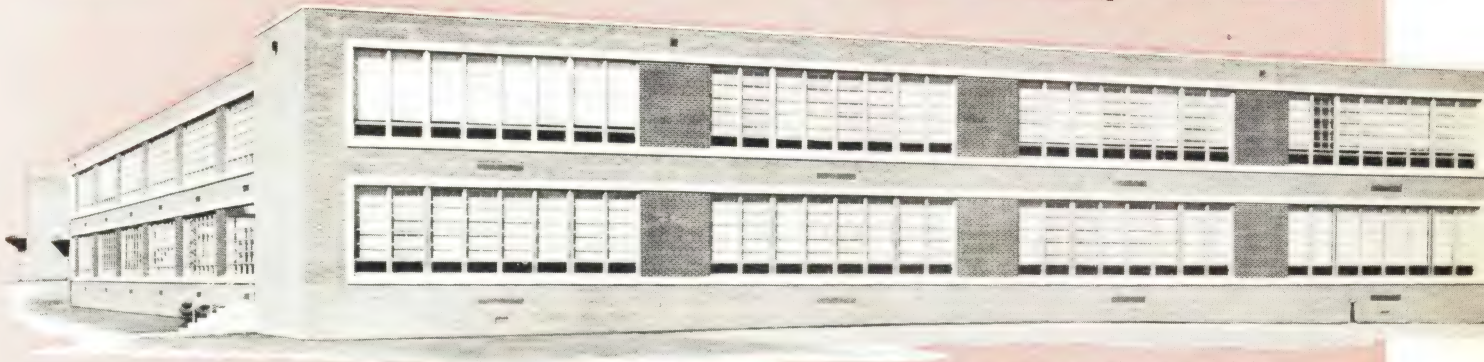
Available in a wide variety of sizes, TRU-SEAL offers a figuration for every possible requirement. Our engineers have designed TRU-SEAL windows to meet individual needs and will fabricate any number of units of any design that may be desired for a job.



Citizens Building & Loan Association, Silver Springs, Md.



YMCA Building, Tulsa, Oklahoma



Mary Munford School addition, Richmond, Virginia



Residence, Detroit, Michigan



Porch Enclosure, St. Louis, Missouri



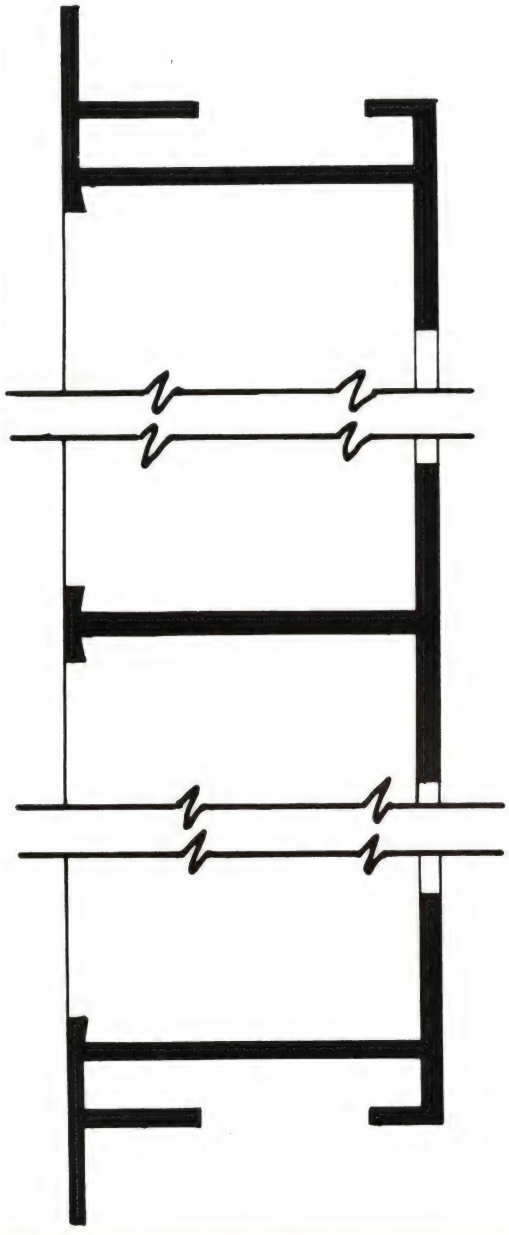
Resurrection Church, St. Louis, Missouri

Experts in all phases of the building industry have agreed that the TRU-SEAL aluminum awning window has greater versatility and adaptability than any other window on the market. It offers the architect and builder the smoothest operating, finest construction and best engineering features of any in the awning window field today.
It meets all the requirements necessary in the awning window industry.

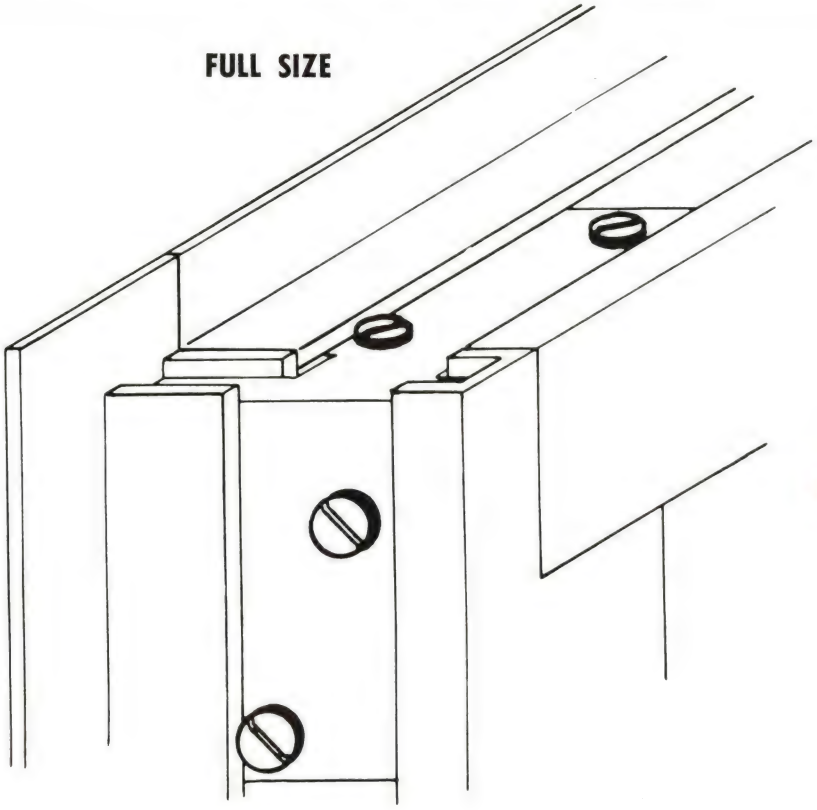
- Initial cost is no higher than many ordinary old fashioned windows.
- Maintenance costs are practically nil due to superior design and construction.
- Draft free? See Pittsburg test results on page 15.
- Can be easily cleaned from the inside.
- Smooth easy torque bar operation.
- Heavy Duty yet unobtrusive, beautiful hardware.
- Screens and storm sash interchangeable from inside building.
- Controlled ventilation.
- Flexibility of window figuration to meet all requirements.
- Special sizes to fit any opening at moderate costs.
- Patented Micromatic Adjustment.
- Flashweld corners.
- Smoothline frame with no inside screws etc. to mar beauty.

The TRU-SEAL engineers are constantly striving to improve the window design in every way. Their knowledge and experience is available to any one desiring window help.

TRU-SEAL® K-D Picture Windows



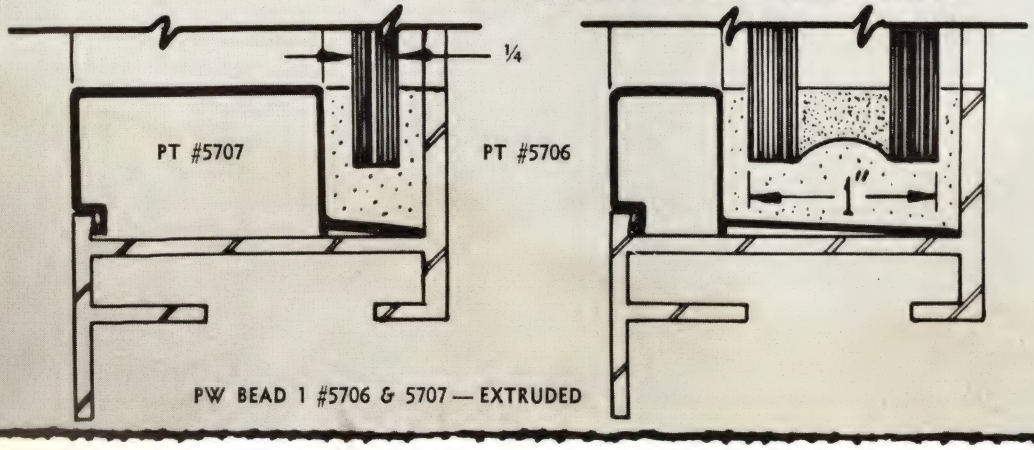
FULL SIZE



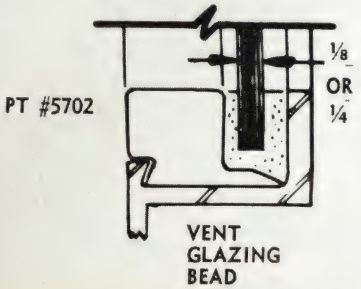
Check These Advantages of K.D.P.W.

- Convenient and easy to ship.
- Travel damage is kept at a minimum.
- A minimum amount of storage accommodates your inventories of standard sizes.
- Heavy extruded sections are easy to assemble.
- *Immediately available* to customers.
- Wide range of sizes.
- Glazing with compound or bead is designed to take ⅛″ to 1″ glass.

GLAZING BEAD & APPLICATION

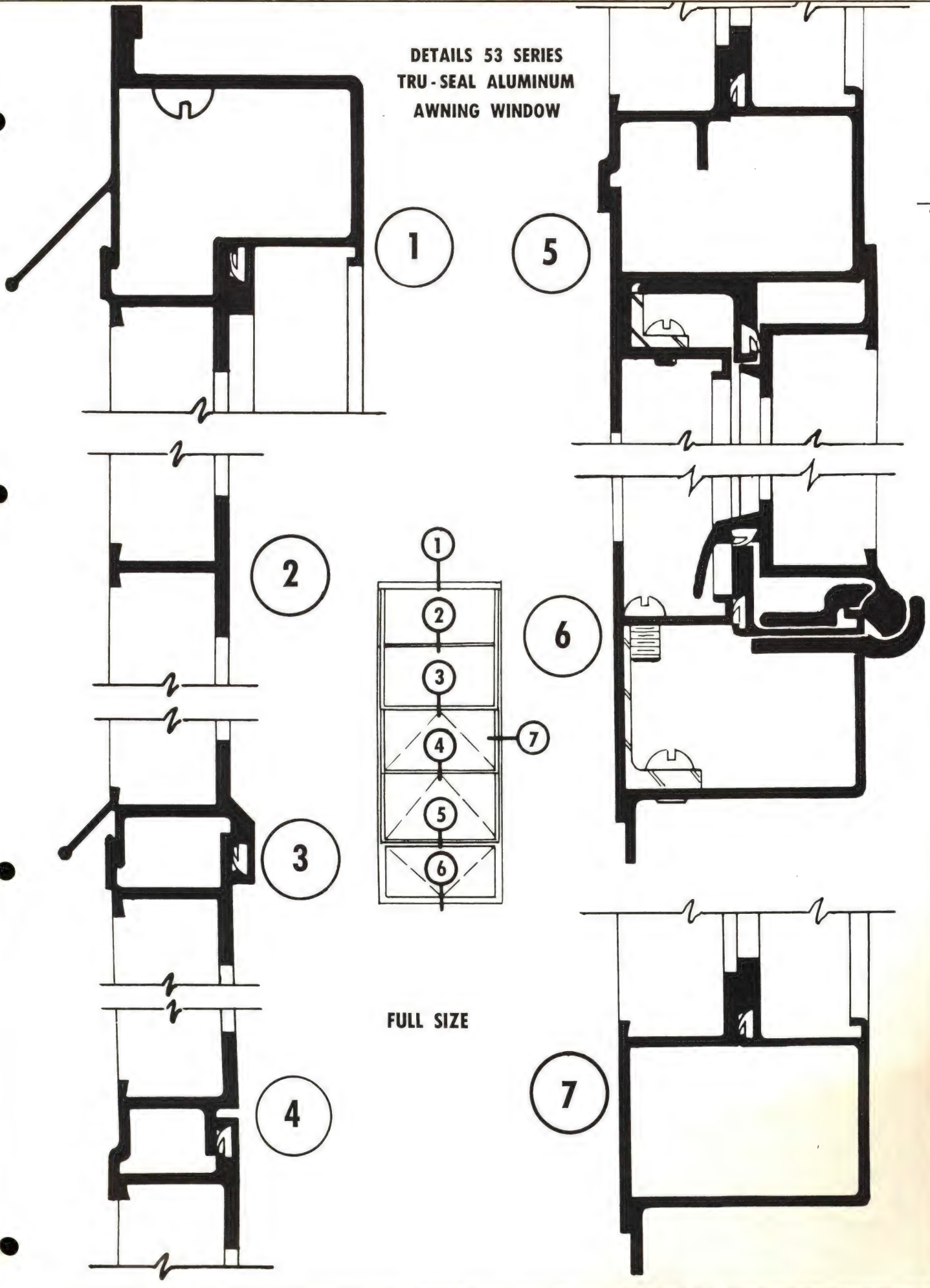


PW BEAD 1 #5706 & 5707 — EXTRUDED



For use in awning windows only

DETAILS 53 SERIES
TRU-SEAL ALUMINUM
AWNING WINDOW

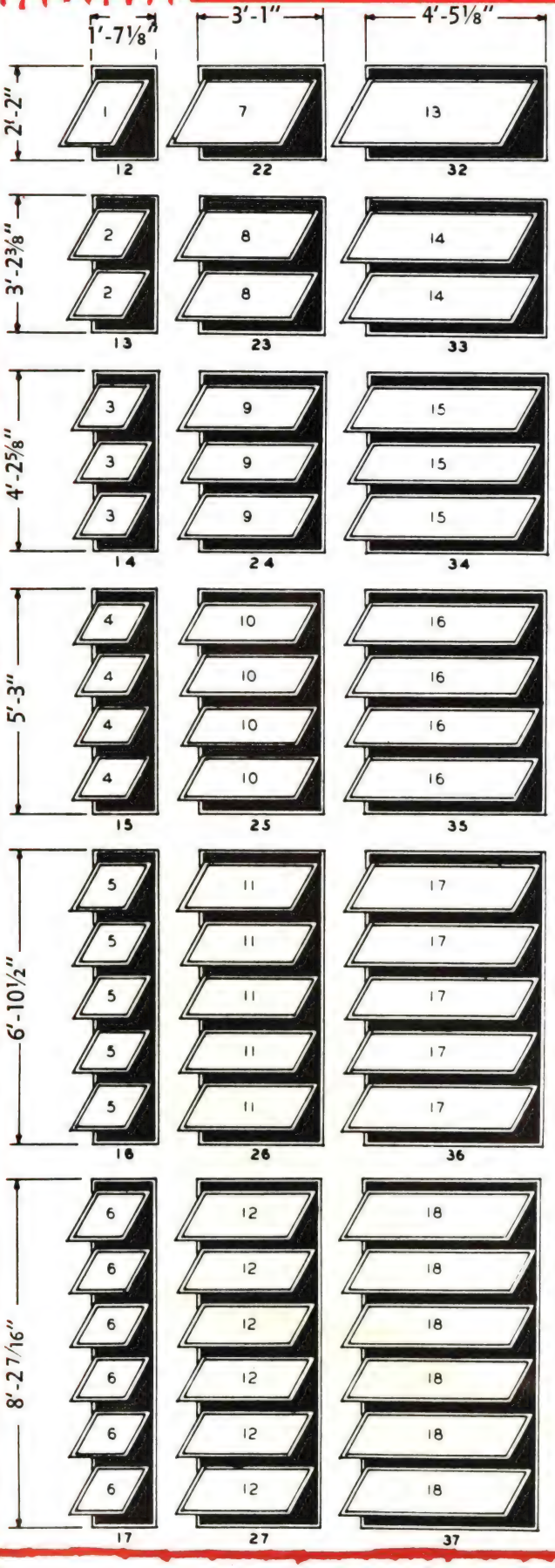


FULL SIZE

TRU-SEAL®

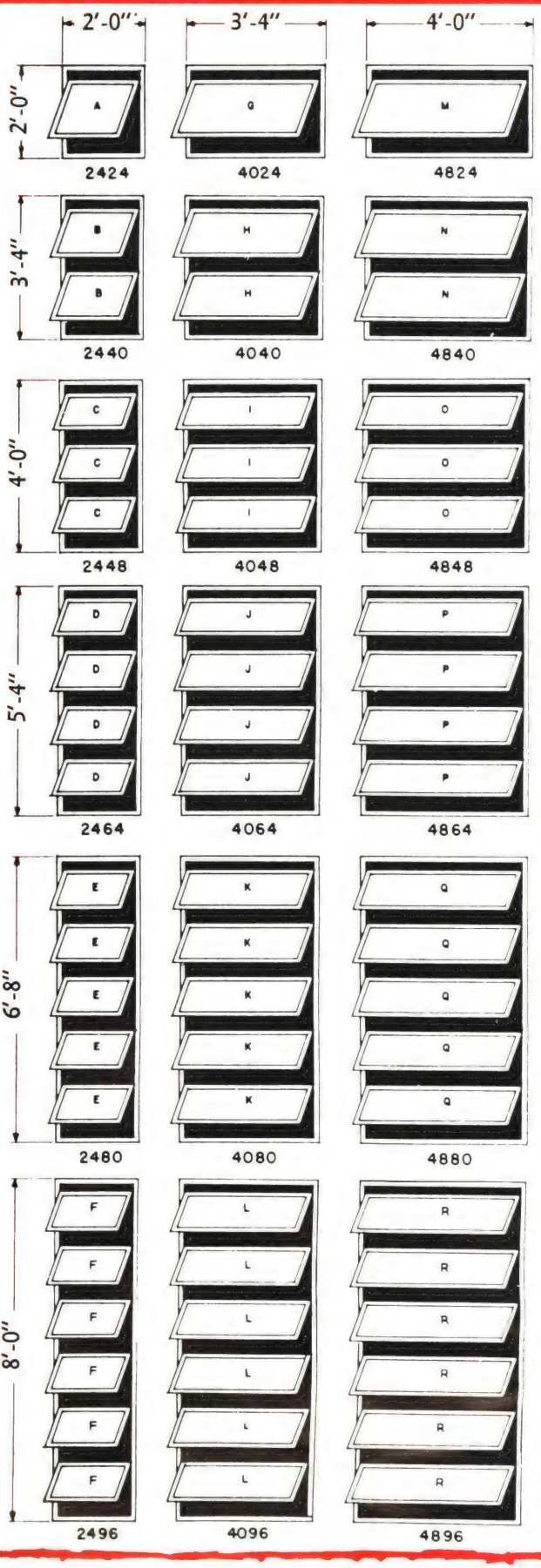
Stock Window Sizes

COMMODITY



ALL VENTS ON ANY ONE COMMODITY OR MODULAR WINDOW HAVE SAME GLASS OPENING DIMENSIONS

MODULAR



Special Sizes

TRU-SEAL®

5a
Tru

Limitations of Special Sizes

Any maximum dimensions on the chart at the right is based on glazing with double strength glass. Where heavier glass is required these maximums must be revised to meet the need.

Engineering information will be gladly furnished on any problem.

Vent Sizes

Minimum	Maximum
13⅝" Glass Height	22⅜" Glass Height

Hopper Sizes

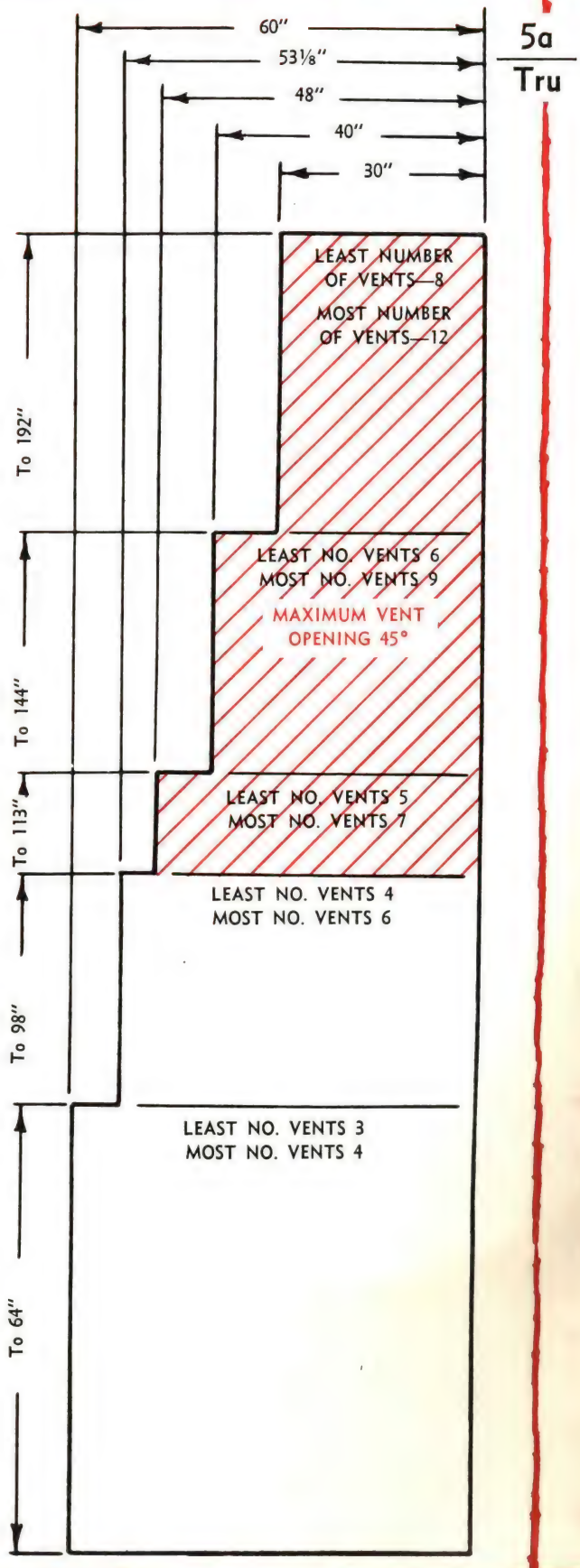
The maximum window width for any window with a single hopper is 53⅛".

Minimum Hopper Vent Height 10.5" G.O.

Maximum Hopper Vent Height 24" G.O.

Maximum Hopper Vent Opening 45°

Tru-Seal reserves the right to establish the number of vents in any window.

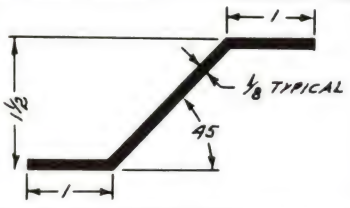
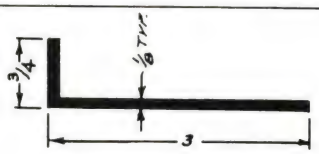
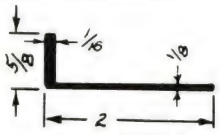
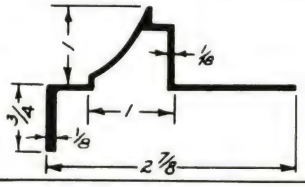
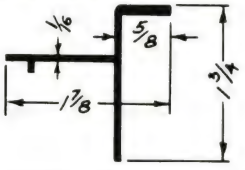
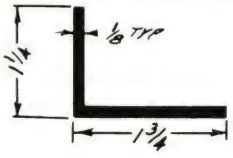
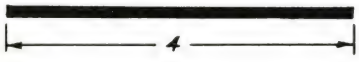
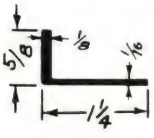
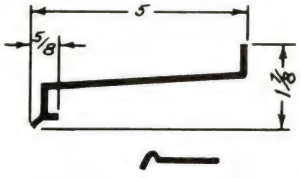


ACTUAL GLASS SIZES

COMMODITY		MODULAR	
S1	15x21⅜	SA	19⅞x19⅜
S2	15x16 5/16	SB	19⅞x17⅛
S3	15x14 9/16	SC	19⅞x13 11/16
S4	15x13¾	SD	19⅞x14
S5	15x14 11/16	SE	19⅞x14 3/16
S6	15x14 11/16	SF	19⅞x14¼
S7	32⅞x21 7/16	SG	35⅞x19 7/16
S8	32⅞x16⅜	SH	35⅞x17 3/16
S9	32⅞x14⅝	SI	35⅞x13¾
S10	32⅞x13 13/16	SJ	35⅞x14 1/16
S11	32⅞x14¾	SK	35⅞x14¼
S12	32⅞x14¾	SL	35⅞x14 5/16
S13	49x21 7/16	SM	43⅞x19 7/16
S14	49x16⅜	SN	43⅞x17 3/16
S15	49x14⅝	SO	43⅞x13¾
S16	49x13 13/16	SP	43⅞x14 1/16
S17	49x14¾	SQ	43⅞x14¼
S18	49x14¾	SR	43⅞x14 5/16

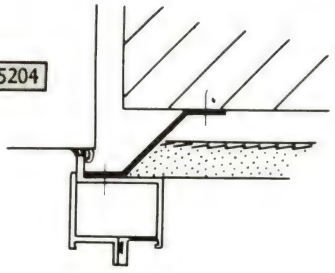
TRU-SEAL®

Fins and Anchors

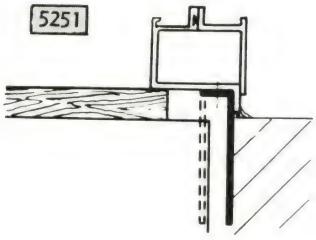
PART NO. & USE	ILLUSTRATION
5204 FIN OR ANCHOR FOR: HEAD JAMB & SILL	
5251 FIN OR ANCHOR FOR: HEAD JAMB & SILL	
5257 FIN OR ANCHOR FOR: HEAD JAMB & SILL	
5253 BRICK STOP FIN FOR: JAMB	
5254 TRIM STOP FIN FOR: JAMB	
5255 FIN OR ANCHOR FOR: HEAD JAMB & SILL	
5262-A1 ANCHOR FOR: HEAD JAMB & SILL	
5252 FIN OR ANCHOR FOR: HEAD JAMB & SILL	
5228 SILL & CLIP FOR: SILL ONLY	

Suggested Applications

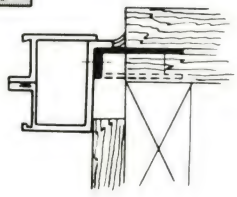
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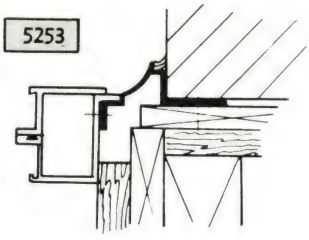
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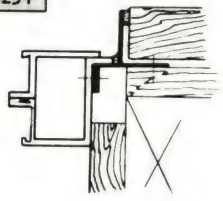
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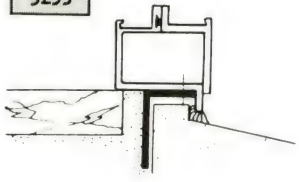
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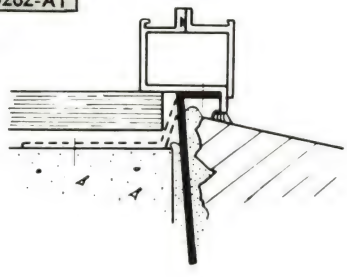
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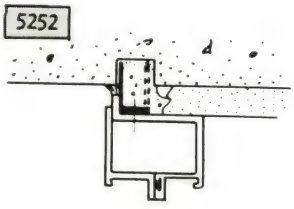
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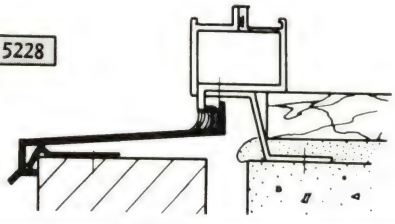
5262-A1



5252

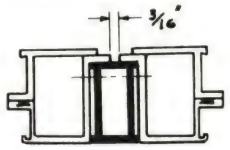
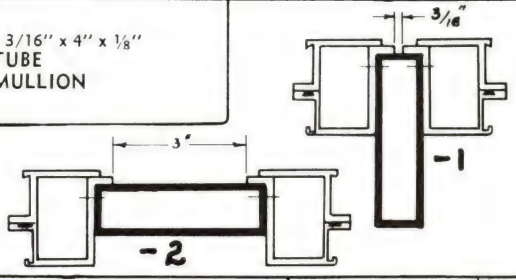
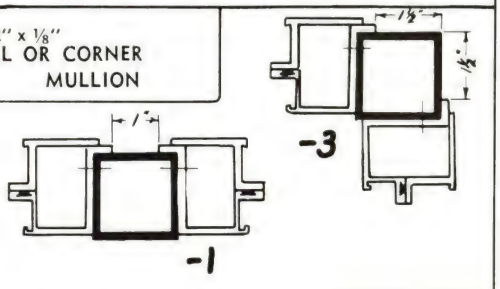
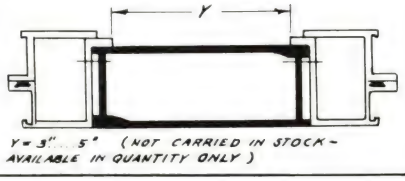
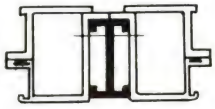
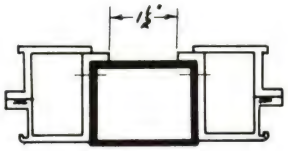
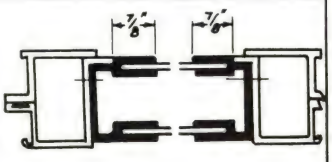


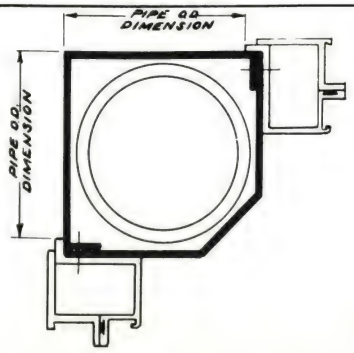
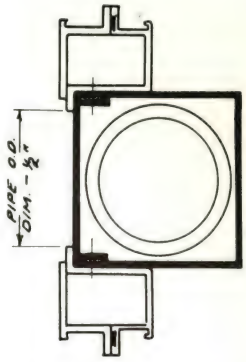
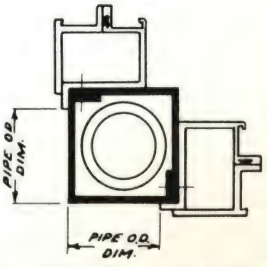
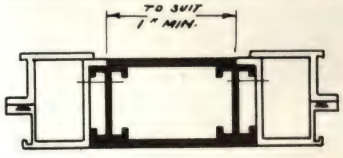
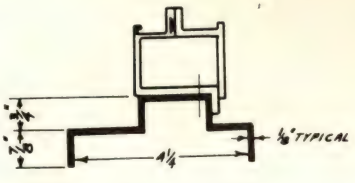
5228



Cover Plates and Mullions

TRU-SEAL®

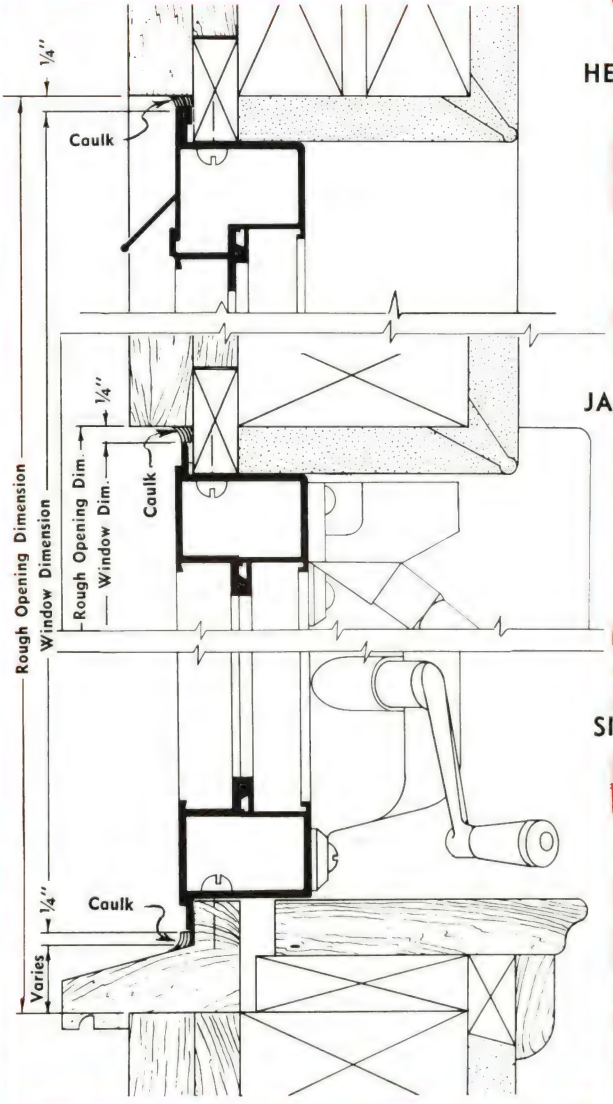
PART NO.	ILLUSTRATION
5206 1 3/16" x 1⅞" x 3/32" TUBE MULLION	
5203 1 3/16" x 4" x ⅛" TUBE MULLION	
5210 2" x 2" x ⅛" WALL OR CORNER MULLION	
5224-1 Y" x 1⅞" x ⅛" VARIABLE WIDTH MULLION	
5221 1" x 1¾" x 3/32" ZERO MULLION	
5223 2½" x 2" x ⅛" TUBE MULLION	
5224 2" (Min.) x 1⅞" x ⅛" EXPANDABLE MULLION	

PART NO.	ILLUSTRATION
5229 (PIPE O.D. DIMENSION) CORNER COLUMN COVER PLATES METAL THICKNESS AS SPECIFIED	
5230 (PIPE O.D. DIMENSION) WALL COLUMN COVER PLATES METAL THICKNESS AS SPECIFIED	
5231 (PIPE O.D. DIMENSION) CORNER COVER PLATES METAL THICKNESS AS SPECIFIED	
5221-S SPACER MULLION	
5233 GLASS BLOCK SURROUND	

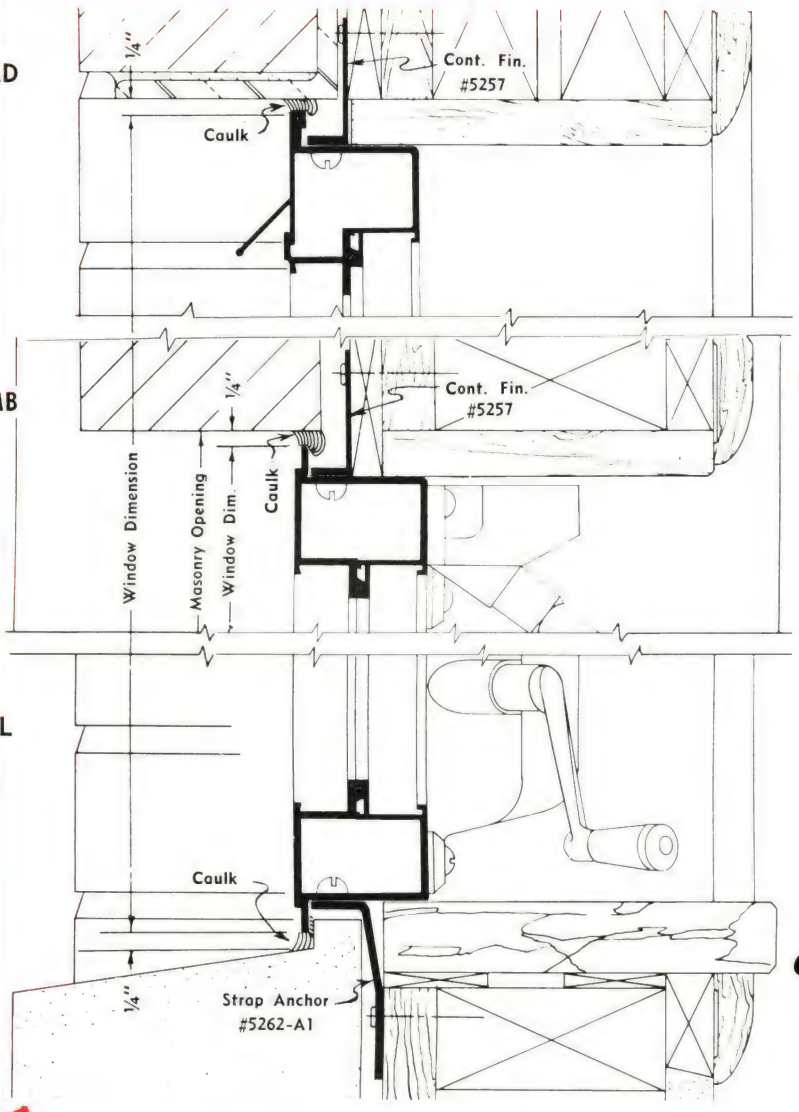
TRU-SEAL®

Typical Installation

FRAME



BRICK VENEER



SPECIFICATIONS

GENERAL – All windows shall be aluminum awning windows as manufactured by the Tru-Seal Window Division of Industrial Machine Tool Co., Inc., Fenton, Michigan. Types and sizes shall be shown on the plans.

MATERIAL – All frame and vent members shall be of extruded 63S-T5 aluminum alloy with approximately 3/32" thickness. Weathering and overlaps shall not be less than ¼".

All frame members shall have a minimum depth of 1-31/32".

All vent sections shall have a minimum depth of 31/32".

All mechanisms and fasteners contained within the frame shall be of suitable aluminum or stainless steel.

CONSTRUCTION – The operation mechanism shall be concealed within the jamb and sill sections of the frame. The operating mechanism shall consist of two slide bars containing vent and link mechanism; both slide bars are to be connected by a cross shaft for maximum power transmission from the mechanical operator, resulting in a smooth, easy and efficient operation.

FRAME – All corners shall be mitered and electrically flash welded with exposed surfaces dressed smooth. The inner flange of the window frame shall be designed so as to contain a weatherstrip retaining channel on the exterior face of the flange. There shall be no protrusions, screws or mechanical fasteners of any kind on the inner exposed surface of the frame.

WEATHERSTRIPPING – Shall be of vinyl – or equivalent – no rubber, felt or substitute material shall be used. The design of that weatherstrip shall be such as to resist and deflect any wind pressure applied upon it when the vent is in a closed position.

HARDWARE – The operating mechanism shall be enclosed within a streamlined housing attached to one jamb at the sill. It shall consist of a hardened steel worm gear, with 24S-T36 aluminum alloy connecting links.

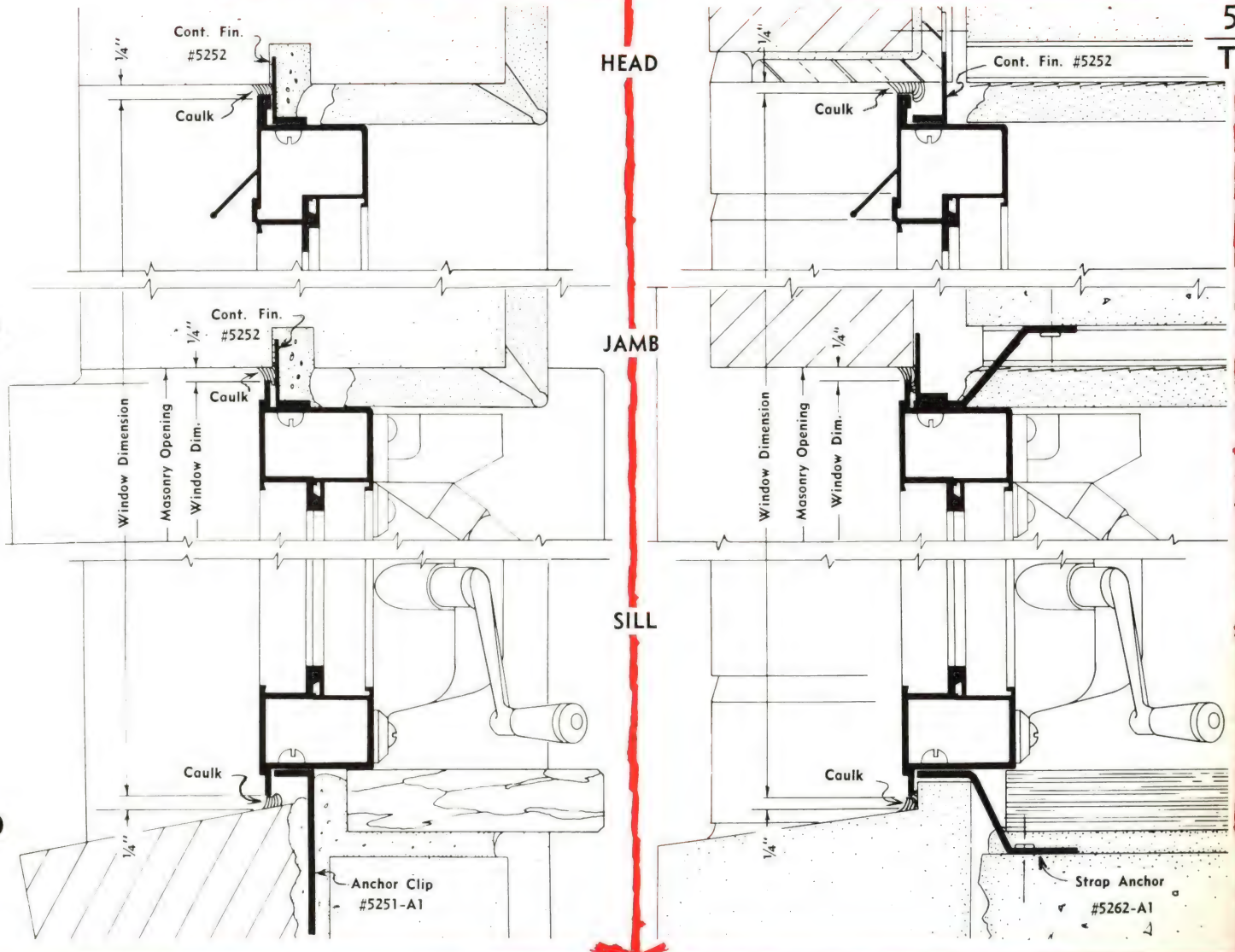
Details

TRU-SEAL®

CONCRETE BLOCK

SOLID MASONRY

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VENTS – The vents shall be high pressure riveted in such manner as to insure a rugged sturdy unit. Each ventilator shall in the assembled window have a maximum opening of no less than 80° with the upper vent dropping to a sufficient degree to permit the cleaning of that vent from within.

When a vent is in the closed position, the vinyl weatherstrip seal concealed on the perimeter of the inner leg flange of the frame will be compressed thus supplementing the metal-to-metal contact seal. This also permits a metal-to-metal contact seal on the perimeter of the outer leg flange of the frame.

LINKAGE ADJUSTMENT ON VENTILATORS – There shall be provided on both sides of each vent a micromatic link adjustment of no less than ¼" movement. The purpose of said adjustment shall be to bring about a perfect alignment and sealing contact between the frame and adjacent vent thus definitely controlling the amount of air infiltration.

FINISH – Windows shall be in natural aluminum finish thoroughly buffed and cleaned before shipment.

MULLIONS – Shall be as furnished by the Tru-Seal Window Division, Inc., for aluminum awning windows as required.

SCREENS – Shall be supplied by the Tru-Seal Window Division, Inc., with rolled or extruded section set in rabbet in frame and secured with clips as required.

ERECTION – Windows shall be erected by the general contractor, anchored as detailed with clips, fins or mulls as specified. Windows shall be properly shimmed and carefully braced to maintain perfect alignment until surrounding structure is secure.

CAULKING – Before erection, the entire perimeter of each frame shall be caulked with non-staining caulking compound.

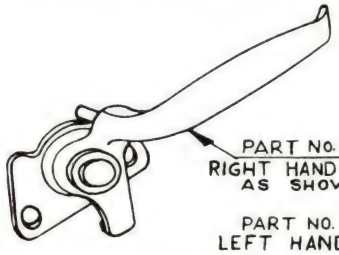
GLAZING – We recommend the use of the TRU-SEAL snap on aluminum glazing bead for permanence and appearance plus ease of glazing to save time and costs. However, windows may be glazed from outside using spring glazing clips and aluminum sash putty.

DRAWINGS AND INSTALLATION DETAILS – The TRU-SEAL Division will furnish standard details showing recommendations for the installation of the windows and prepare such drawing as required for the convenience of the architect and contractor.

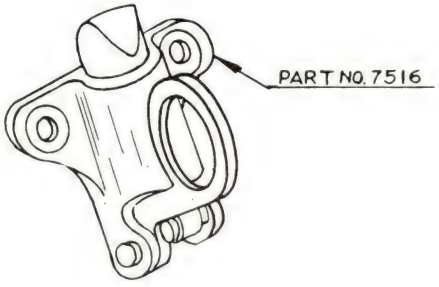
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Accessories

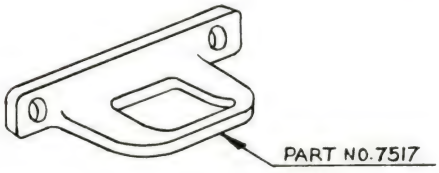
HOPPER LATCH



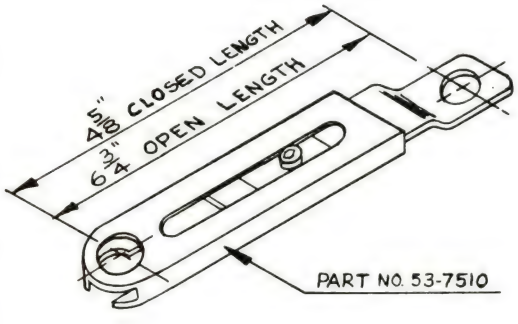
SPRING PULL

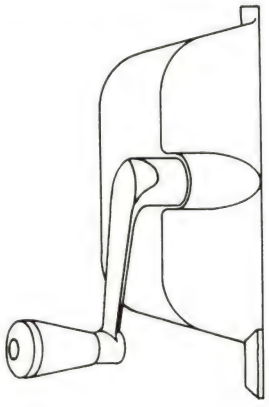


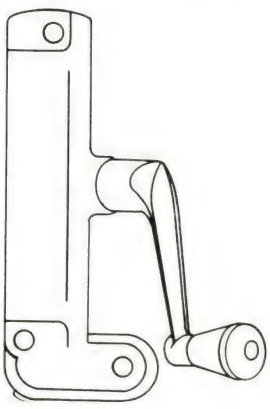
KEEPER



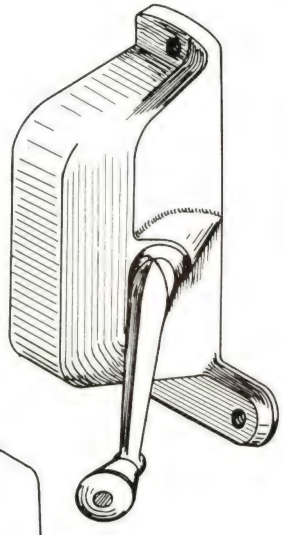
HOPPER LINK

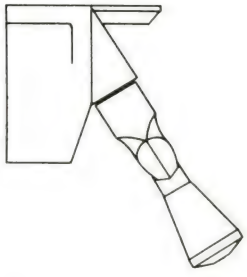


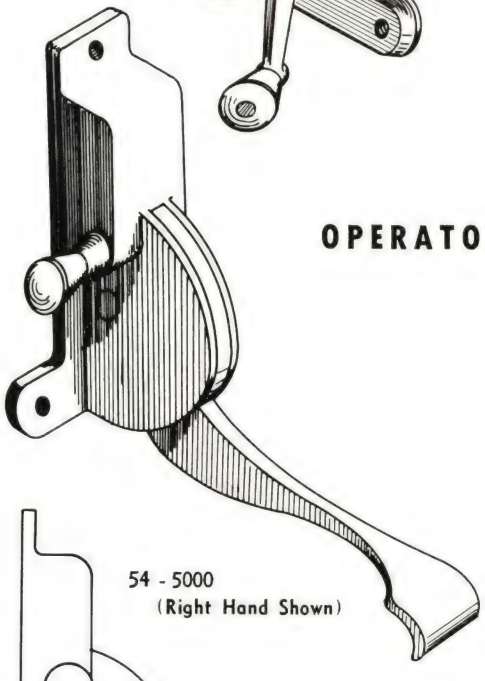




53 - 5000
(Left Hand Shown)

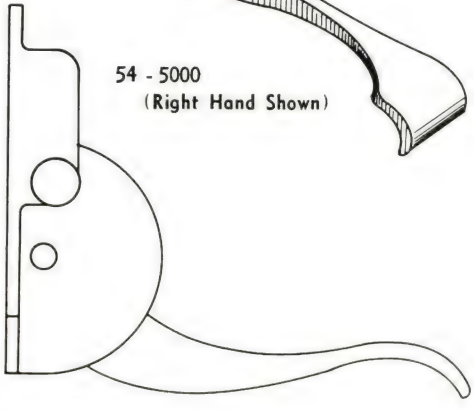




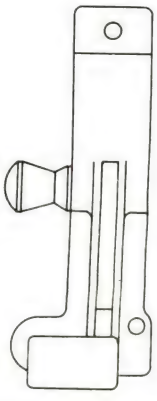


OPERATOR





54 - 5000
(Right Hand Shown)



QUALITY TEST

(A.W.M.A. Specifications)
Air Infiltration Report
Size Tested—4′ x 5′6″
Uniform Load and Hardware Load Report
Size Tested—4′5⅛″ x 8′2¼″

PITTSBURGH TESTING LABORATORY
ESTABLISHED 1921
PITTSBURGH, PA.

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ORDER No. DE-104
CLIENT'S No. Verbal from Mr. Westman

REPORT

LABORATORY No. 441182
FILE No.

April 27, 1953

REPORT ON
TESTS CONDUCTED
ON
AWNING WINDOWS
FOR
INDUSTRIAL MACHINE TOOL COMPANY, INC.
WINDOW DIVISION
FENTON, MICHIGAN

GENERAL

Two aluminum awning windows were submitted by the Window Division of the Industrial Machine Tool Co., Inc. of Fenton, Michigan for tests to check conformance to the requirements of the current Aluminum Window Mfgrs. Association Specification A-A2, Awning Windows for Commercial-and Monumental-Type Buildings.

One unit measured overall 4′0″ wide x 5′6″ high, contained four ventilators fully venting the window, and was submitted for air infiltration test. The other unit measuring overall 4′5-1/8″ x 8′2 1/4″ high contained six vents fully venting the window and was submitted for the tests other than air infiltration, listed under Paragraph 2.10.4.1 Physical Load Tests of the above mentioned specifications.

METHOD OF TEST

The tests were conducted in accordance with the procedures indicated in the pertinent sections of the A.W.M.A. Specification A-A2. The uniform load test and hardware load test were completed on the larger unit, but due to an accident in handling, the large unit was damaged and the horizontal deflection was necessarily postponed until a later date when a new unit could be submitted.

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LABORATORY No.
FILE No.

ORDER No. DE-104
CLIENT'S No. Verbal from Mr. Westman

REPORT

TEST RESULTS

AIR INFILTRATION

The air infiltration at a static pressure equivalent to a wind velocity of 25 miles per hour was determined to be 0.059 cu. ft. per minute per foot of overall ventilator crack perimeter, based on a perimeter of 30.37 ft. Specification maximum permissible was 0.500 cu. ft. per minute per foot.

UNIFORM LOAD TEST

Under a uniform load of 15 pounds per square foot applied to the face of the 4′5-1/8″ x 8′2 1/4″ window unit, the maximum deflection of any member was found to be at the center of the top horizontal rail of the third vent from the bottom and was found to be 0.286″. The specified permissible maximum deflection for the size ventilators in that unit was 0.300″.

HARDWARE LOAD TEST

The six vents of the 4′5-1/8″ x 8′2 1/4″ unit were loaded simultaneously by the method indicated and met the requirements of Paragraph 2.10.4.1B Hardware Load Test of the above mentioned specification.

COMMENTS

The window units submitted satisfactorily met the requirements of sections B and C of Paragraph 2.10.4.1 Physical Load Tests and Section A of Paragraph 2.10.4.2 Air Infiltration Test of the current Aluminum Window Manufacturers Association Specification A-A2 Awning Windows for Commercial-and Monumental-Type Buildings.

PITTSBURGH TESTING LABORATORY
Joseph Geram
Joseph Geram
Manager, Special Test Section

3-Industrial Tool Company, Inc.
Att: Mr. Westman

RESULTS:

These tests prove that TRU-SEAL engineering and experience produces products of highest quality and design.

NORTH-EAST-SOUTH or WEST

ALL ACROSS THE NATION and in several foreign countries too, TRU-SEAL Aluminum Awning Windows are FIRST in the minds of those responsible for the selection of this important element in construction . . . home, community, commercial or industrial.

TRU-SEAL

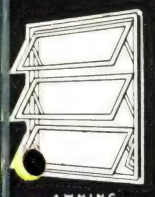
aluminum awning WINDOWS

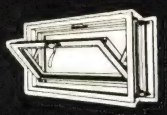
. . . add to HEALTH · COMFORT
BEAUTY · EFFICIENCY PERMANENCE



Within the pages of this catalog you should find the information needed so that YOU TOO can experience NEW customer satisfaction through TRU-SEAL windows. However, don't hesitate to drop us a line if there is any way at all that we can be of service.

TRU-SEAL WINDOWS Division, Industrial Machine Tool Co., Inc. FENTON, MICHIGAN

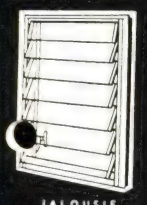

AWNING


GLASS BLOCK


AWNING HOPPER


SELECT-A-VENT

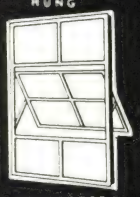



JALOUSIE


CASEMENT


HOPPER


DOUBLE HUNG


PROJECTED

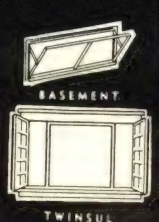

PIVOTED

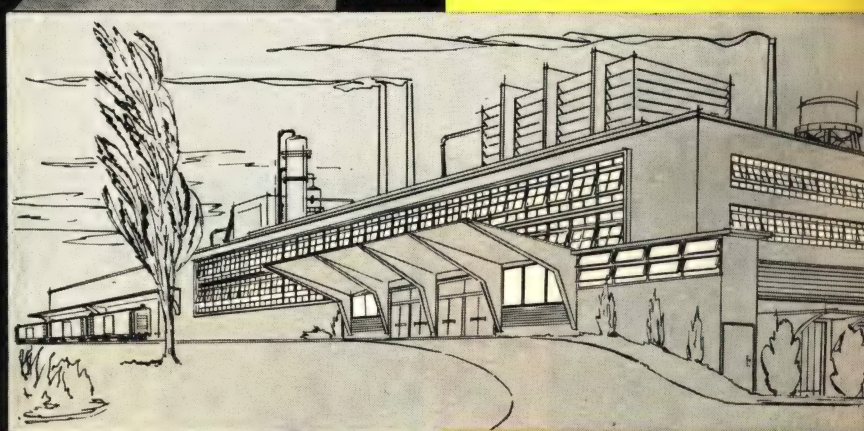



UTILITY


RANCH WALL


HORIZONTAL SLIDING


BASEMENT
TWINSUL



Ualco®
U-AL-CO

ALUMINUM WINDOWS

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SOUTHERN SASH SALES AND SUPPLY COMPANY, INC.
SHEFFIELD, ALABAMA



Ualco Aluminum Windows install easily and economically, require no upkeep, and add beauty and sales appeal to increase the resale and rental value for the life of the structure.

Their lifetime, natural, aluminum neatness harmonizes with any type construction. Muntins and frames are designed narrow for large, modern windows without lost strength. Drafts and ventilation are instantly controlled. Screens and storm sashes are easily installed on the room side of the casement window.

Made of top quality extruded aluminum, Ualco windows cannot rust, rot, split or warp. They have a permanent satin-smooth finish. They withstand corrosion, damp and heat . . . never need scraping or painting. Economical. Lightweight.

FEATURES OF UALCO CASEMENT WINDOWS



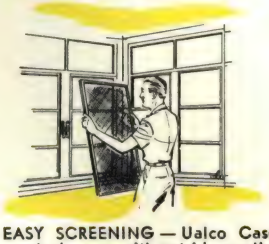
EASE OF OPERATION — Trouble-free. Open easily, close tightly. Cannot warp, swell or stick. They will never be "painted shut."



100% VENTILATION — Open completely to give complete ventilation. Slender frames and muntins provide greater "openness" for maximum light and view.



GREATER WALL SPACE—Because of more light area and narrow frames, more useable wall space is made available through Ualco Casements.



EASY SCREENING — Ualco Casements do away with outside weather beater screen and ladder climbing. Screens slip in easily on inside; also storm sash.

SPECIFICATIONS

GENERAL—Types and sizes shown herein are windows as manufactured to the plans and specifications listed below by Union Aluminum Company, Inc., Sheffield, Alabama.

MATERIAL—Ualco Lifetime Aluminum Casement Windows shall be of solid extruded aluminum alloy 6063-T5 mill finish of not less than 22,000 lbs. per square inch tensile strength. Frame members shall not be less than 3/32″ in thickness and not less than ⅛″ thickness at all weathering and outside edges. Ventilator members and muntins shall not be less than ⅛″ thickness.
Frame and vent members shall not be less than 1″ in depth.

CONSTRUCTION—Ualco Lifetime Aluminum Casement Windows shall be electrically flash welded at all frame and vent corners. Muntins shall be firmly attached to their cross joints and their abutting sash sections. Windows with transoms shall have an integral rain drip extruded in the transom member. Window without transoms, upon request can be furnished with a separate rain drip, shipped loose and to be applied to the top member of the window frame prior to installation.

HARDWARE—Ualco Lifetime Aluminum Casement Window shall be equipped with die cast Rotary type underscreen operator with aluminum lacquer finish, also die cast locking handles with aluminum lacquer finish.

Ualco Lifetime Aluminum Casement Window ventilators shall be attached to the frame with *aluminum truss type hinges,* riveted securely to both ventilator and frame.

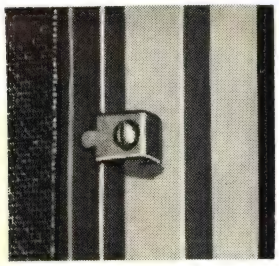
Fins, trim fins, brick mould, and a variety of anchor clips furnished at additional cost.

NOTE: Where desired for building into masonry wall, fins or other anchoring accessories are to be given one coat of bituminous asphalt paint at points of contact with the masonry wall. This painting is furnished by others.

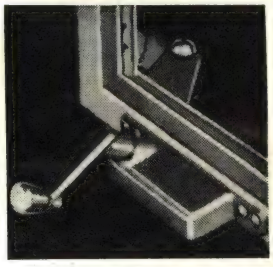
SCREENS—Shall be extruded or rolled aluminum frame members mitered at the corners and joined by a concealed aluminum corner angle. Screen cloth shall be 18/14 mesh aluminum wire, held in place by aluminum splines or other satisfactory material.

STORM SASH—Available on request.

HARDWARE



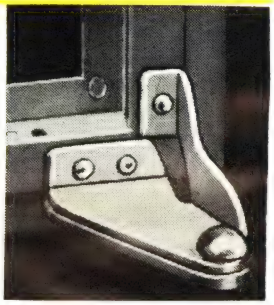
Attachment for securing the screen or storm sash to inside of casement window.



Rotary operator, under screen type. Lacquered die cast aluminum.



Easy action locking handle . . . lacquered die cast aluminum.



Truss-type self cleaning hinge, riveted to frame and ventilator.

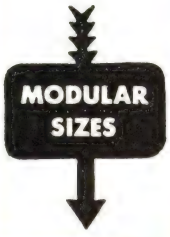
ALUMINUM CASEMENT WINDOWS

★ THE DIMENSIONS SHOWN ARE OVER ALL

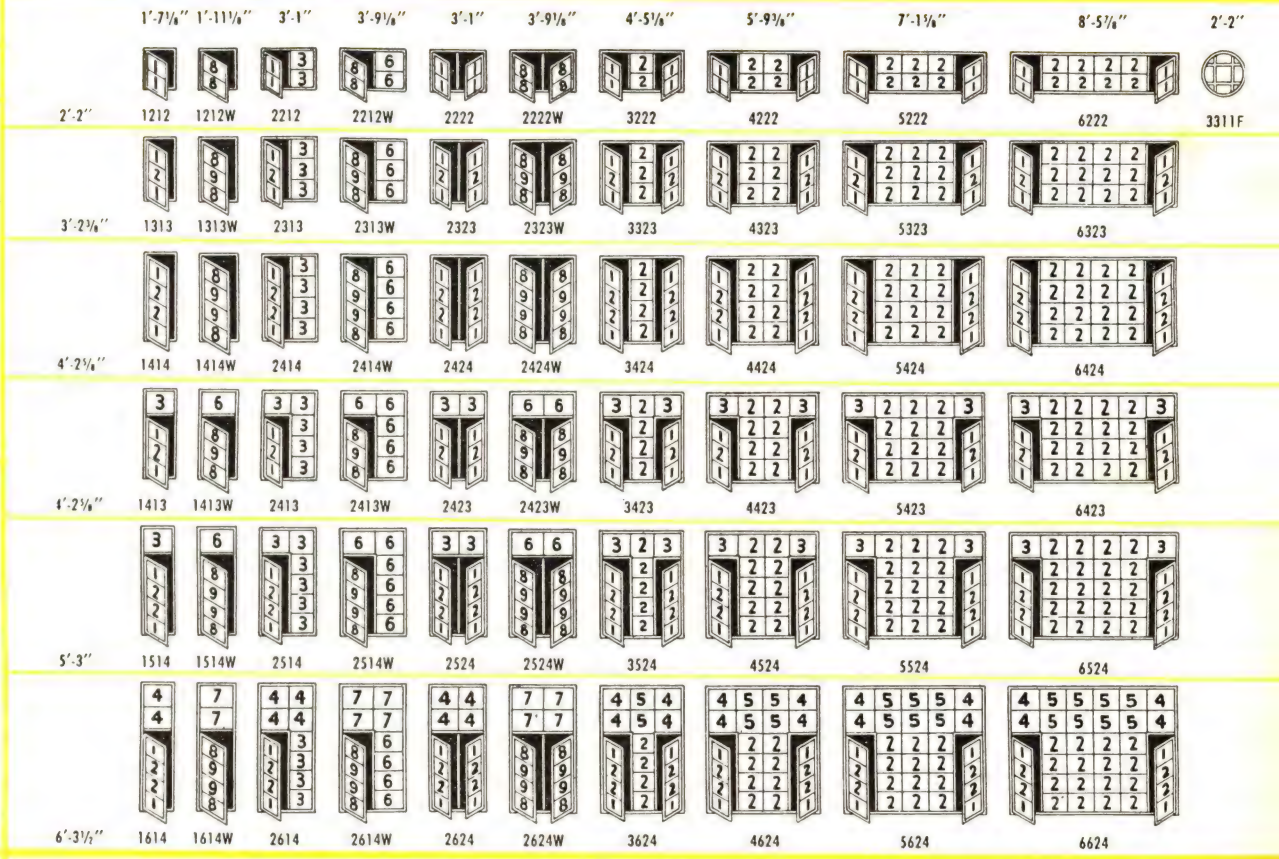
CODE
- FIRST NUMBER INDICATES (LIGHTS WIDE)
- SECOND NUMBER INDICATES (LIGHTS HIGH)
- THIRD NUMBER INDICATES (NO. OF VENTS)
- FOURTH NUMBER INDICATES (NO. LIGHTS IN EACH VENT)

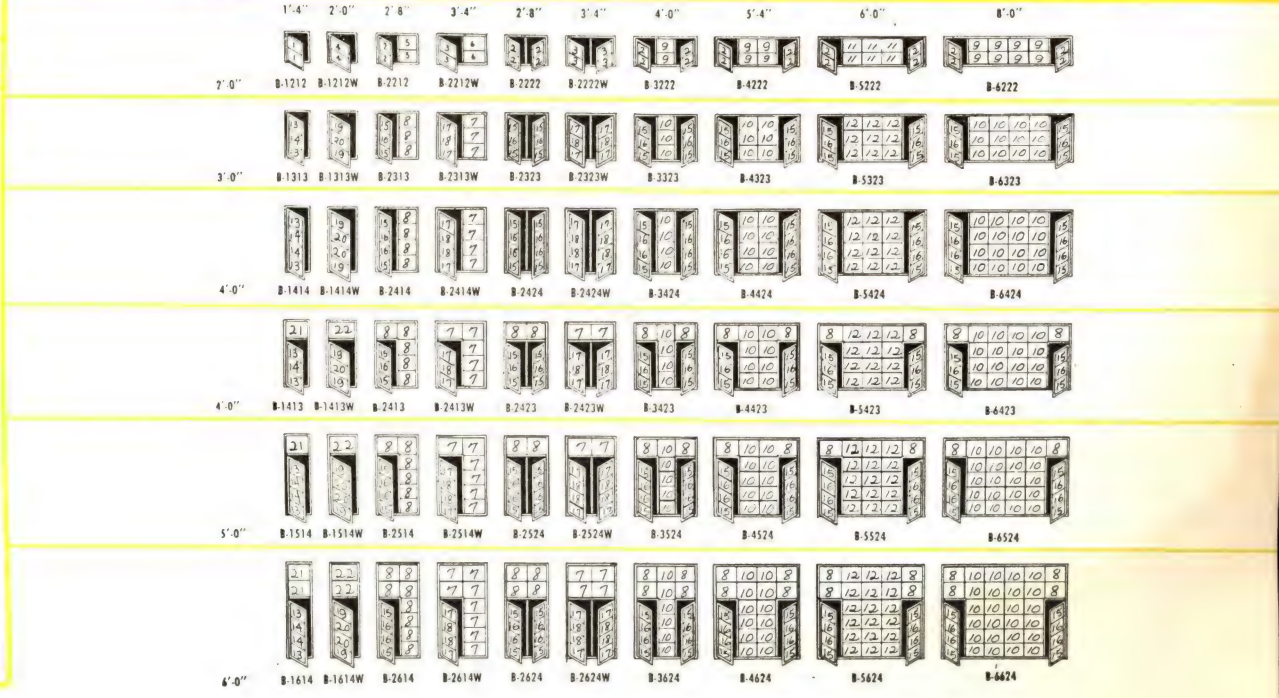
STANDARD SIZES

GLASS SIZES	WIDTH	HEIGHT
1	15¾″	11¼″
2	15¾″	12″
3	17¼″	12″
4	17¼″	12¼″
5	15¾″	12¼″
6	21¼″	12″
7	21¼″	12¼″
8	19¾″	11½″
9	19¾″	12″



GLASS SIZES	WIDTH	HEIGHT
1	12¾″	10¼″
2	13¼″	10¼″
3	17¼″	10¼″
4	20¾″	10¼″
5	15″	11″
6	19″	11″
7	19″	11½″
8	14¾″	11½″
9	15¾″	11″
10	15¾″	11¼″
11	13″	11″
12	13″	11¼″
13	12¾″	10½″
14	12¾″	11¼″
15	13¼″	10½″
16	13¼″	11¼″
17	17¼″	10½″
18	17¼″	11¼″
19	20¾″	10½″
20	20¾″	11¼″
21	14¼″	11½″
22	22¼″	11½″

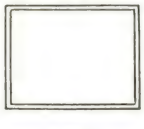




VARIATIONS—Arrangement of muntins and mullions of Standard and Modular Ualco Casement Windows provides many variations of designs to conform to all types of architectural requirements. **NOTE:** Always use Ualco catalog numbers and legend.


4524 PC


44 Fixed


44P

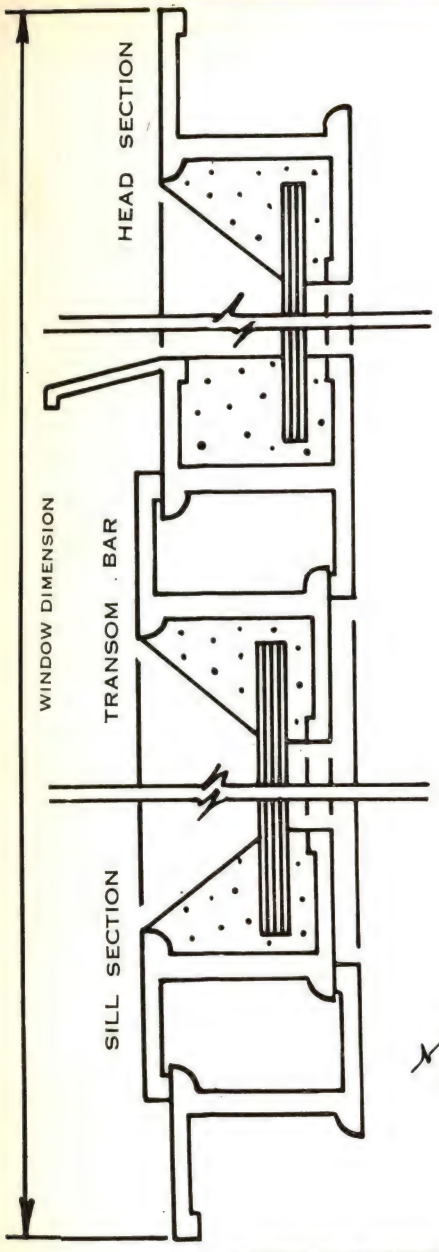

34HMO

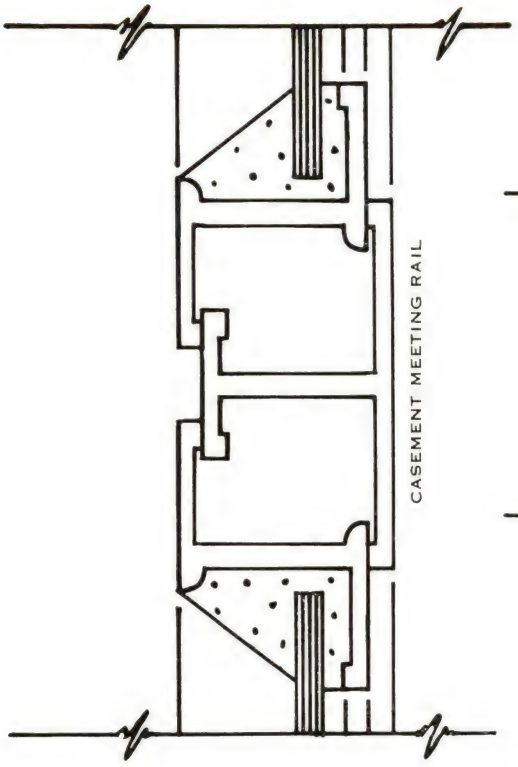

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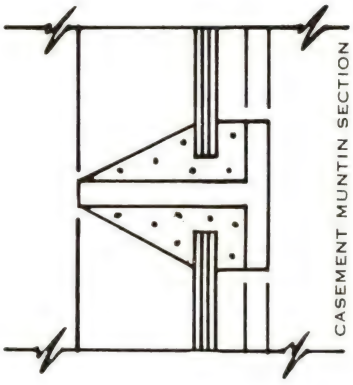

3423 CMO

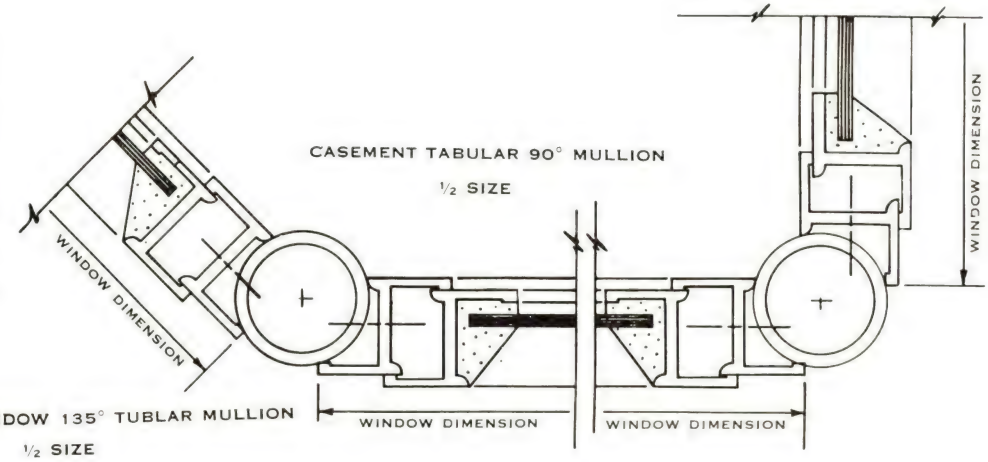
ALUMINUM CASEMENT WINDOWS

details—full size except as marked

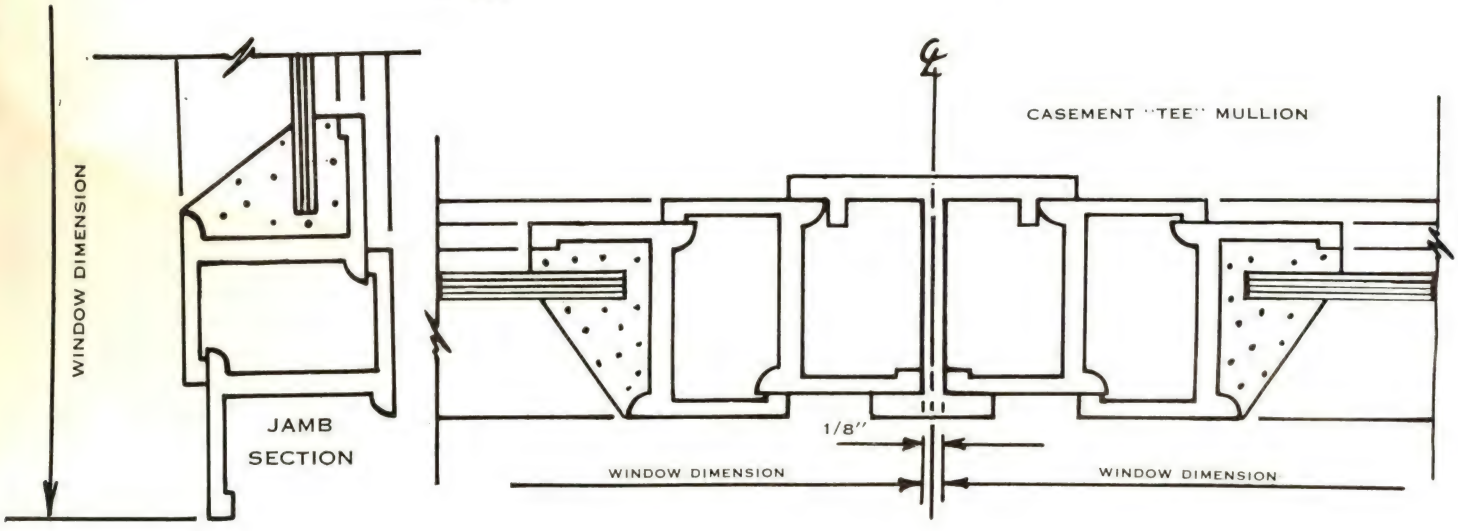






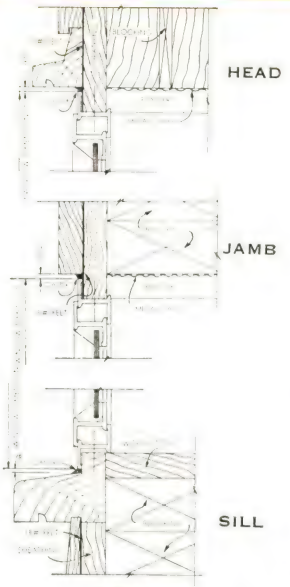


CASEMENT WINDOW 135° TUBLAR MULLION
½ SIZE

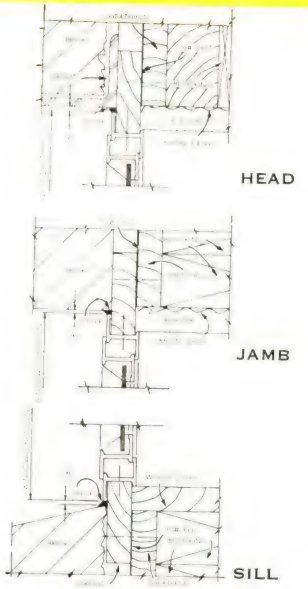


ALUMINUM CASEMENT WINDOWS
INSTALLATION DETAILS

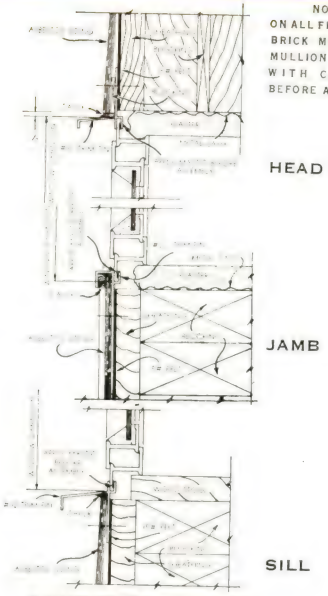
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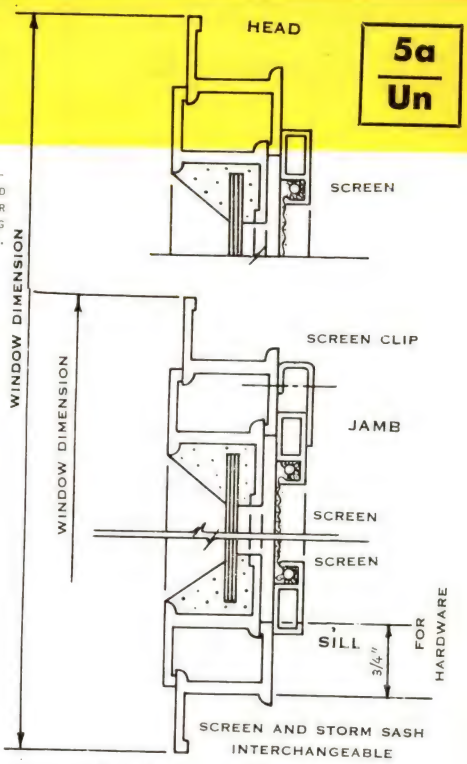
FRAME CONSTRUCTION

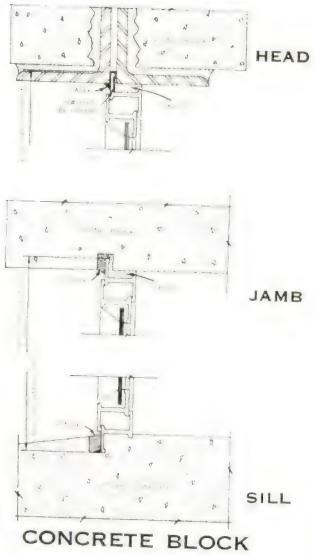


BRICK VENEER WITH WOOD FIN

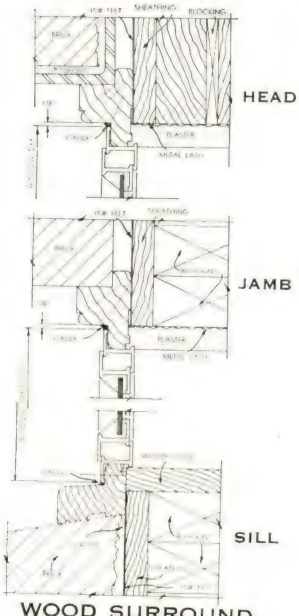


ASBESTOS SIDING WITH FIN TRIM

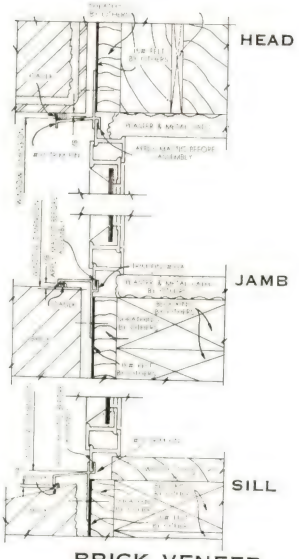




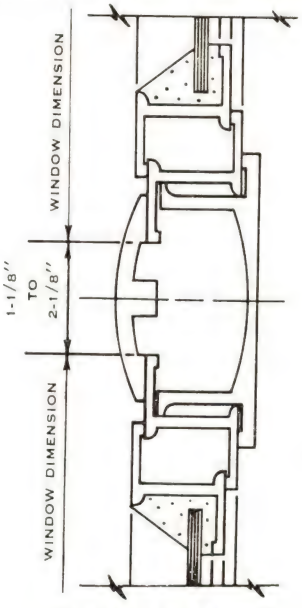
CONCRETE BLOCK



WOOD SURROUND IN BRICK VENEER

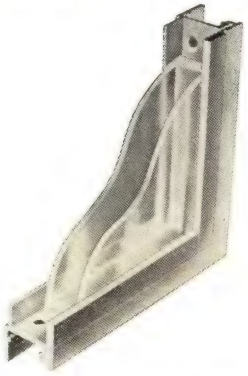


BRICK VENEER WITH FIN TRIM



VARIABLE MULLION ASSEMBLY

TWINSUL ➡
double glazed units for picture windows and window walls

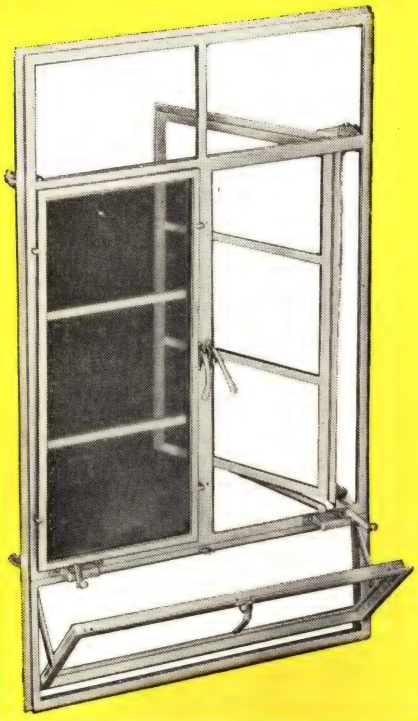


frame no.	glass size width	glass size height	frame size overall width	frame size overall height
D.G. 10	48½"	46"	51¼"	48¾"
D.G. 20	56½"	46⅛"	59¼"	48⅞"
D.G. 30	72½"	46"	75¼"	48¾"
D.G. 40	48½"	50"	51¼"	52¾"
D.G. 50	56½"	50"	59¼"	52¾"
D.G. 60	64½"	50"	67¼"	52¾"
D.G. 70	72½"	50"	75¼"	52¾"
D.G. 80	80½"	50"	83¼"	52¾"
D.G. 90	96½"	50"	99¼"	52¾"
D.G. 100	64½"	58"	67¼"	60¾"
D.G. 110	72½"	58"	75¼"	60¾"
D.G. 120	80½"	58"	83¼"	60¾"
D.G. 130	96½"	58"	99¼"	60¾"
D.G. 140	116½"	58"	119¼"	60¾"
D.G. 150	56½"	66"	59¼"	68¾"
D.G. 170	72½"	66"	75¼"	68¾"
D.G. 180	42"	66"	44¾"	68¾"
D.G. 200	42"	72"	44¾"	74¾"
D.G. 220	84"	66"	86¾"	68¾"
D.G. 230	84"	72"	86¾"	74¾"
D.G. 240	64½"	66"	67¼"	68¾"
D.G. 250	96"	66"	98¾"	68¾"

frame no.	glass size width	glass size height	frame size overall width	frame size overall height
D.G. 260	96"	72"	98¾"	74¾"
D.G. 270	46⅛"	52½"	48⅞"	55¼"
D.G. 280	58⅛"	52½"	60⅞"	55¼"
D.G. 290	70⅛"	52½"	72⅞"	55¼"
D.G. 300	46⅛"	56½"	48⅞"	59¼"
D.G. 310	58⅛"	56½"	60⅞"	59¼"
D.G. 320	70⅛"	56½"	72⅞"	59¼"
D.G. 330	35½"	36"	38¼"	38¾"
D.G. 340	48"	48"	50¾"	50¾"
D.G. 350	72"	48"	74¾"	50¾"
D.G. 360	35½"	48⅛"	38¼"	50⅞"
D.G. 370	55¼"	48⅛"	58"	50⅞"
D.G. 380	75"	48⅛"	77¾"	50⅞"
D.G. 390	48"	60"	50¾"	62¾"
D.G. 400	72"	60"	74¾"	62¾"
D.G. 410	35½"	60⅜"	38¼"	63⅛"
D.G. 420	55¼"	60⅜"	58"	63⅛"
D.G. 430	75"	60⅜"	77¾"	63⅛"
D.G. 34	50⅜"	47⅞"	53⅛"	50⅝"
D.G. 35	50⅜"	60¼"	53⅛"	63"
D.G. 44	66⅝"	47⅞"	69⅜"	50⅝"
D.G. 45	66⅝"	60¼"	69⅜"	63"

Note: Frame Size is outside dimensions. Only Nos. 34, 35, 44, 45 adaptable to standard Ualco casements by millions.

ALUMINUM HOPPER VENT WINDOWS



SELF-MULLING CASEMENT WINDOW WITH HOPPER

SPECIFICATIONS

GENERAL—Types and sizes shown herein are windows as manufactured to the plans and specifications listed below by Union Aluminum Company, Inc., of Sheffield, Alabama.

MATERIAL—UALCO hopper vent windows shall be made of especially designed solid extruded aluminum shapes of not less than 3/32" thickness, frames being made of Zee sections which are 1" in depth and 1/8" in cross section.

All UALCO hopper vent windows are fabricated from aluminum of a special alloy of not less than 22,000 pounds of tensile strength per square inch. This alloy is to be 6063-T5, corners are electrically flash-welded, mortised, tenoned and swedged.

SCREENS—Aluminum screens made from either extruded or rolled sections and mesh aluminum wire complete with all attaching fixtures and obtainable from either manufacturer or dealer.

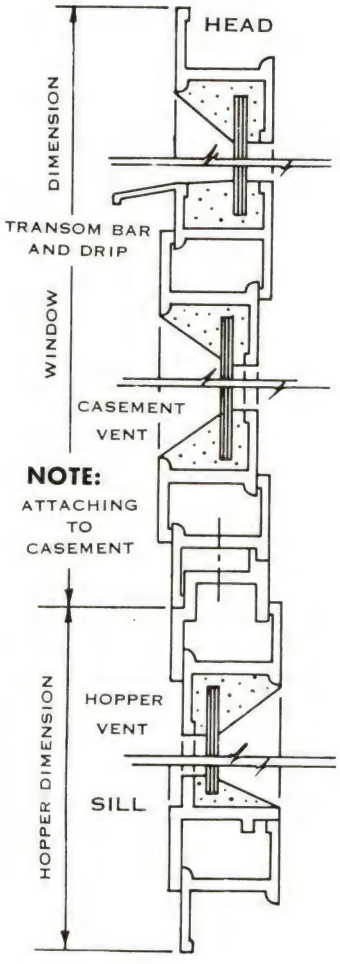
STORM SASH—Available on request.

• Draft-free, controlled ventilation is important in hospitals and schools and is an asset to personal comfort in all residential, commercial, public and apartment buildings.

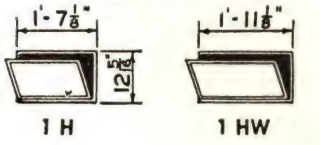
For any type construction, for any mode decoration . . . specify UALCO Lifetime Aluminum Hopper Windows for maximum draft-free, rain-free ventilation control. Hoppers are easily opened, regulated and closed.

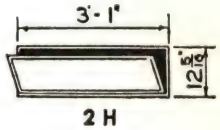
UALCO hopper vents are manufactured from extruded solid aluminum sections. Their beautiful satin-smooth finish resists decay and corrosion for the life of the building . . . without maintenance costs. No painting. No scraping.

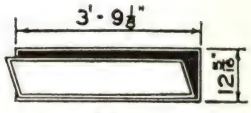
HOPPER VENT SECTION DETAILS
SCALE ½ SIZE

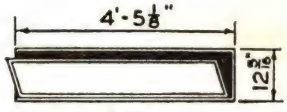


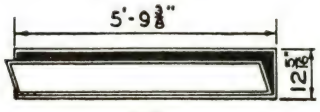
STANDARD SIZES



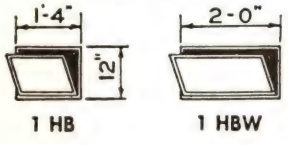


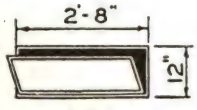


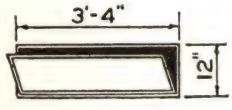


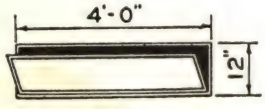


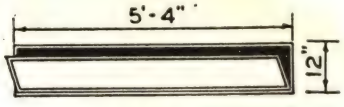
MODULAR SIZES

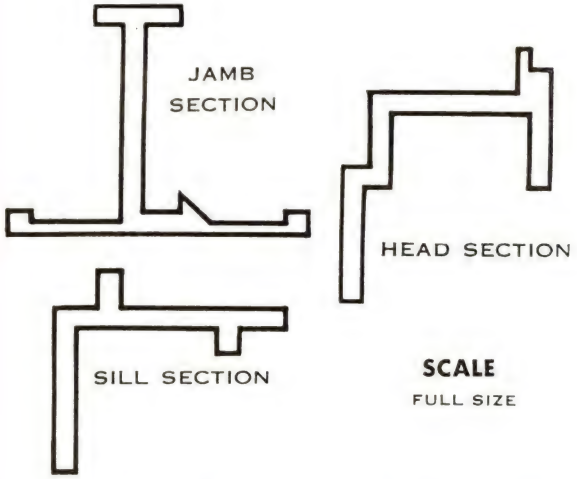












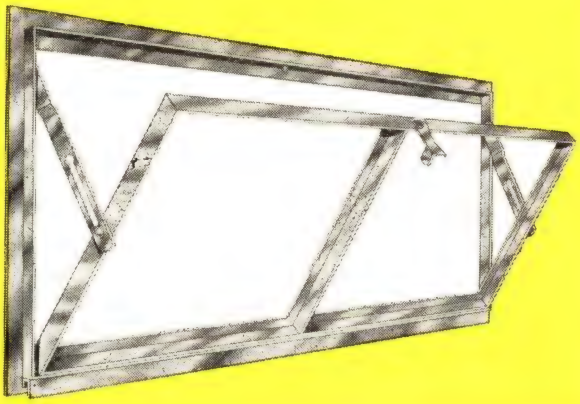
UALCO HOPPER VENT WINDOWS *are adaptable to all types of construction. Factory installed hardware assures positive holding at any ventilation setting. Locking handles are white Bronze with clear lacquer finish.*

ALUMINUM BASEMENT WINDOWS

★ Aluminum Screens and Storm Sash Available

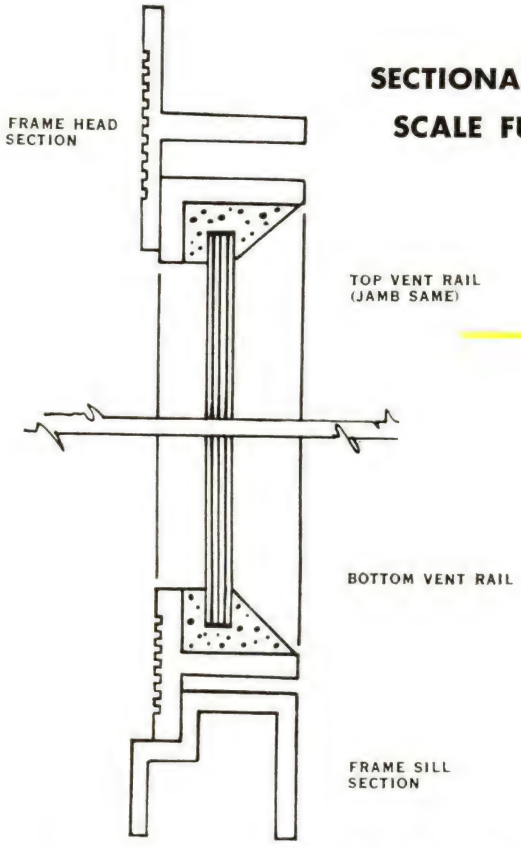
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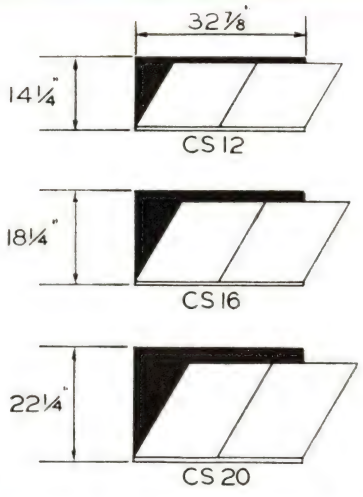
For basement windows, specify low cost Ualco. Tops for economy in glazing . . . for 100% ventilation . . . for economy in installation. Require no maintenance. First cost is last cost.



Ventilator Removable From Frame—Easy To Replace

SECTIONAL DETAILS
SCALE FULL SIZE





GLASS SIZES

2—15" x 12"

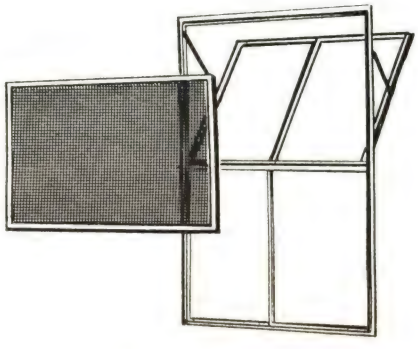
2—15" x 16"

2—15" x 20"

★ ★ UALCO ALUMINUM UTILITY WINDOWS ★ ★

Especially designed for low cost window requirements in public and private garages, shops, warehouses, farm buildings. filling stations. Provides trim appearance, ventilation, convenience and sanitation at minimum cost.

SECTIONAL DETAILS SAME AS BASEMENT



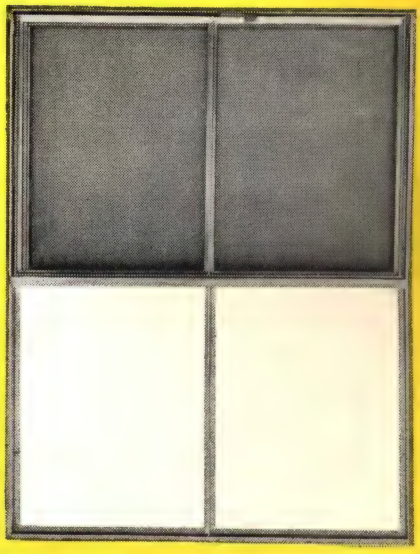
Screen and storm sash available

Sizes

GLASS OPENING SECTION
(2) 15" x 20"

FIXED SECTION
(2) 15⅝" x 20"

WINDOW HEIGHT	WIDTH
42⅝"	32⅞"



ALUMINUM DOUBLE HUNG WINDOWS

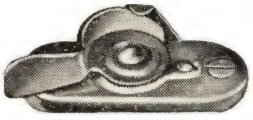


UALCO Aluminum Double Hung Windows will not flex—will neither bind nor permit air leaks—unless structural changes occur in the building itself. They incorporate all the features proven desirable by test installations subjected to severe weather and strain conditions. Available in a choice of standard and special sizes, and in the muntin arrangement that most suits your building design.

HARDWARE — The sash lock shown at left offers protection against forced entry, and locks the window tight against strong winds.

Hardware on all UALCO Lifetime Aluminum windows is stainless steel for long service life.

Aluminum screens are available from Union Aluminum Company and their dealers. Storm sashes are available on request.



SPECIFICATIONS

GENERAL: Ualco Double Hung windows shall be assembled with sash hung and adjusted, ready for shipment as a unit. Frame and sash members are to be fitted together in such a manner as to form a weather tight joint. Window types and sizes shown herein as furnished by Union Aluminum Co., Inc., Sheffield, Alabama.

MATERIAL: Ualco Double Hung frame head and jamb members shall not be less than .062 in thickness. Sill member shall not be less than .062 thickness.

Vent sash members shall not be less than .062 in thickness and .125 thickness.

Ualco Double Hung windows shall be of especially designed extruded aluminum shapes of 6063-T5 alloy having a tensile strength of not less than 22,000 P. S. I.

CONSTRUCTION: Ualco Double Hung windows shall be assembled at each corner with 2 #10 sheet metal screws. Where two or more members are to be installed in a single opening provisions shall be made to assemble the abutting frame members into a structurally satisfactory vertical mullion.

Ualco Double Hung windows shall have an integral fin 3/4" long extruded on the jamb section and on the head section. No anchor clip necessary in the jamb or head section unless specified. Anchor clips are used at the sill section if specified.

SASH: The sash shall be asembled at all corners with #10 sheet metal screws.

MUNTINS: Muntins shall be firmly attached to the sash. All cross sections shall be accurately made and mechanically joined at the intersections.

WEATHERSTRIPPING: All vertical weatherstripping shall be of stainless steel and securely fastened to the jamb of sash.

All horizontal weatherstripping, head, meeting rail and sill shall be of koroseal or vinyl.

HARDWARE: Each lower sash shall be equipped with an intergally extruded lift. All top sash shall be equipped with pull handle or handles secured to the bottom of the top sash. Each window shall be equipped with cresent fastner and strike. Each window shall be equipped with four spiral sash balance of adjustable type.

FINISH: The exposed surfaces of all aluminum frames and sash shall be cleaned to make them uniform in color and free from scratches and other surface blemishes.

PROTECTIVE COATING: A suitable protective lacquer finish shall be applied to all frame and sash members after fabrication.

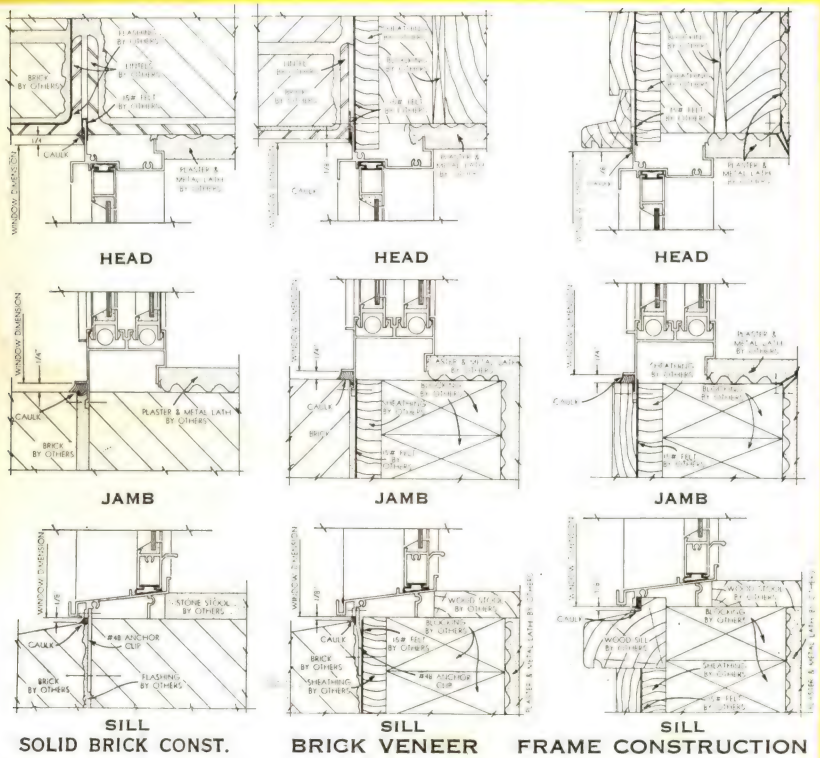
SCREENS: Screens frame shall be extruded aluminum alloy 6063-T5 and angle corner reinforced. Wire cloth shall be 18 x 14 mesh and shall be secured in place by aluminum spline or other material adaptable to aluminum. Screens spline shall be removable for rewiring.

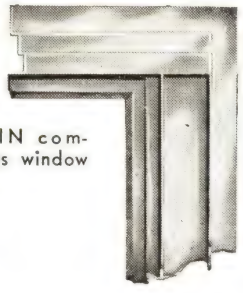
Screens shall be inserted in recess provided on the outside of the window. No mounting screws necessary. Screen removable from the inside.

ERECTION: (Included Under Another Contract)

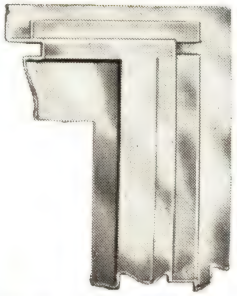
Erect windows in proposed opening according to manufactures drawings. Windows must be set plumb and level. Operating parts must be kept clean from plaster, stucco and other foreign matters.

At no time shall window be forced through an opening which is too small or installed in an opening that is too large. Jamb sections must not be twisted or distorted.

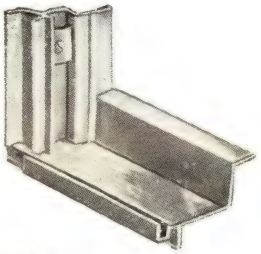




INTEGRAL FIN completely surrounds window



FRAME RIGIDITY is built-in to give maximum strength

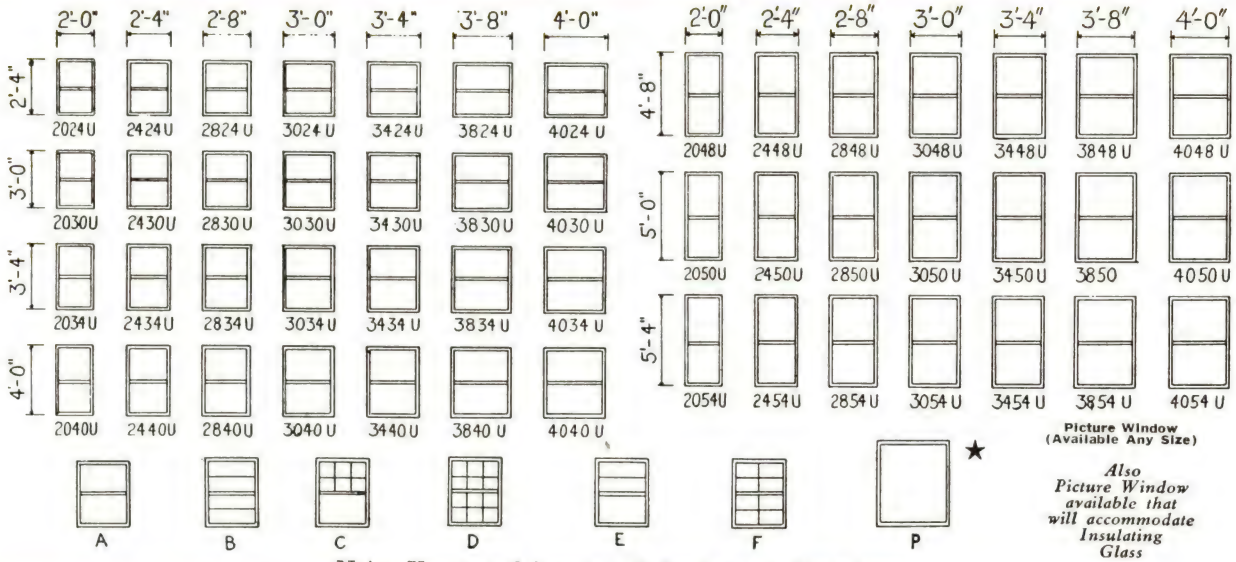


SCREEN SLOT is built-in —an integral part of window

WEATHERSTRIPPED with Stainless Steel and Koroseal Built-in insulation make Ualco Double Hung Windows draft-free, dust-free.

ALUMINUM DOUBLE HUNG WINDOWS

SIZES AS SHOWN ARE WINDOW DIMENSION, NOT OVERALL



Note: Upper and lower sash have same glass sizes.

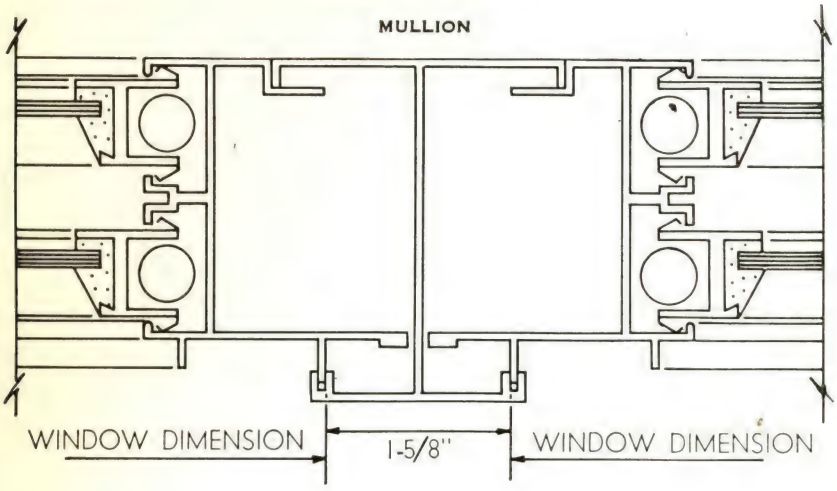
GLASS SIZES

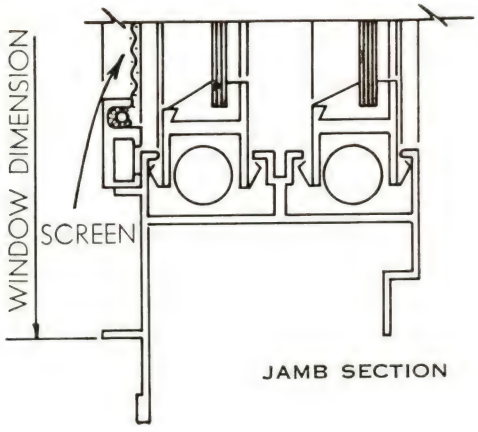
Sizes	1 Light Sash	2 Light Sash	4 Light Sash	6 Light Sash	8 Light Sash
2024	20" x 11-1/2"	20" x 5-5/8"	9-3/4" x 5-5/8"		
2030	20" x 15-1/2"	20" x 7-5/8"	9-3/4" x 7-5/8"		
2034	20" x 17-1/2"	20" x 8-5/8"	9-3/4" x 8-5/8"		
2040	20" x 21-1/2"	20" x 10-5/8"	9-3/4" x 10-5/8"		
2048	20" x 25-1/2"	20" x 12-5/8"	9-3/4" x 12-5/8"		
2050	20" x 27-1/2"	20" x 13-5/8"	9-3/4" x 13-5/8"		
2054	20" x 29-1/2"	20" x 14-5/8"	9-3/4" x 14-5/8"		
2424	24" x 11-1/2"	24" x 5-5/8"	11-3/4" x 5-5/8"	7-3/4" x 5-5/8"	
2430	24" x 15-1/2"	24" x 7-5/8"	11-3/4" x 7-5/8"	7-3/4" x 7-5/8"	
2434	24" x 17-1/2"	24" x 8-5/8"	11-3/4" x 8-5/8"	7-3/4" x 8-5/8"	
2440	24" x 21-1/2"	24" x 10-5/8"	11-3/4" x 10-5/8"	7-3/4" x 10-5/8"	
2448	24" x 25-1/2"	24" x 12-5/8"	11-3/4" x 12-5/8"	7-3/4" x 12-5/8"	
2450	24" x 27-1/2"	24" x 13-5/8"	11-3/4" x 13-5/8"	7-3/4" x 13-5/8"	
2454	24" x 29-1/2"	24" x 14-5/8"	11-3/4" x 14-5/8"	7-3/4" x 14-5/8"	
2824	28" x 11-1/2"	28" x 5-5/8"	13-3/4" x 5-5/8"	9-1/8" x 5-5/8"	
2830	28" x 15-1/2"	28" x 7-5/8"	13-3/4" x 7-5/8"	9-1/8" x 7-5/8"	
2834	28" x 17-1/2"	28" x 8-5/8"	13-3/4" x 8-5/8"	9-1/8" x 8-5/8"	
2840	28" x 21-1/2"	28" x 10-5/8"	13-3/4" x 10-5/8"	9-1/8" x 10-5/8"	
2848	28" x 25-1/2"	28" x 12-5/8"	13-3/4" x 12-5/8"	9-1/8" x 12-5/8"	
2850	28" x 27-1/2"	28" x 13-5/8"	13-3/4" x 13-5/8"	9-1/8" x 13-5/8"	
2854	28" x 29-1/2"	28" x 14-5/8"	13-3/4" x 14-5/8"	9-1/8" x 14-5/8"	
3024	32" x 11-1/2"	32" x 5-5/8"	15-3/4" x 5-5/8"	10-7/16" x 5-5/8"	
3030	32" x 15-1/2"	32" x 7-5/8"	15-3/4" x 7-5/8"	10-7/16" x 7-5/8"	
3034	32" x 17-1/2"	32" x 8-5/8"	15-3/4" x 8-5/8"	10-7/16" x 8-5/8"	
3040	32" x 21-1/2"	32" x 10-5/8"	15-3/4" x 10-5/8"	10-7/16" x 10-5/8"	
3048	32" x 25-1/2"	32" x 12-5/8"	15-3/4" x 12-5/8"	10-7/16" x 12-5/8"	
3050	32" x 27-1/2"	32" x 13-5/8"	15-3/4" x 13-5/8"	10-7/16" x 13-5/8"	
3054	32" x 29-1/2"	32" x 14-5/8"	15-3/4" x 14-5/8"	10-7/16" x 14-5/8"	
3424	36" x 11-1/2"	36" x 5-5/8"	17-3/4" x 5-5/8"	11-3/4" x 5-5/8"	8-21/32" x 5-5/8"
3430	36" x 15-1/2"	36" x 7-5/8"	17-3/4" x 7-5/8"	11-3/4" x 7-5/8"	8-21/32" x 7-5/8"
3434	36" x 17-1/2"	36" x 8-5/8"	17-3/4" x 8-5/8"	11-3/4" x 8-5/8"	8-21/32" x 8-5/8"
3440	36" x 21-1/2"	36" x 10-5/8"	17-3/4" x 10-5/8"	11-3/4" x 10-5/8"	8-21/32" x 10-5/8"
3448	36" x 25-1/2"	36" x 12-5/8"	17-3/4" x 12-5/8"	11-3/4" x 12-5/8"	8-21/32" x 12-5/8"
3450	36" x 27-1/2"	36" x 13-5/8"	17-3/4" x 13-5/8"	11-3/4" x 13-5/8"	8-21/32" x 13-5/8"
3454	36" x 29-1/2"	36" x 14-5/8"	17-3/4" x 14-5/8"	11-3/4" x 14-5/8"	8-21/32" x 14-5/8"
3824	40" x 11-1/2"	40" x 5-5/8"	19-3/4" x 5-5/8"	13-1/8" x 5-5/8"	9-21/32" x 5-5/8"
3830	40" x 15-1/2"	40" x 7-5/8"	19-3/4" x 7-5/8"	13-1/8" x 7-5/8"	9-21/32" x 7-5/8"
3834	40" x 17-1/2"	40" x 8-5/8"	19-3/4" x 8-5/8"	13-1/8" x 8-5/8"	9-21/32" x 8-5/8"
3840	40" x 21-1/2"	40" x 10-5/8"	19-3/4" x 10-5/8"	13-1/8" x 10-5/8"	9-21/32" x 10-5/8"
3848	40" x 25-1/2"	40" x 12-5/8"	19-3/4" x 12-5/8"	13-1/8" x 12-5/8"	9-21/32" x 12-5/8"
3850	40" x 27-1/2"	40" x 13-5/8"	19-3/4" x 13-5/8"	13-1/8" x 13-5/8"	9-21/32" x 13-5/8"
3854	40" x 29-1/2"	40" x 14-5/8"	19-3/4" x 14-5/8"	13-1/8" x 14-5/8"	9-21/32" x 14-5/8"
4024	44" x 11-1/2"	44" x 5-5/8"	21-3/4" x 5-5/8"	14-7/16" x 5-5/8"	10-21/32" x 5-5/8"
4030	44" x 15-1/2"	44" x 7-5/8"	21-3/4" x 7-5/8"	14-7/16" x 7-5/8"	10-21/32" x 7-5/8"
4034	44" x 17-1/2"	44" x 8-5/8"	21-3/4" x 8-5/8"	14-7/16" x 8-5/8"	10-21/32" x 8-5/8"
4040	44" x 21-1/2"	44" x 10-5/8"	21-3/4" x 10-5/8"	14-7/16" x 10-5/8"	10-21/32" x 10-5/8"
4048	44" x 25-1/2"	44" x 12-5/8"	21-3/4" x 12-5/8"	14-7/16" x 12-5/8"	10-21/32" x 12-5/8"
4050	44" x 27-1/2"	44" x 13-5/8"	21-3/4" x 13-5/8"	14-7/16" x 13-5/8"	10-21/32" x 13-5/8"
4054	44" x 29-1/2"	44" x 14-5/8"	21-3/4" x 14-5/8"	14-7/16" x 14-5/8"	10-21/32" x 14-5/8"

Tolerance 1/16" + .0

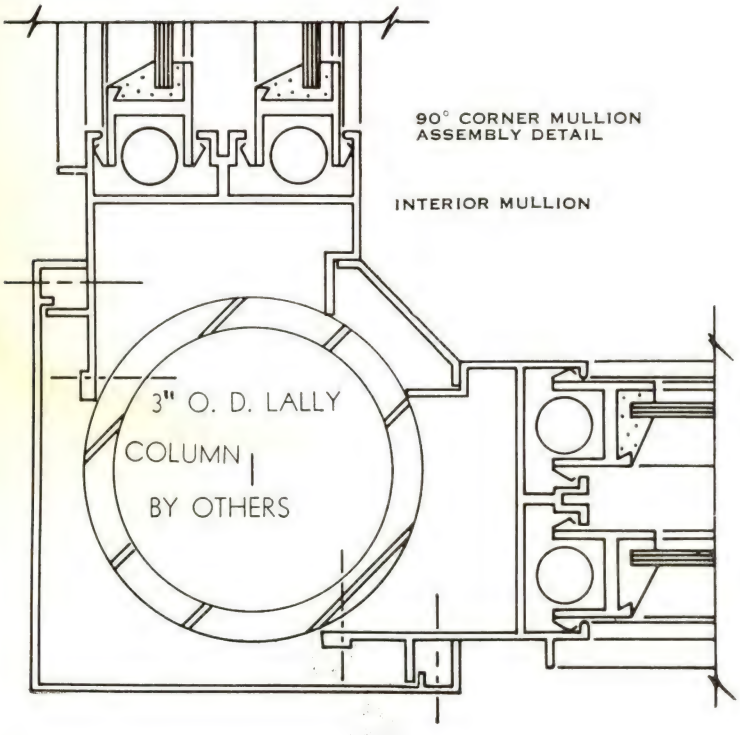
Installation details next page

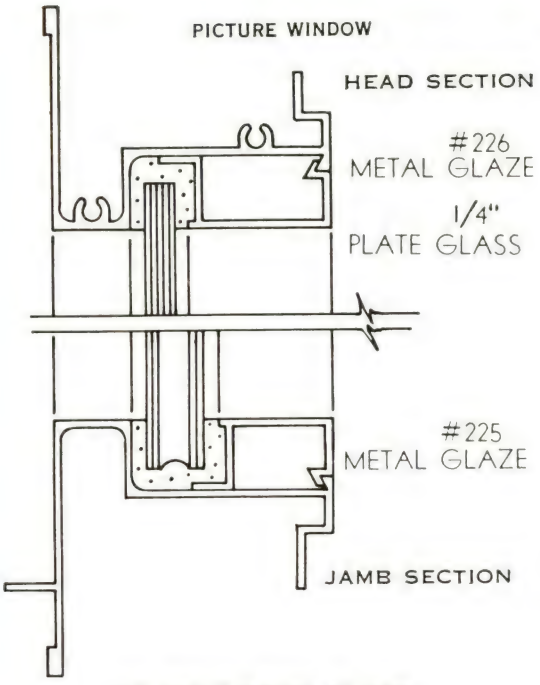
ASSEMBLY DETAILS



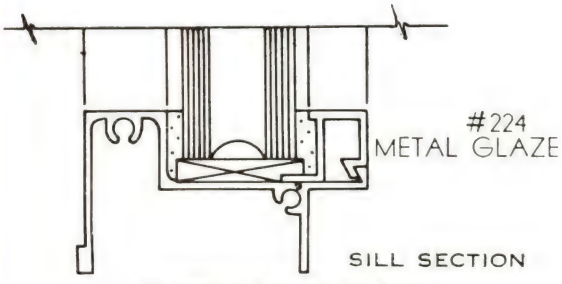


JAMB SECTION

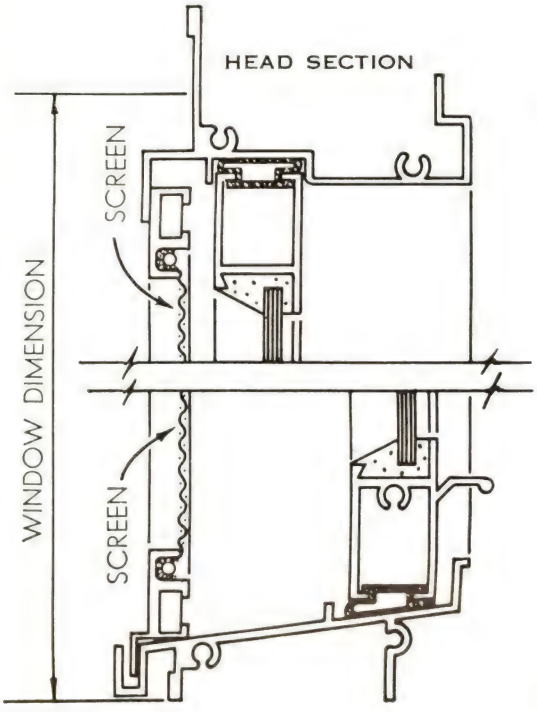




½" INSULATING GLASS



1" INSULATING GLASS



SILL SECTION

Ualco ALUMINUM AWNING WINDOWS

5a
Un

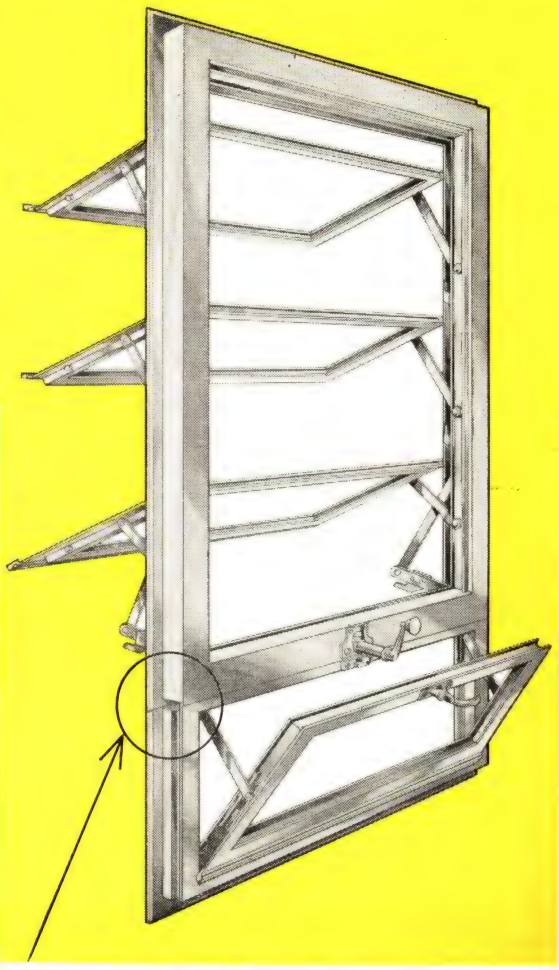
To meet the growing popularity of awning windows in today's residential, commercial and institutional construction, Ualco has engineered and manufactured the Ualco Aluminum Awning Window to meet all desired features—both functional and appearance.

Ventilators are operated from center operator through torsion rod. Bottom ventilator opens for partial ventilation, while upper ventilators remain closed. (Night ventilation) Ventilators lock in any position.

Sections are narrow to afford maximum ventilation and light—and to make possible the combining of wide banks for effective window walls.

Made of special extruded aluminum, they last as long as the structure itself.

AWNING WITH HOPPER



THE AWNING HOPPER WINDOW IS SELF-MULLING

CHECK THESE FEATURES:

1. **HEAVY, RIGID FRAME**
   MADE OF EXTRUDED LIFETIME ALUMINUM.
2. **INTEGRAL FIN**
   COMPLETELY SURROUNDS WINDOWS. TAKES BRICK FIN AND FIN TRIM.
3. **JIFFY QUICK SILL CLIPS**
   SLIDE IN CHANNEL FROM EACH SIDE. LOCATE AS MANY AS WANTED WHERE WANTED.
4. **GIVES MAXIMUM VENTILATION**
   VENTS OPEN TO 90 DEGREES.
5. **CLOSE WEATHER-TIGHT**
   COMPLETELY WEATHER-STRIPPED WITH KOROSEAL.
6. **EASY TO OPERATE**
   CENTER OPERATION HAS FINGER-TOUCH CONTROL. TORSION BAR OILITE BEARINGS.
7. **NIGHT VENTILATION**
   BOTTOM VENTILATOR OPENS FOR NIGHT VENTILATION WHILE UPPER VENTILATORS REMAIN LOCKED AND CLOSED.
8. **AUTOMATICALLY-LOCKING VENTILATORS**
   EVERY VENTILATOR AUTOMATICALLY LOCKS—NO EXTERNAL LOCKING ATTACHMENTS.
9. **EASY TO CLEAN**
   TOP VENTILATOR LOWERS ABOUT 4 INCHES TO PERMIT EASY CLEANING FROM THE INSIDE.
10. **FLUSH SCREENS**
    RIGID FRAME; FITS FLUSH WITH WINDOW.

SPECIFICATIONS:

1. MATERIALS:
All window sections are extruded 6063-T5 aluminum. All frame sections shall have a minimum depth of two inches. Ventilator head and sill sections shall have a minimum depth of 1¼ inches and all ventilator jamb sections shall have a minimum depth of 1 inch. Operating hardware shall be die cast aluminum.

2. CONSTRUCTION:
Frame sections shall be mortised and tenoned, then swedged at all corners. Note: There shall be three mortise and tenon fastenings to each corner of the frame sections.

When ventilators are in the closed position, there shall be three weathering contacts around the complete perimeter of the ventilators, one that is weatherstripped.

Torsion bar is supported by four pillow blocks inserted in the sill section. These pillow blocks have inserted in them oilite bearings for the torsion bar to rotate in. The linkage in each jamb section operates on micarda or nylon rollers for easy operation.

The UALCO awning window is designed to insure positive venetian blind or shade coverage around the complete perimeter of the window.

The sill section has incorporated a channel on the under side for installation of sill clip anchors.

The sill clips can slide in from each side and be located anywhere needed (or as many as needed.)

The important feature of the Ualco awning window is the complete automatic locking of each and every ventilator (including the lower ventilator.)

There shall be no external locking attachments. All locking of the ventilators at each jamb section shall be integral.

3. OPERATION:
All opening ventilators shall open more than 85 degrees.

The top ventilator shall lower about 5 inches to permit easy cleaning from the inside.

All ventilators (including the lower ventilator) shall be automatically locked on each side, eliminating stresses on pivot points.

Ventilator operating power shall be transmitted from the center located operator through a torsion rod that extends to each jamb section of the window and fastens onto the operating linkage.

The bottom ventilator shall open for partial ventilation, while the upper ventilators remain closed (night ventilation.)

The lower ventilator opens first—for night or inclement weather ventilation.

4. HARDWARE
Operator shall be center located and not to extend over ⅝ inch above face of window.

The UALCO operator is a worm gear operator enclosed in a die cast aluminum housing. The gear segment is 2014-T4 aluminum alloy. Worm gear and shaft are of stainless steel. The operator crank is located extremely low and projects out over the sill. There is no interference to venetian blinds.

5. WEATHERING:
All ventilators shall be completely weatherstripped at all outside contacts with Koroseal or Vinyl.

When ventilators are closed, weatherstripping will be compressed by a load equal to 15 pounds minimum. When ventilators are open, weatherstripping will return to normal shape.

6. SCREENS:
Screens shall be rolled or extruded aluminum.

The corners shall be mitered and corner angle reinforced and dimpled.

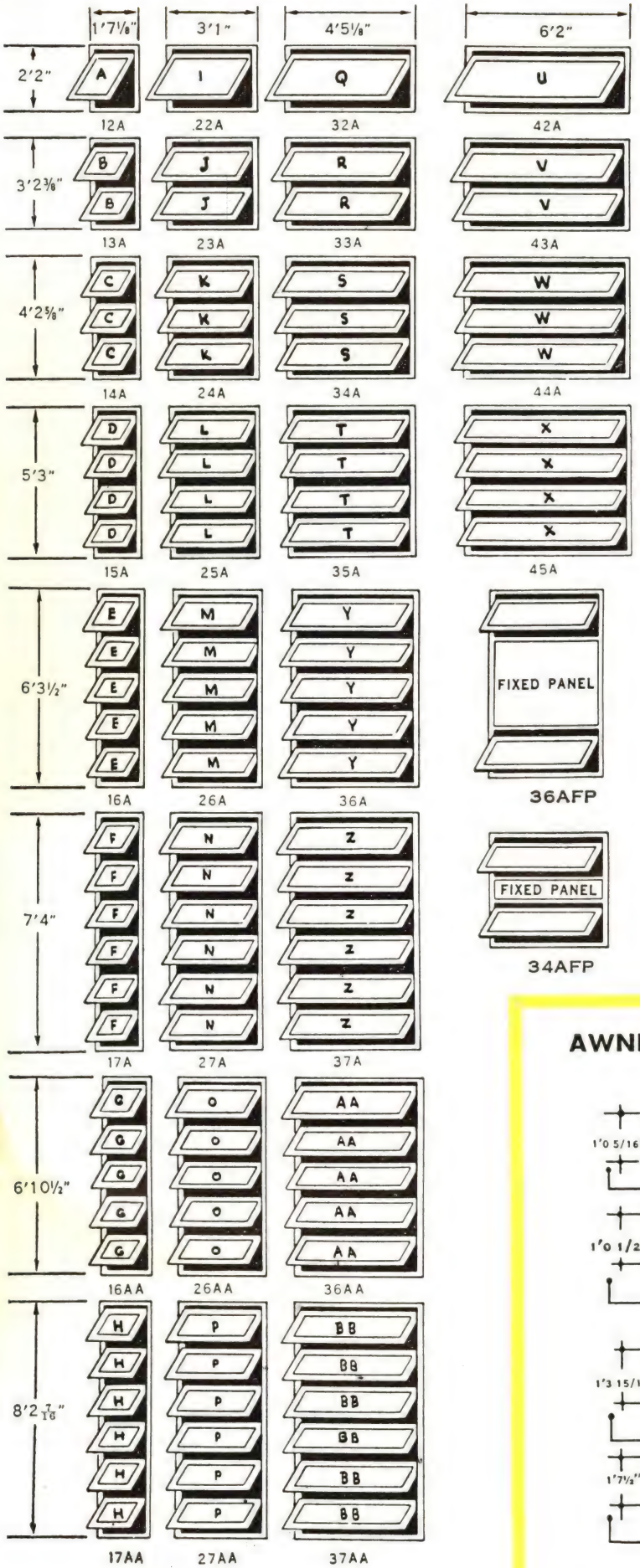
Screens shall be inserted in recess of window frame and secured by swivel clips. The UALCO awning window screen fits flush with the inside face of the window.

7. MULLIONS:
Mullions shall be furnished by UALCO and as shown on drawings. (90 degree, 135 degree and 180 degree.)

8. GLAZING:
Single lights outside bed and face compound—standard. Metal glazing also available.

ALUMINUM AWNING WINDOWS

STANDARD SIZES



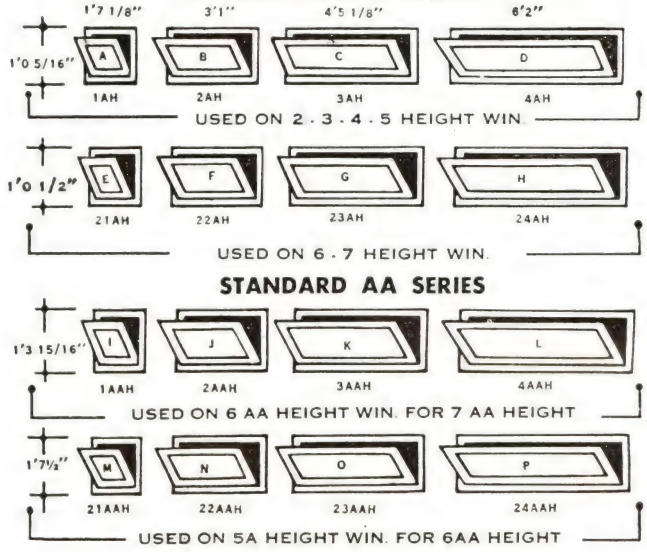
AWNING WINDOW GLASS SIZES

	STANDARD WIDTH	STANDARD HEIGHT		AM MODULAR WIDTH	AM MODULAR HEIGHT		AMM MODULAR WIDTH	AMM MODULAR HEIGHT
A	15-⅛"	x19-¾"	1	20"	x17-¾"	21	17"	x10-¾"
B	15-⅛"	x15-⅝"	2	20"	x16-⅜"	22	17"	x12-15/16"
C	15-⅛"	x14-¼"	3	20"	x13-⅜"	23	17"	x13-11/16"
D	15-⅛"	x13-⅝"	4	20"	x13-⅞"	24	17"	x14-⅛"
E	15-⅛"	x13-⅛"	5	20"	x14-⅝"	25	17"	x14-⅜"
F	15-⅛"	x13"	6	20"	x14-¾"	26	17"	x14-½"
G	15-⅛"	x14-⅝"						
H	15-⅛"	x14-¾"						
I	33"	x19-¾"	7	36"	x17-¾"	27	37"	x10-¾"
J	33"	x15-⅝"	8	36"	x16-⅜"	28	37"	x12-15/16"
K	33"	x14-¼"	9	36"	x13-⅜"	29	37"	x13-11/16"
L	33"	x13-⅝"	10	36"	x13-⅞"	30	37"	x14-⅛"
M	33"	x13-⅛"	11	36"	x14-⅝"	31	37"	x14-⅜"
N	33"	x13"	12	36"	x14-¾"	32	37"	x14-½"
O	33"	x14-⅝"						
P	33"	x14-¾"						
Q	49-⅛"	x19-¾"	13	44"	x17-¾"	33	45"	x10-¾"
R	49-⅛"	x15-⅝"	14	44"	x16-⅜"	34	45"	x12-15/16"
S	49-⅛"	x14-¼"	15	44"	x13-⅜"	35	45"	x13-11/16"
T	49-⅛"	x13-⅝"	16	44"	x13-⅞"	36	45"	x14-⅛"
U	70"	x19-¾"	17	60"	x17-¾"	37	57"	x10-¾"
V	70"	x15-⅝"	18	60"	x16-⅜"	38	57"	x12-15/16"
W	70"	x14-¼"	19	60"	x13-⅜"	39	57"	x13-11/16"
X	70"	x13-⅝"	20	60"	x13-⅞"	40	57"	x14-⅛"
Y	49-⅛"	x13-⅛"	41	44"	x14-⅝"	43	45"	x14-⅜"
Z	49-⅛"	x13"	42	44"	x14-¾"	44	45"	x14-½"
AA	49-⅛"	x14-⅝"						
BB	49-⅛"	x14-¾"						

NOTE: ANY OPERATING VENT ON ANY WINDOW MAY BE FIXED STATIONARY, **(EXCEPT BOTTOM VENT)**

AWNING HOPPER WINDOW . . . SELF MULLING

Standard A Series

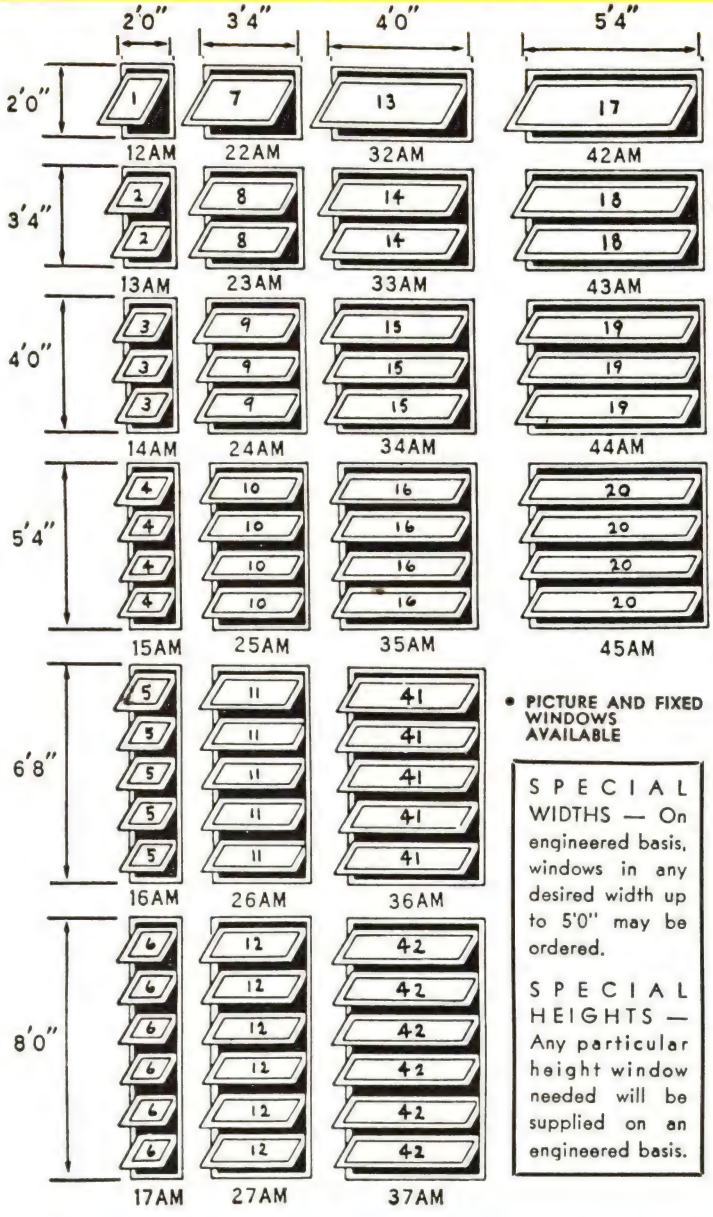


STANDARD AA SERIES

ALUMINUM AWNING WINDOWS

5a / Un

(MODULAR SIZES) (Series AM)

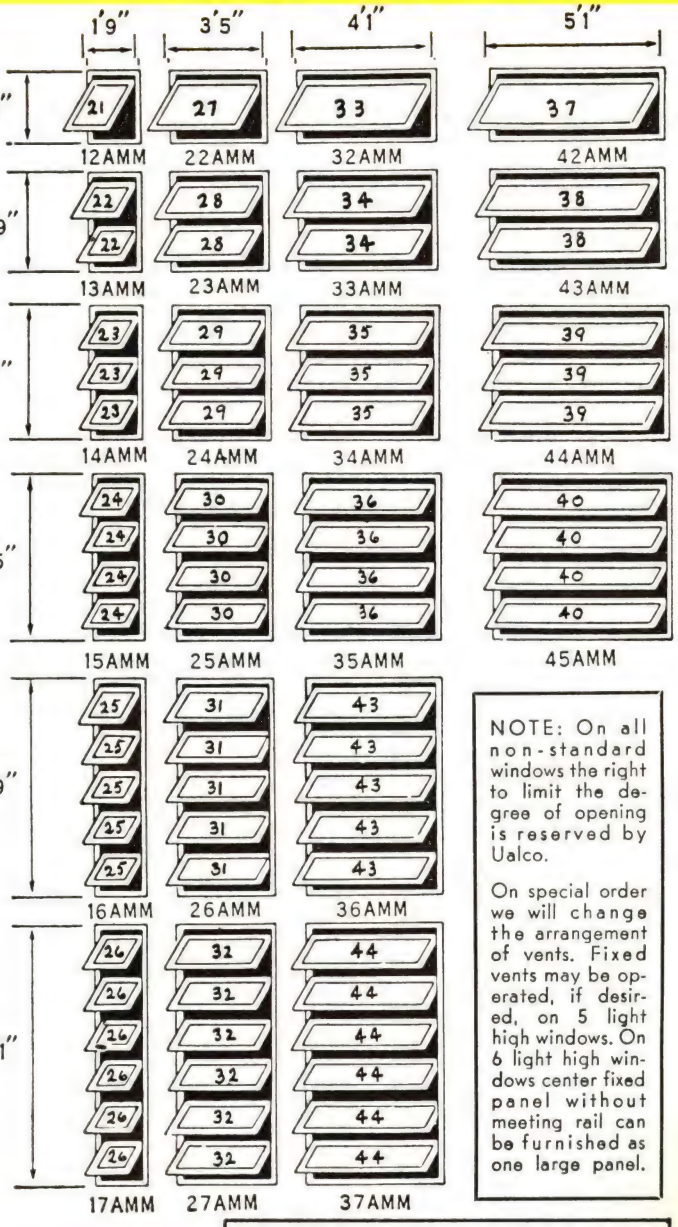


- PICTURE AND FIXED WINDOWS AVAILABLE

SPECIAL WIDTHS — On engineered basis, windows in any desired width up to 5'0" may be ordered.

SPECIAL HEIGHTS — Any particular height window needed will be supplied on an engineered basis.

(MODULAR SIZES) (Series AMM)

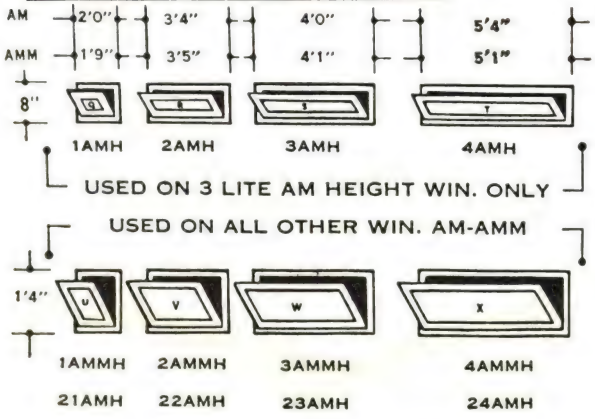


NOTE: On all non-standard windows the right to limit the degree of opening is reserved by Ualco.

On special order we will change the arrangement of vents. Fixed vents may be operated, if desired, on 5 light high windows. On 6 light high windows center fixed panel without meeting rail can be furnished as one large panel.

AWNING HOPPER WINDOW—SELF MULLING

Modular AM & AMM Series



NOTE: MEASUREMENTS ARE HOPPER DIM. HEIGHT NOT OVER-ALL MEASUREMENTS.

GLASS SIZES . . . STANDARD A & AA

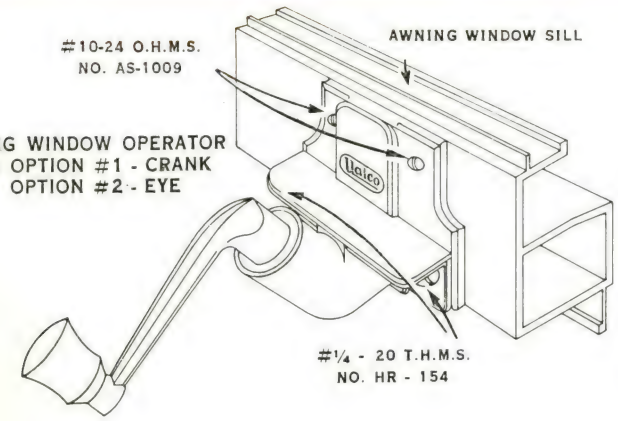
A	17-¼"x10-$\frac{9}{16}$"	I	17-¼"x14-$\frac{9}{16}$"
B	35-⅛"x10-$\frac{9}{16}$"	J	35-⅛"x14-$\frac{9}{16}$"
C	51-¼"x10-$\frac{9}{16}$"	K	51-¼"x14-$\frac{9}{16}$"
D	72-⅛"x10-$\frac{9}{16}$"	L	72-⅛"x14-$\frac{9}{16}$"
E	17-¼"x10-¾"	M	17-¼"x17-¾"
F	35-⅛"x10-¾"	N	35-⅛"x17-¾"
G	51-¼"x10-¾"	O	51-¼"x17-¾"
H	72-⅛"x10-¾"	P	72-⅛"x17-¾"

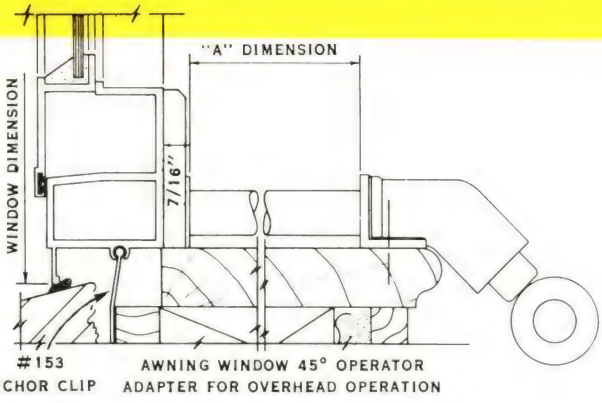
AM SERIES

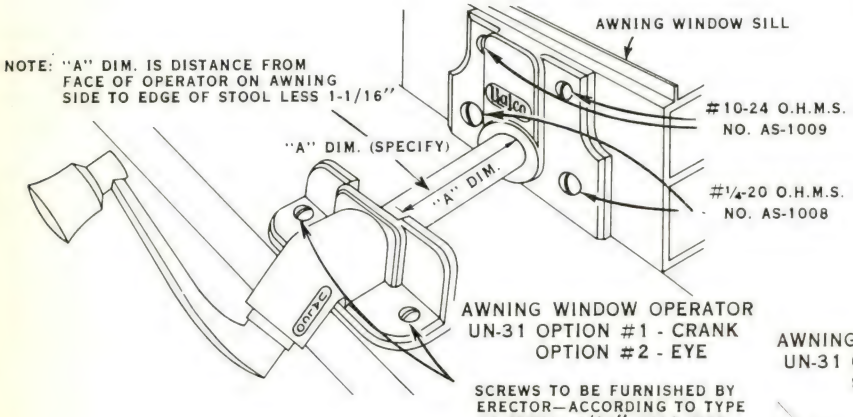
Q	22-⅛"x 6-¼"	U	22-⅛"x14-¼"
R	38-⅛"x 6-¼"	V	38-⅛"x14-¼"
S	46-⅛"x 6-¼"	W	46-⅛"x14-¼"
T	62-⅛"x 6-¼"	X	62-⅛"x14-¼"

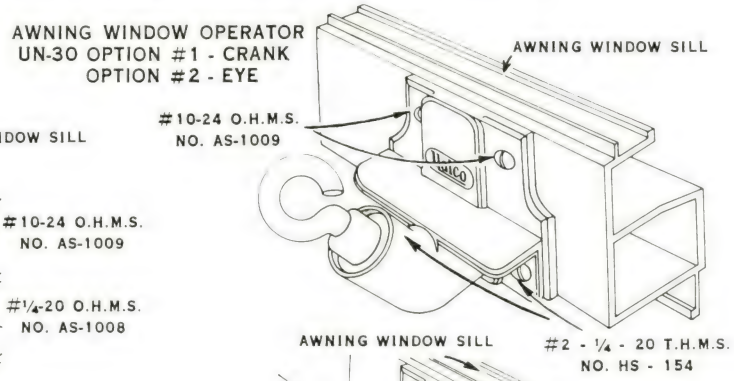
AMM SERIES

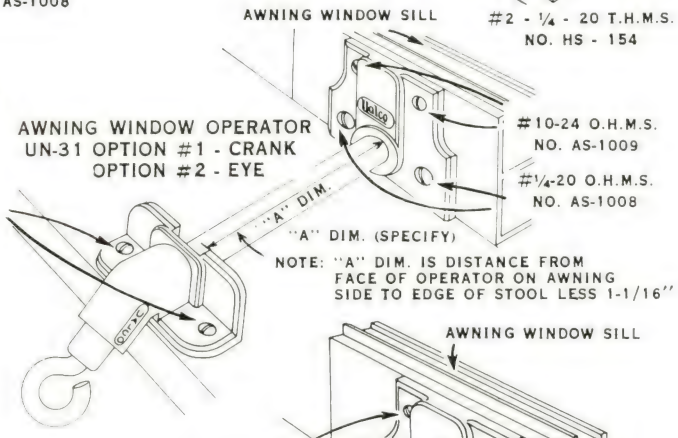
Q	19-⅛"x 6-¼"	U_1	19-⅛"x14-¼"
R_1	39-⅛"x 6-¼"	V_1	39-⅛"x14-¼"
S_1	47-⅛"x 6-¼"	W_1	47-⅛"x14-¼"
T_1	59-⅛"x 6-¼"	X_1	59-⅛"x14-¼"

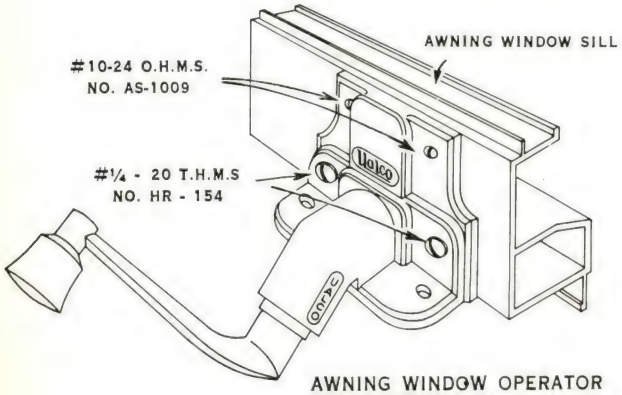


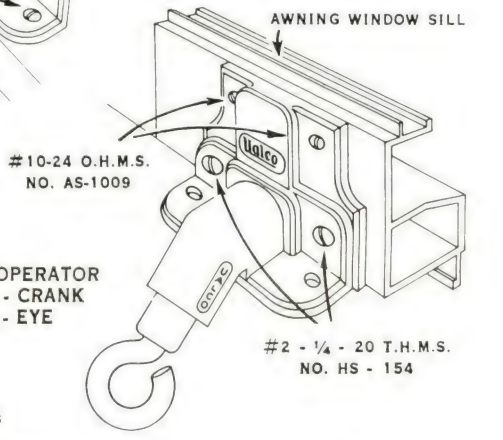




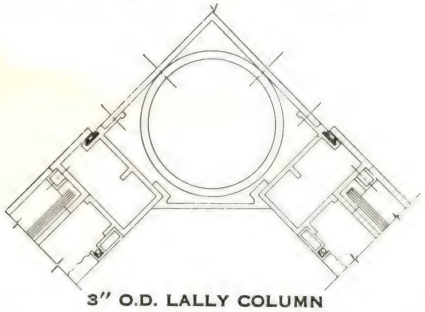








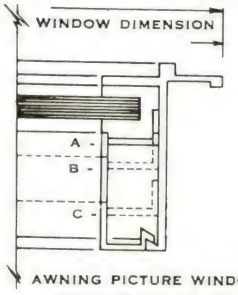
NOTE: POLE CRANKS AVAILABLE FOR OVERHEAD OPERATION UPON REQUEST. PLEASE STATE QUANTITY AND LENGTH.



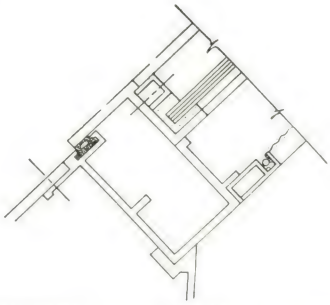
3" O.D. LALLY COLUMN

Shown is Ualco engineered 90° degree corner mullion. Favored by many for added beauty to corner window installations, it eliminates the projecting edges that are made by the use of the 90 degree mullion. Unless otherwise specified, mullion bolt holes are drilled in the field. (Mullions are furnished in 90, 135 and 180 degree angles.)

A - #226 METAL GLAZE
FOR ⅛" PLATE GLASS
B - #225 METAL GLAZE
FOR ½" INSULATING GLASS
SHOWN WITH DOTTED LINES
C - #224 1" METAL GLAZE
FOR 1" INSULATING GLASS
SHOWN WITH DOTTED LINES

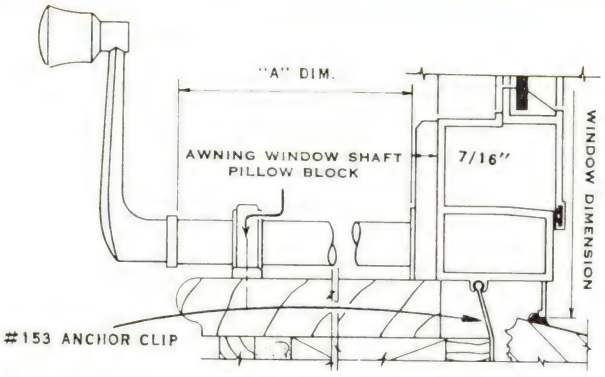


AWNING PICTURE WINDOW
WITH METAL GLAZE

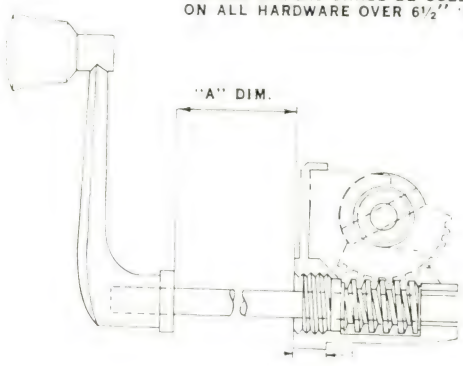


UNIVERSAL GLAZING BEAD (VENTS)

Cutaway shows application of metal glaze which is available for use on ventilators.



STANDARD AWNING OPERATOR
PILLOW BLOCKS SHALL BE USED
ON ALL HARDWARE OVER 6½" 'A' DIM.

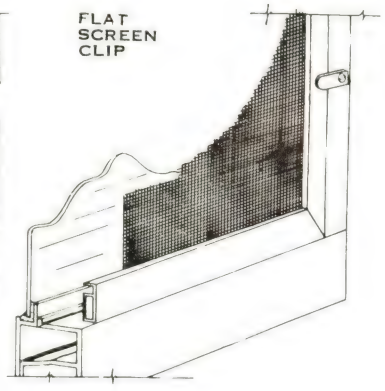


ASSEMBLY DETAILS



FLUSH-STORM SASH INSTALLATION ASSEMBLY DETAIL

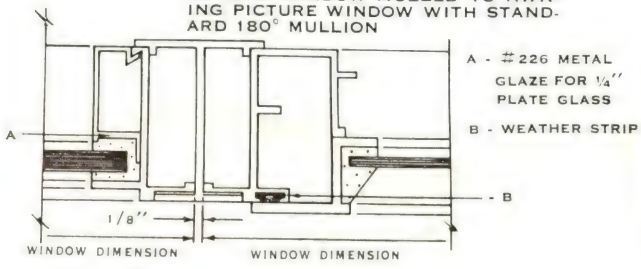
All storm sash are of extruded aluminum and fit flush. Even the clips are flat. Installed and removed from the inside by the turn of clips.

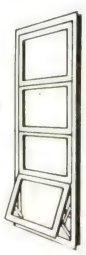


FLUSH SCREEN ASSEMBLY DETAIL

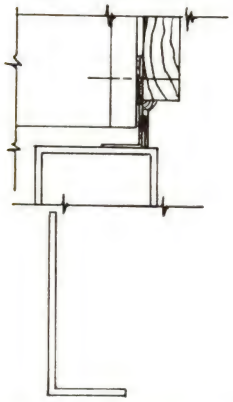
Of rolled or extruded aluminum, all screens are flush fitting. Installed or removed from the inside by the turn of the flat clips.

AWNING WINDOW MULLED TO AWNING PICTURE WINDOW WITH STANDARD 180° MULLION





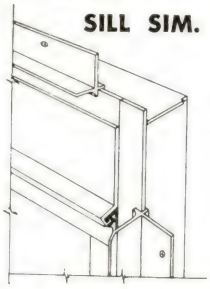
INSTALLATION ACCESSORIES



UALCO EXCLUSIVE "STRIP-PROOF" OPERATOR

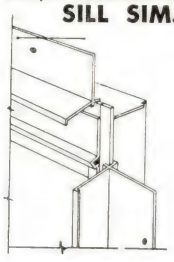
Shown in detail above is the Ualco "strip-proof" operator with heavy-duty torision bar built-in cam lock. With no external locking gear, it completely eliminates all possibility of stripping gear teeth through failure to unlock window before opening. In one operation, the turning of the operator handle, it unlocks, opens, closes and locks all vents. Too, it automatically locks all vents in any position to over 90 degrees.

The center operating shaft is also available on either right or left side of window to meet varied desires. Can be furnished in special lengths to meet any needed extension.



BRICK MOULDING TRIM ASSEMBLY DETAIL

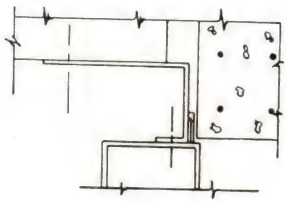
For simple installation



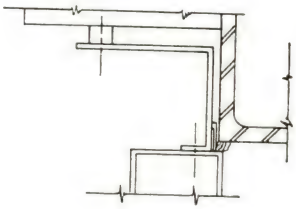
FIN TRIM ASSEMBLY DETAIL HEAD & JAMB SECTION

NIGHT VENTILATION

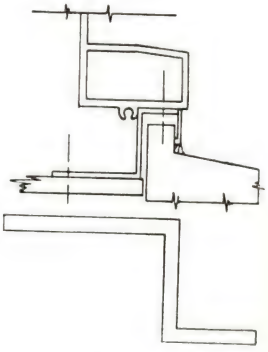
A turn of the operating handle opens the bottom vent first . . . for partial ventilation if desired. The other vents remain securely locked in a closed position while the bottom vent remains locked in its desired position by the action of the built-in cam lock.



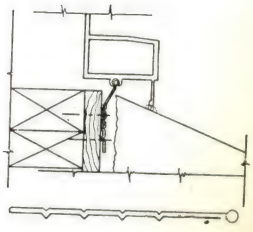
CLIP #176



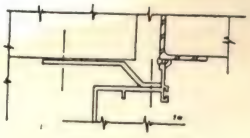
CLIP #175



CLIP #177

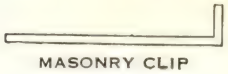


CLIP #153

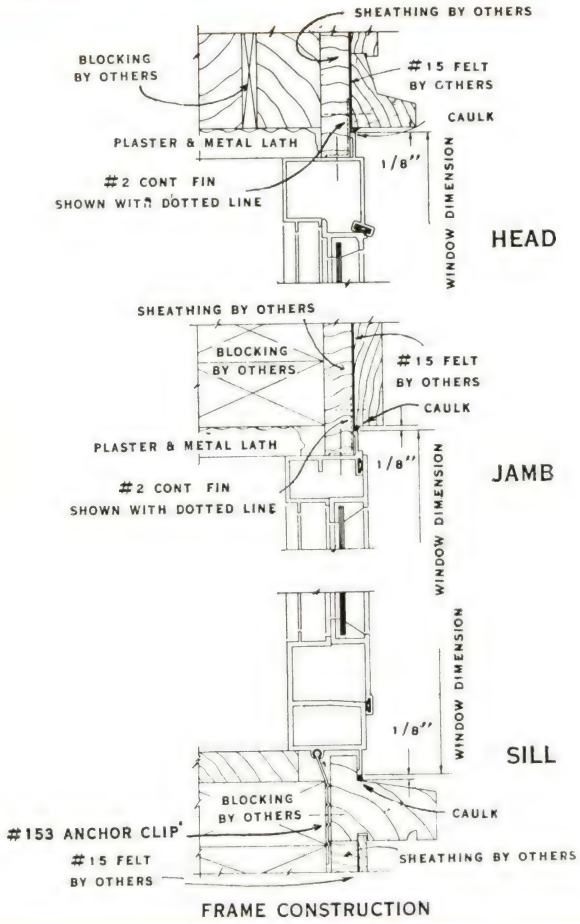




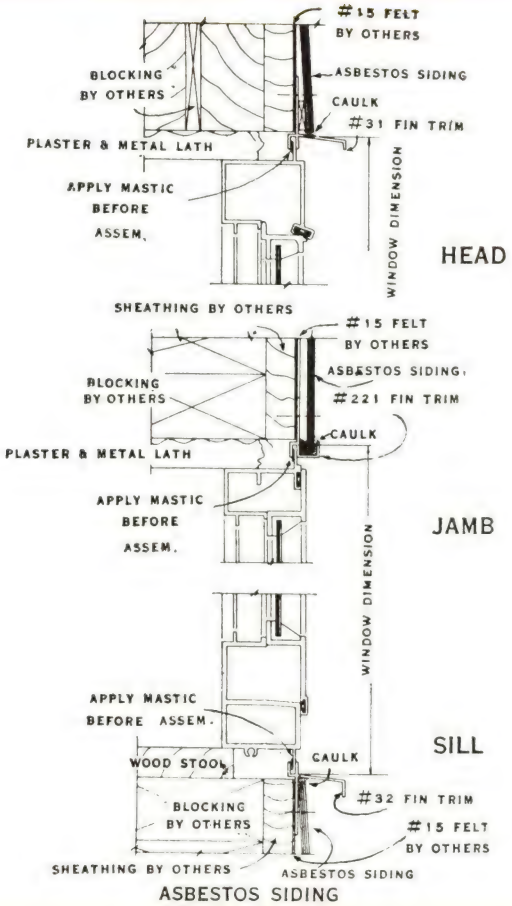
CLIP #178



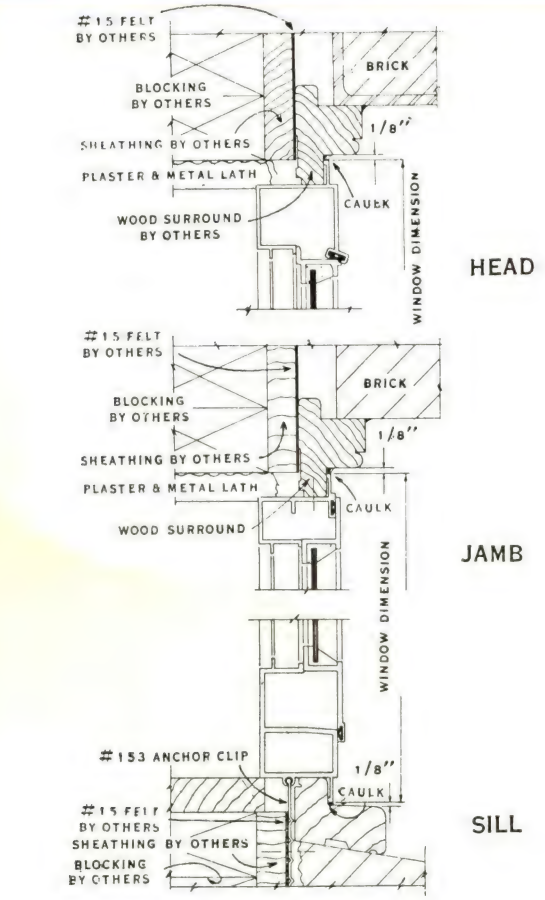
MASONRY CLIP



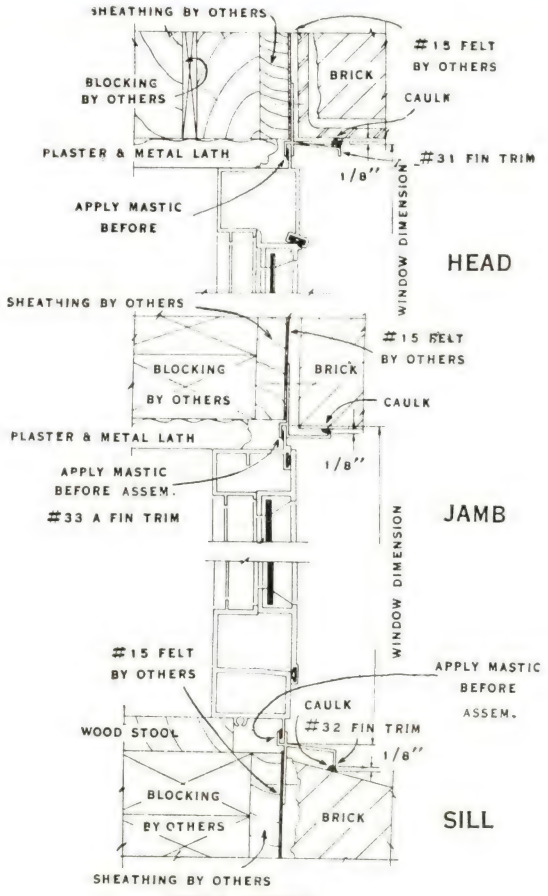
FRAME CONSTRUCTION



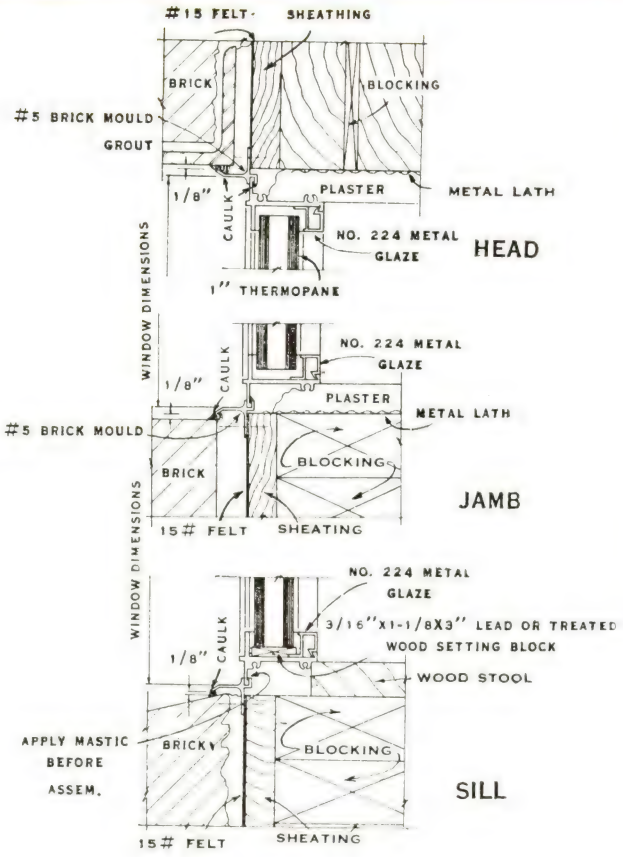
ASBESTOS SIDING
WITH FIN TRIM



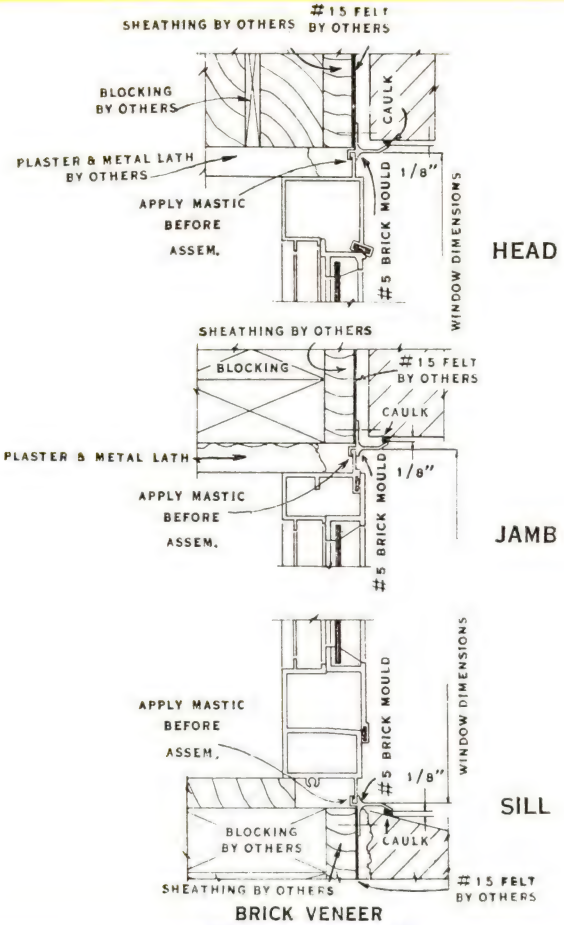
BRICK VENEER
WITH WOOD SURROUND



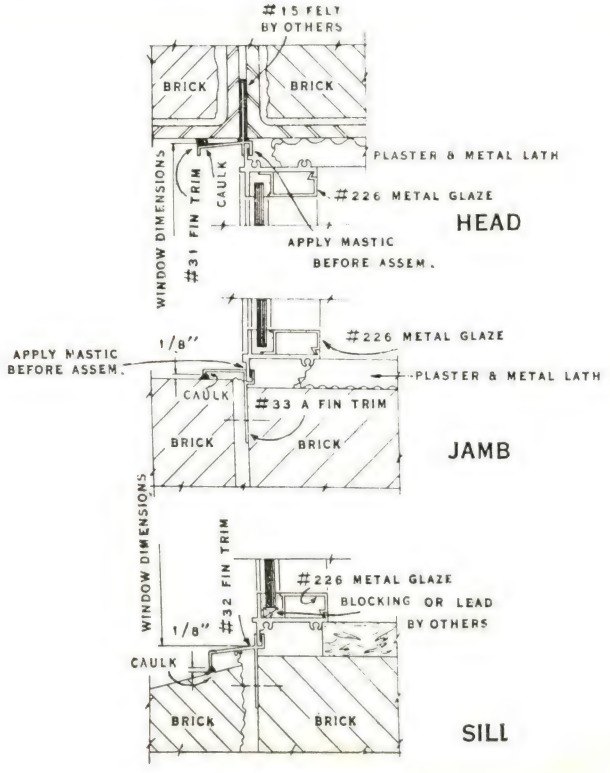
BRICK VENEER
WITH FIN TRIM



BRICK VENEER WITH
#5 BRICK MOULD

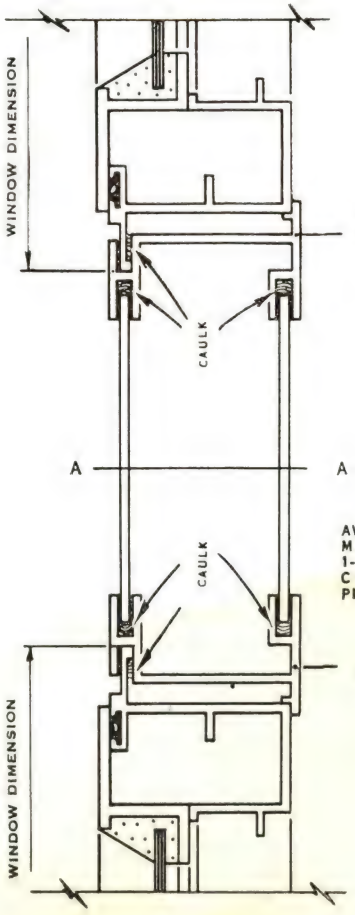


BRICK VENEER
WITH BRICK MOULD



AWNING PICTURE WINDOW

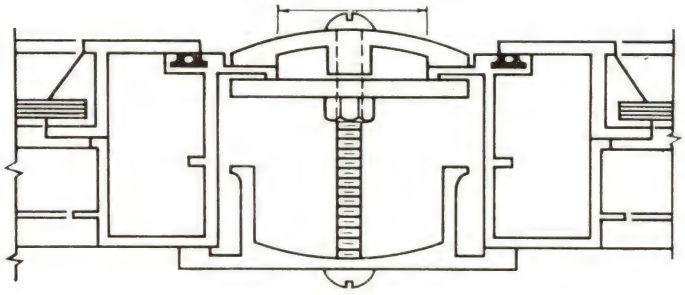
SOLID BRICK CONST.
WITH TRIM FIN & 1/4"
METAL GLAZE



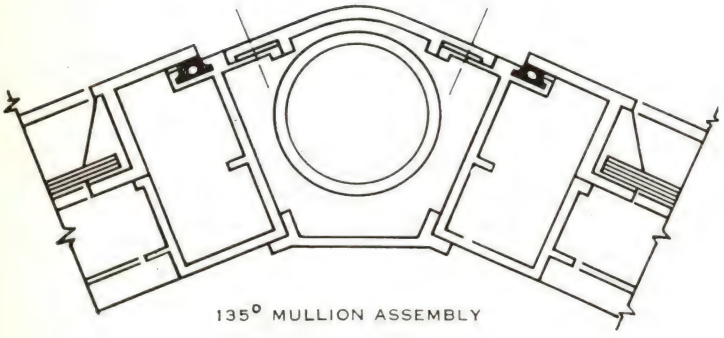
AWNING VARIABLE & BROAD MULLION VARIABLE FROM 1-1/8" UP TO 8" IN WIDTH BY CHANGING OUT MULLION PLATE @ A-A.

AWNING WINDOW

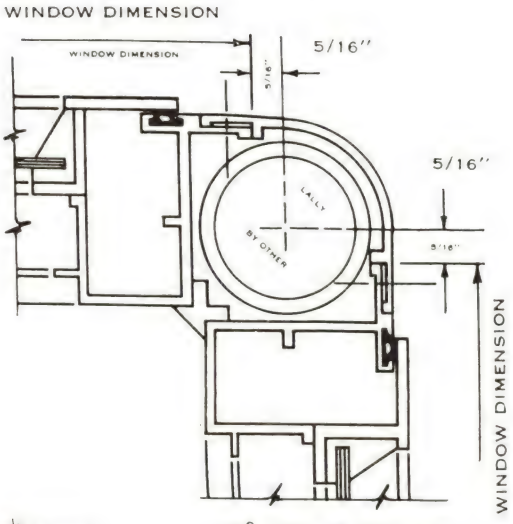
ASSEMBLY DETAILS



180° VERIABLE MULLION ASSEMBLY

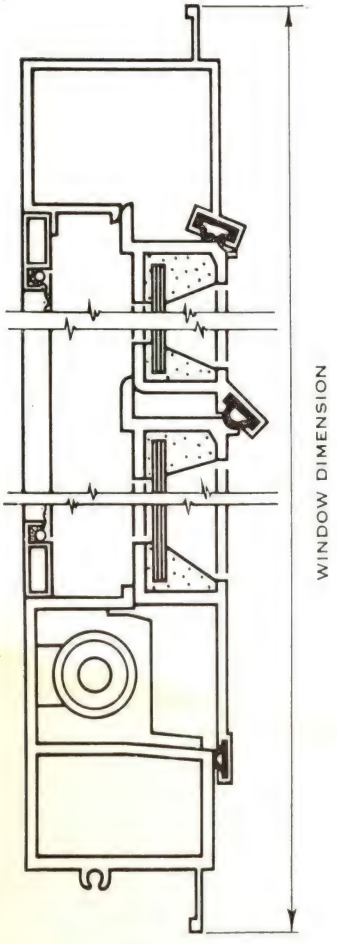


135° MULLION ASSEMBLY

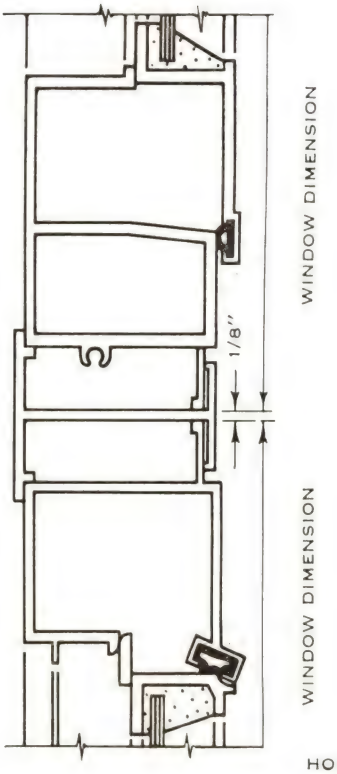


90° CORNER MULLION ASSEMBLY DETAIL

ASSEMBLY DETAILS



AWNING ASSEMBLY DETAIL

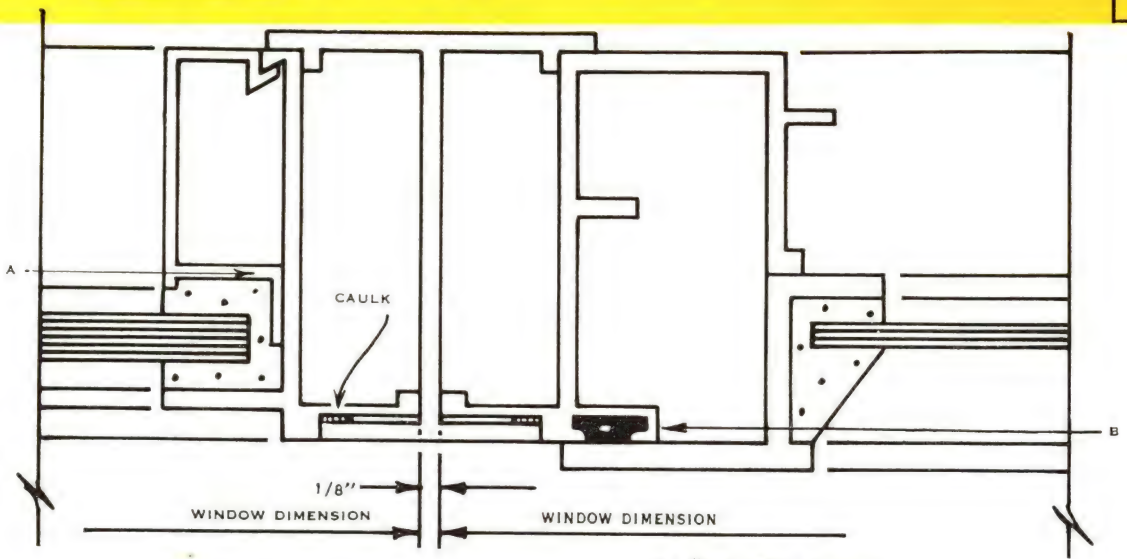


HORIZONTAL MULLION ASSEMBLY DETAIL

SCALE ½ SIZE

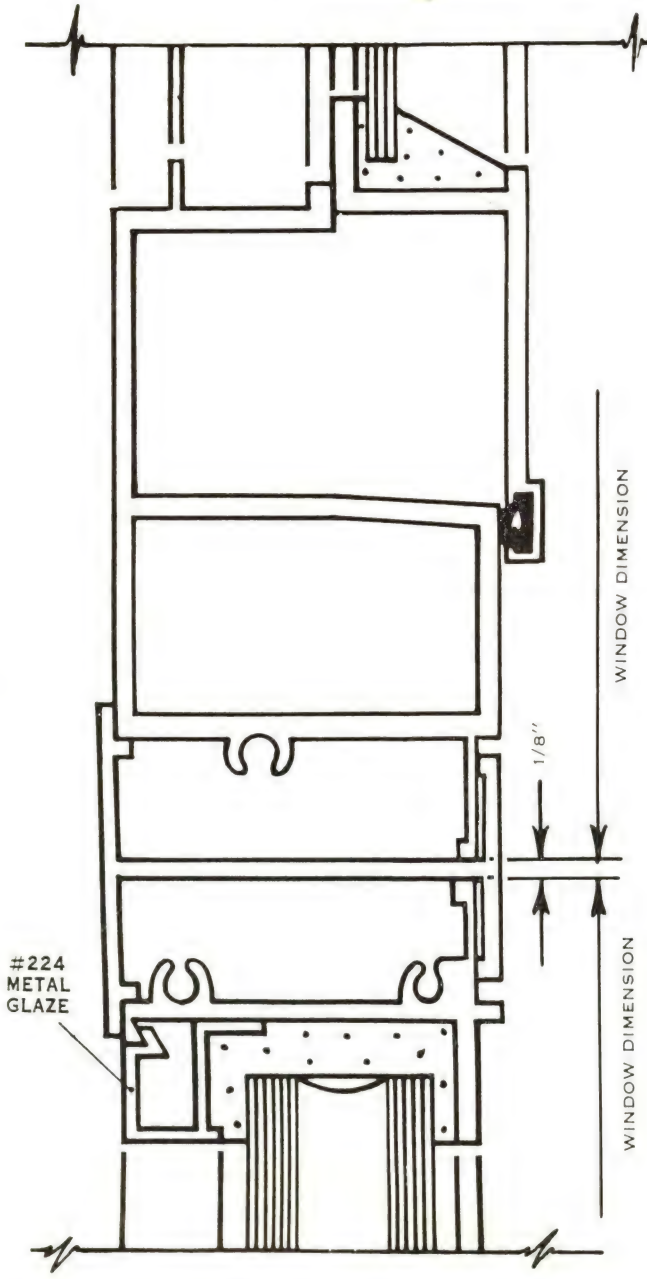
ASSEMBLY DETAILS

SCALE
FULL SIZE

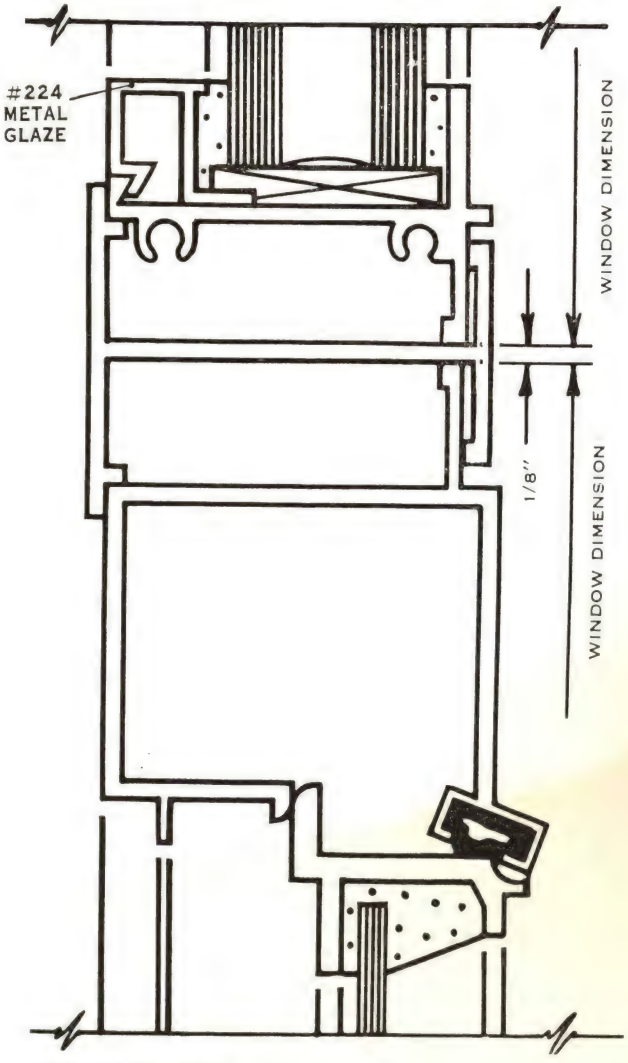


A - #226 METAL GLAZE FOR 1/4" PLATE GLASS
B - WEATHER STRIP

AWNING WINDOW MULLED TO AWNING PICTURE WINDOW WITH STANDARD 180° MULLION

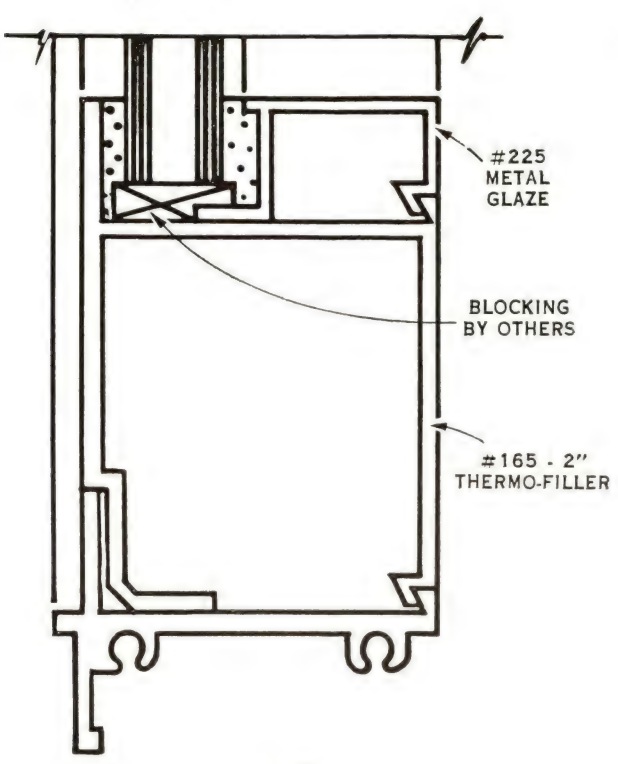


STANDARD "TEE"
MULLION-HORIZONTAL
PIC. UNDER AWNING WINDOW

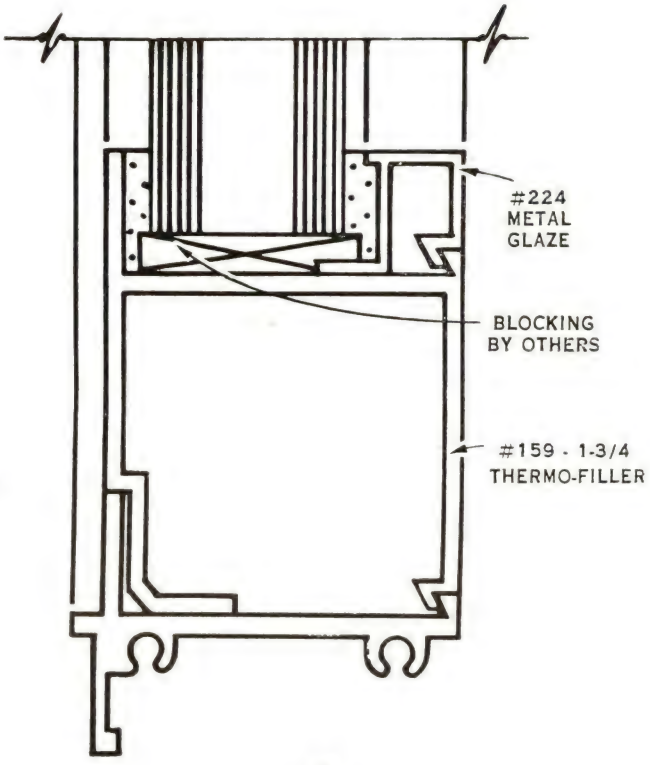


STANDARD "TEE"
MULLION-HORIZONTAL
PIC. OVER AWNING WINDOW

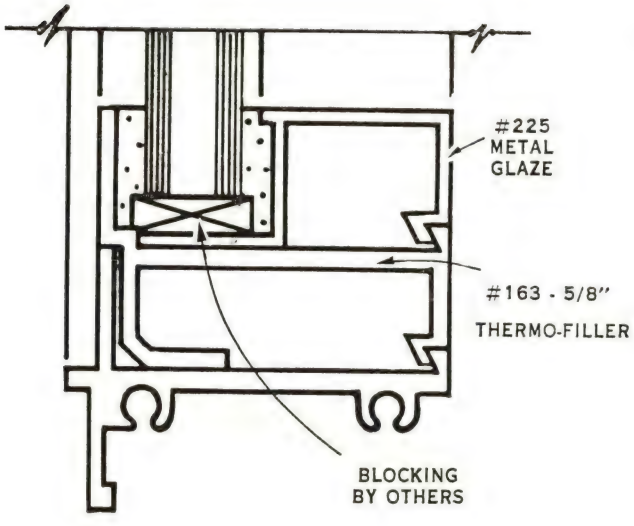
AWNING WINDOW THERMO-FILLERS WITH METAL GLAZE



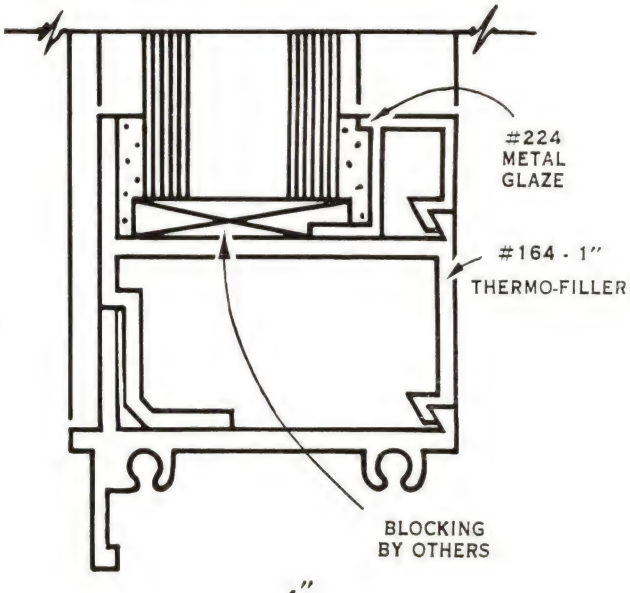
½"



1"

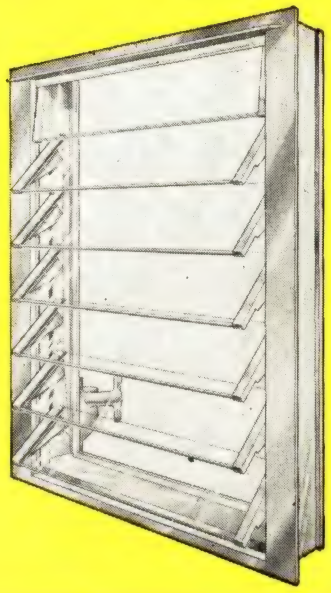


½"



1"

ALUMINUM JALOUSIE WINDOWS



JALOUSIE DOOR

DOOR FRAME

- West Coast 1¾" fir, unpainted. (See sizes below).

LOUVER FRAME

- Specially extruded aluminum. Lifetime, satin-finish. Cannot rust, rot, split or warp. Unaffected by salt water vapor.

GLASS LOUVERS

- Glass included with door. Available in either clear or obscure sheet.

OPERATION

- Complete ventilation control at fingertips. Fool-proof mechanism.

LOUVER LOCK

- Louvers lock automatically in all positions for protection and privacy.

JALOUSIE DOOR SIZES:

2'6" x 6'8" 3'0" x 6'8"
2'8" x 6'8" 2'8" x 7'0"
3'0" x 7'0"

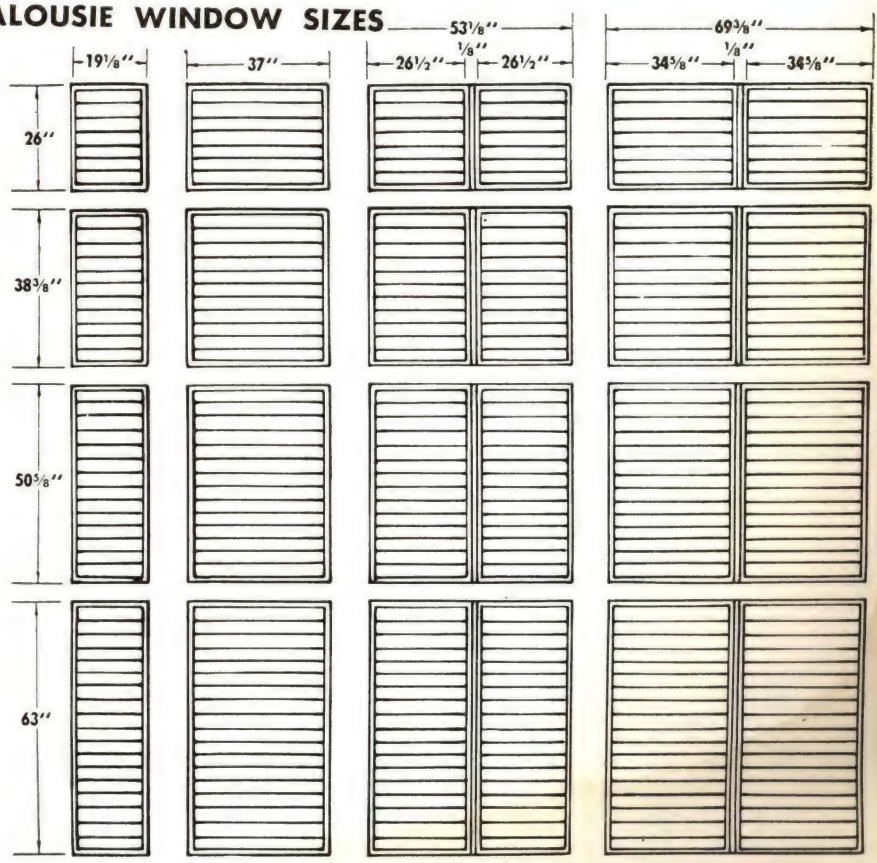


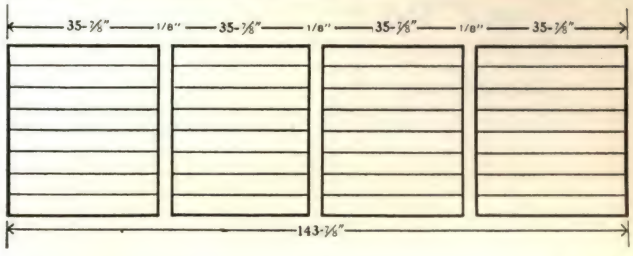
GLASS LOUVER SIZES

Size	No. of Louvers	Glass Width	Glass Height Each Louver
12J	7	16"	4"
13J	11	16"	4"
14J	14	16"	4"
15J	18	16"	4"
22J	7	33⅞"	4"
23J	11	33⅞"	4"
24J	14	33⅞"	4"
25J	18	33⅞"	4"
32J	14	23⅜"	4"
33J	22	23⅜"	4"
34J	28	23⅜"	4"
35J	36	23⅜"	4"
42J	14	31½"	4"
43J	22	31½"	4"
44J	28	31½"	4"
45J	36	31½"	4"

Glass Thickness—7/32nds.
Crystal Sheet clear or obscure.

JALOUSIE WINDOW SIZES





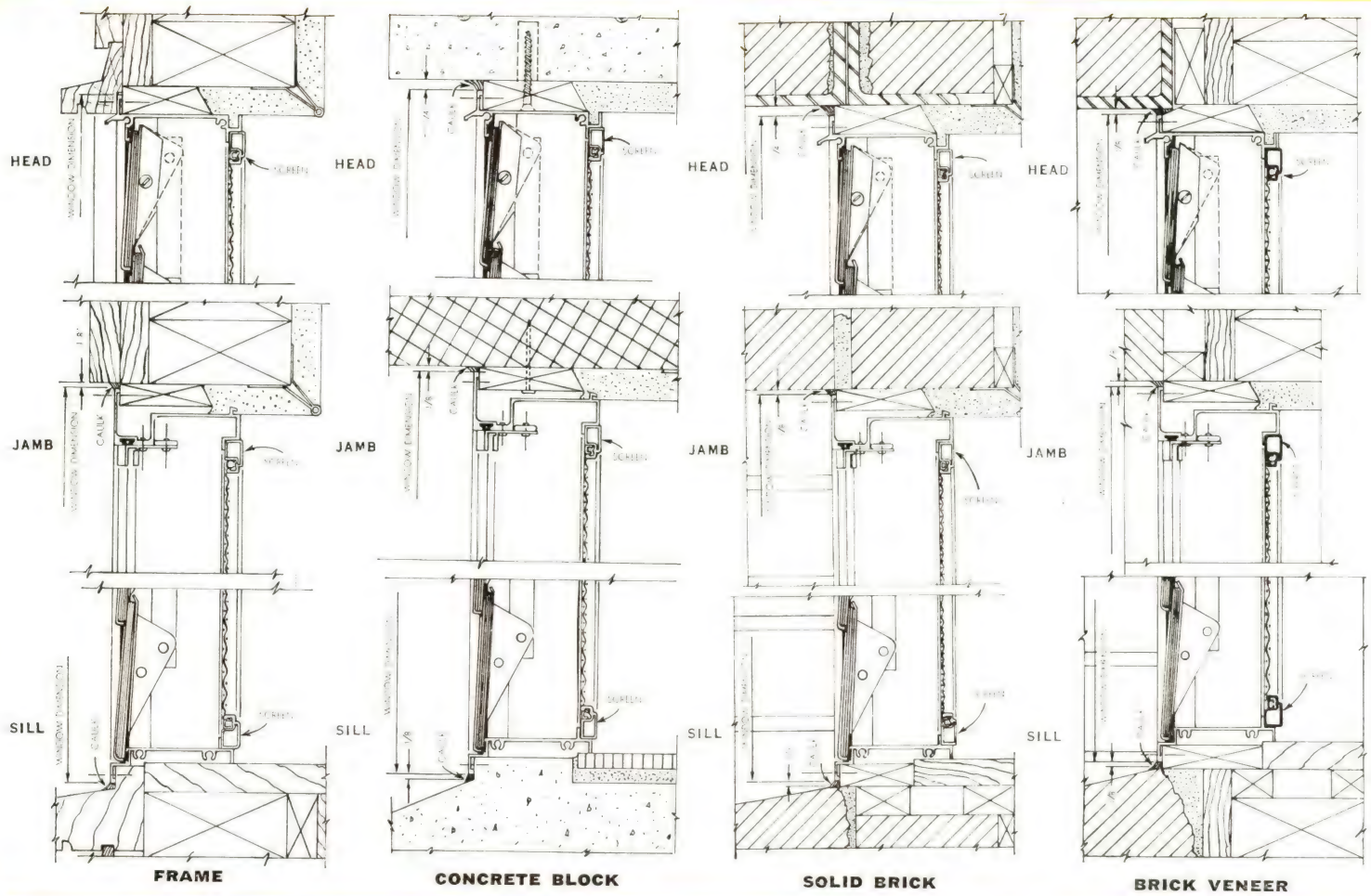
HOW TO MEASURE FOR SPECIAL SIZES

Ualco Jalousies may be ordered in almost any height up to 10'6" and in widths up to our standard 37".

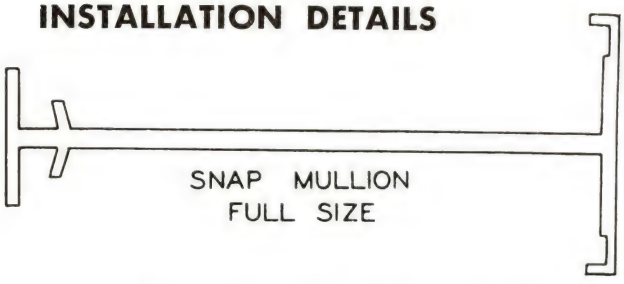
Greater widths may be obtained by "mullioning on" or adding additional sections up to 37". For example, if you have an opening 12' or 144" wide; knowing that 37" is the maximum width for one single jalousie, determine smallest window combination or least number of windows to fill opening. 144" divided by 4, equals 36". Allow ⅛" for each mullion. 36" minus ⅛", equals 35⅞". Total opening: 35⅞", plus ⅛", plus 35⅞" plus ⅛" plus 35⅞" plus ⅛", plus 35⅞", equals 143⅞".

To determine the heights available for special width jalousies, please refer to Ualco Jalousie Price Lists.

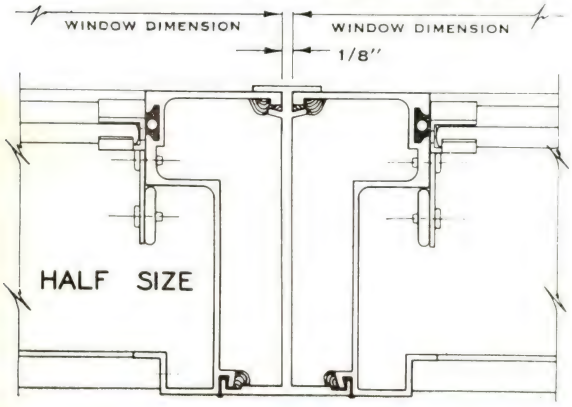
The height is contingent on the number of louvers in each window, therefore the heights shown are set and no other heights are available.



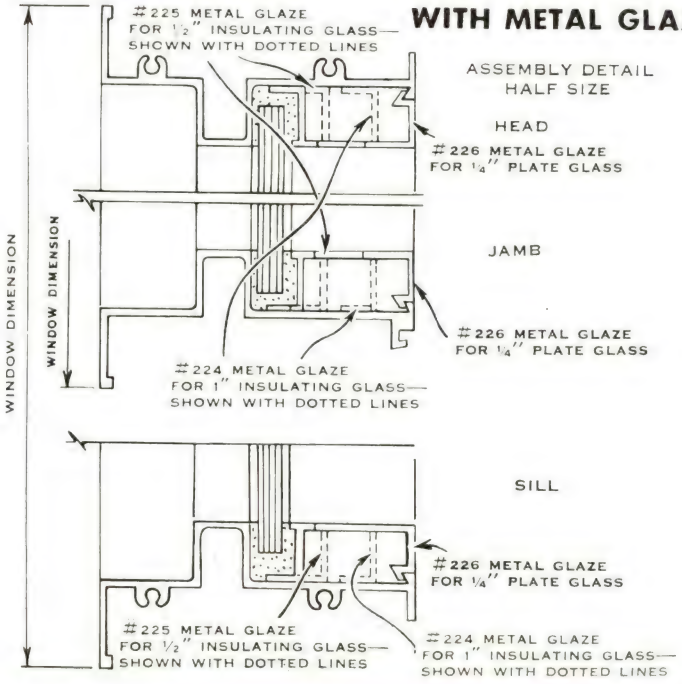
INSTALLATION DETAILS



MULLION ASSEMBLY DETAIL



JALOUSIE PICTURE WINDOW WITH METAL GLAZE



SPECIFICATIONS

GENERAL: Select-A-Vent is an aluminum awning type window of types and sizes shown and shall be complete with equipment and hardware as herein specified and as designed and developed by UALCO.

MATERIAL: UALCO Select-A-Vent frame, ventilators, muntins and meeting members shall be not less than 3/32" in thickness. Depth of frame and ventilators members shall not be less than 1 inch. All members shall be extruded aluminum alloy 6063-T5, of not less than 22,000 pounds of tensile strength per square inch.

CONSTRUCTION: All corners shall be mortised, tenoned and riveted. An integral-continuous hinge shall be extruded in the frame head section and in the ventilator top section forming a continuous hinge across the complete width of all ventilators. The same shall occur at all ventilators and meeting rails through-out window regardless of combination or arrangement. All muntins are parallel.

HARDWARE: Hardware shall be under screen operated and shall consist of a push bar jointed in such a manner to permit the bar to be folded back against the frame or meeting rail members when the ventilator is in the half way open position or completely closed position.

The ventilator shall be completely locked by the push bar when in the closed position. All hardware shall be of substantial construction, uniform in design and finish, of aluminum, white bronze or zinc.

FINISH: Select-A-Vent surfaces shall be given a chemical etch to produce an unblemish soft satin finish and, before shipment from factory, shall be given a coat of clear protective lacquer.

SCREENS: Screens shall be either of aluminum rolled sections or aluminum extruded sections with reinforced angle corners. Screen mesh shall be 18 x 14 mesh aluminum wire and held in place by removable spline. All screen shall be mounted by clips on the inside.

ERECTION: All openings must be completely prepared to receive the Ualco Select-A-Vent window. The window shall be set plumb and true. All ventilators shall be closed and locked before glazing for smooth operation and tight fitting.

NOTE—All hardware shall be installed before glazing is started.

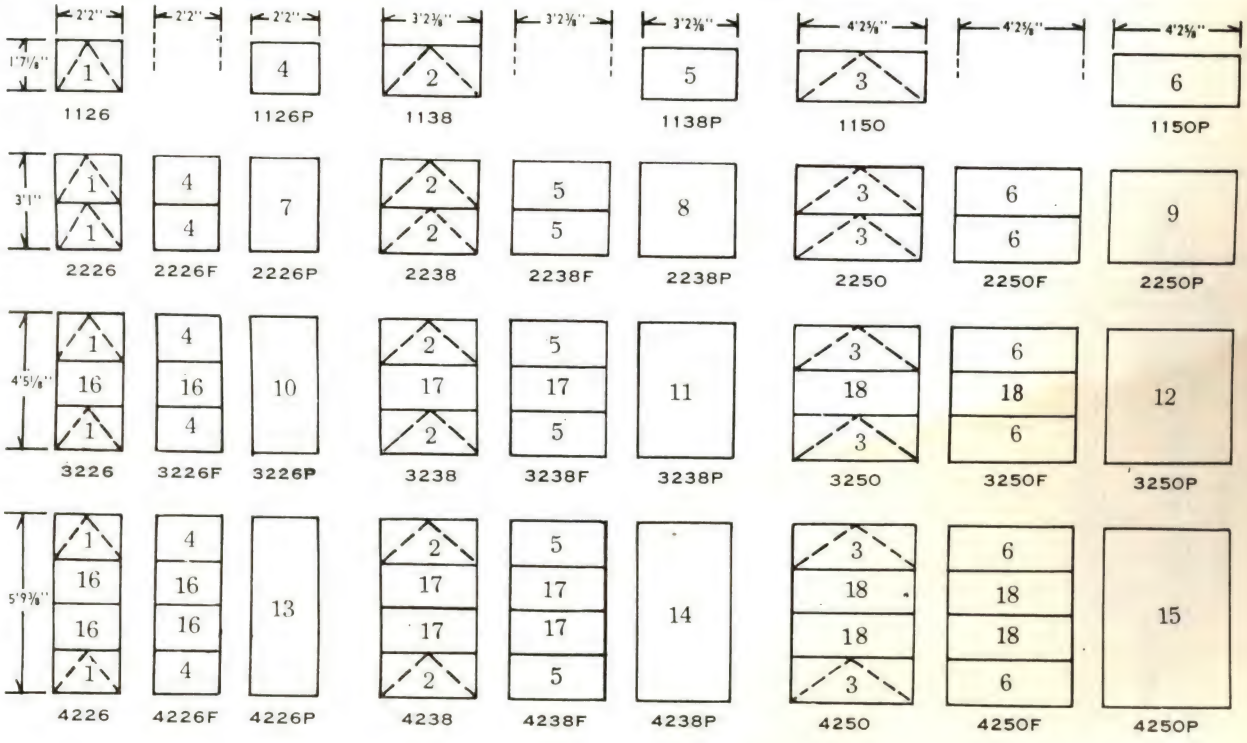
GLAZING: All Ualco Select-A-Vent shall be glazed on the outside. Glazing shall be done by others.

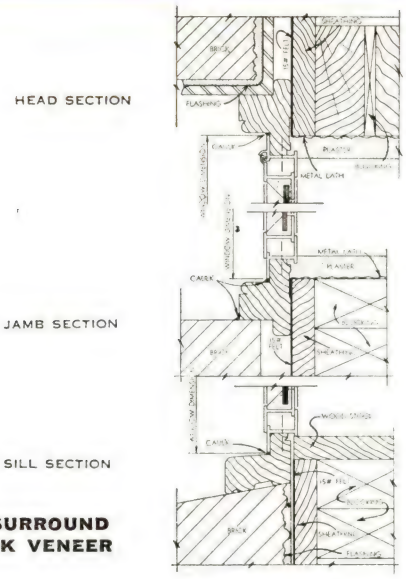


GLASS SIZES

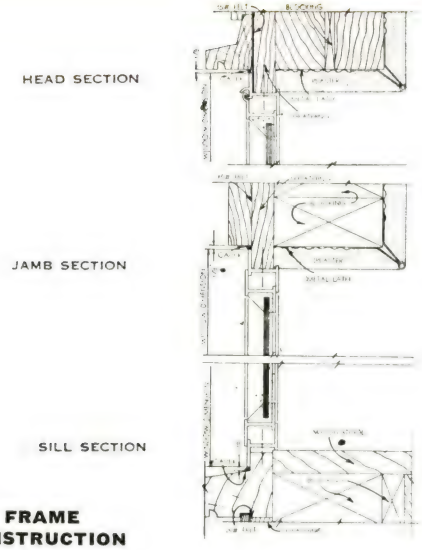
1	23" x 16"	10	24" x 51"
2	35" x 16"	11	36-¼" x 51"
3	47-¼" x 16"	12	48-½" x 51"
4	24" x 17-¼"	13	24" x 67-¼"
5	36-¼" x 17-¼"	14	36-¼"x 67-¼"
6	48-½" x 17-¼"	15	48-½" x 67-¼"
7	24" x 35"	16	24" x 16"
8	36-¼" x 35"	17	36-¼" x 16"
9	48-½" x 35"	18	48-½" x 16"

SELECT-A-VENT SIZES

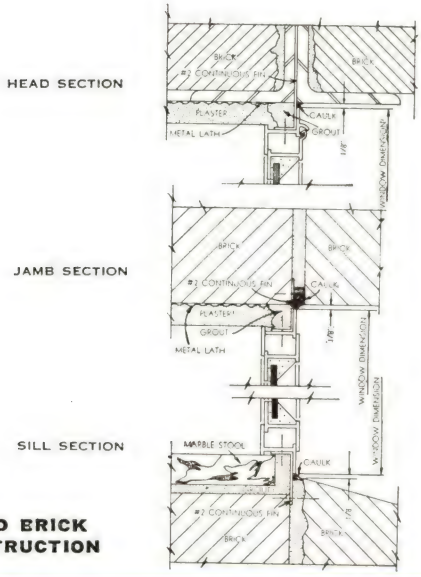




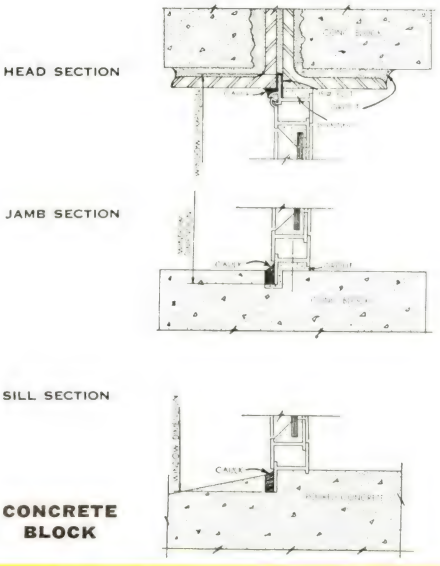
WOOD SURROUND IN BRICK VENEER



FRAME CONSTRUCTION



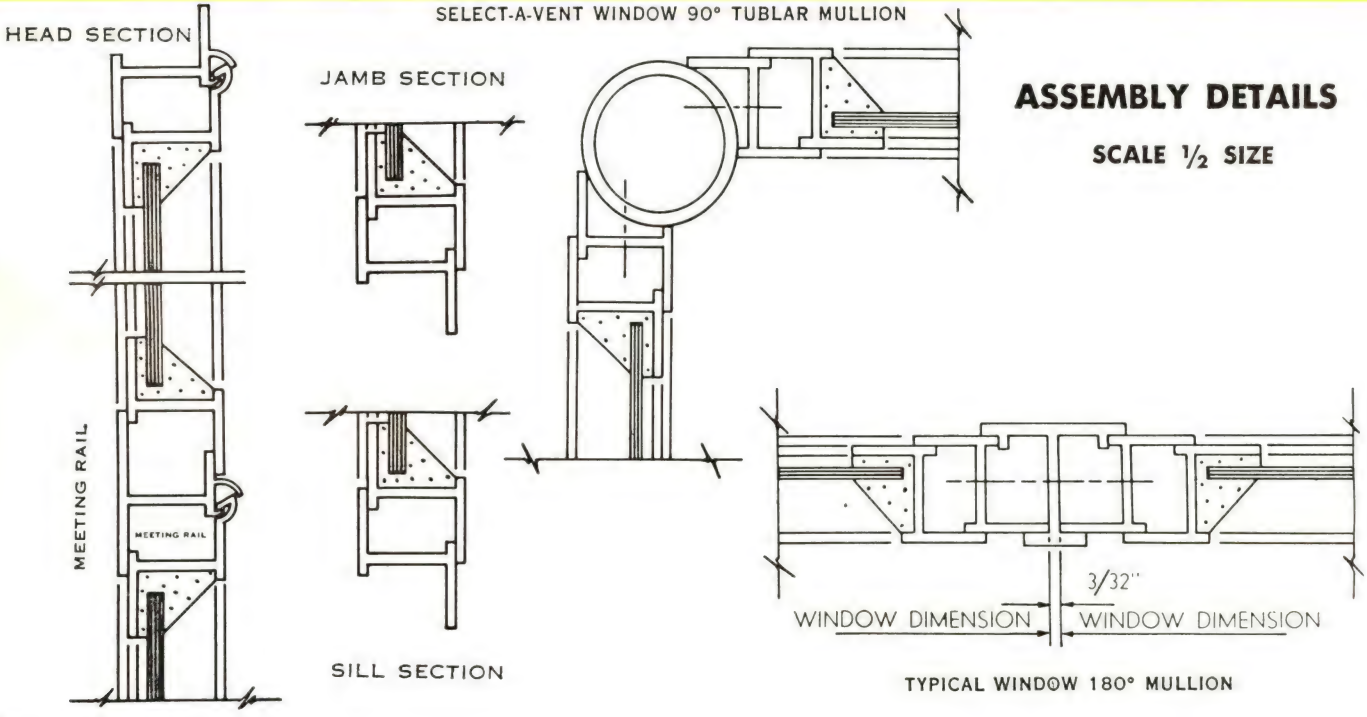
SOLID BRICK CONSTRUCTION



CONCRETE BLOCK

ASSEMBLY DETAILS

SCALE ½ SIZE



SPECIFICATIONS

GENERAL: Ualco Horizontal Sliding Window types and sizes shown herein as furnished by Union Aluminum Co., Inc., Sheffield, Alabama.

MATERIAL: Ualco Horizontal Sliding windows shall be especially designed aluminum extruded shapes of 6063-T5 alloy having an ultimate tensile strength of not less than 22,000 P.S.I. with a minimum thickness of .062".

CONSTRUCTION: Frame sections shall be assembled at the corners with stainless steel screws to insure strength and a tight rigid corner. Also windows can be shipped knocked down and assembled in the field.

Frame shall be weatherstripped at head and sill sections with continuous stainless steel weatherstripping which shall be securely attached to the tracks provided for the sash to glide on.

Vertical sections of frame shall, when in closed and locked position, engage a stainless steel weatherstrip inserted in the frame jamb section.

An aluminum guide shall be provided at the head of each sash, attached to the frame which shall prevent removal of the sash when in the closed and locked position.

Vent sash sections shall be assembled by means of stainless steel screws, as all corners.

Sash sections shall be accurately manufactured and fitted and shall be easily removed from the frame for cleaning or reglazing purposes, when in the unlocked position.

HARDWARE: Each moveable sash shall be provided with locking hardware manually operated. Stainless steel lock and keeper is designed for trouble free and positive locking.

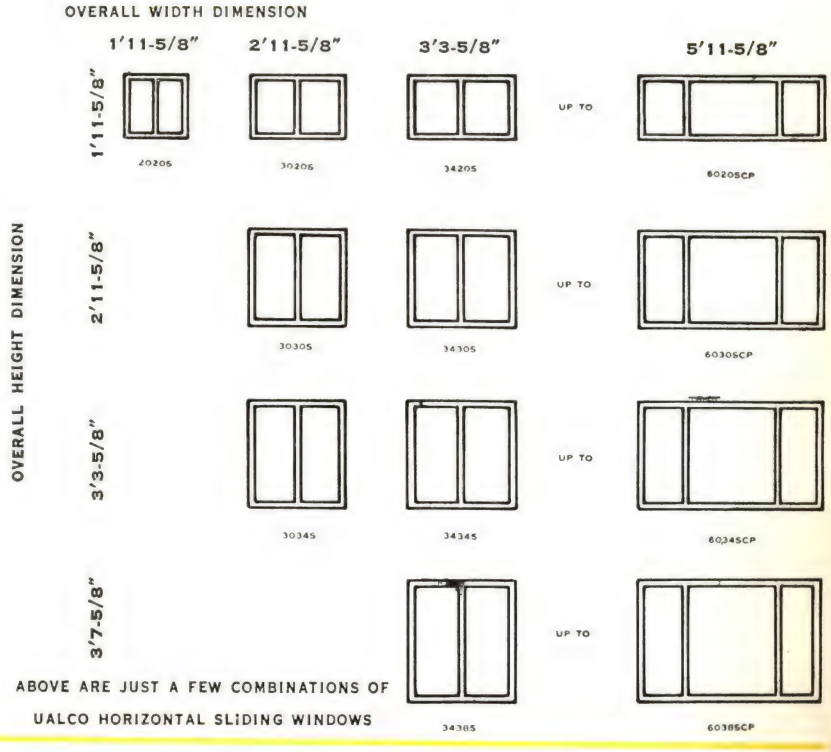
SCREENS: Window screens shall be made of extruded aluminum alloy 6063-T5 fitted with 18 x 14 mesh aluminum cloth.

ERECTIONS: (Included under another contract)
Erect windows in prepared openings according to manufactures drawings. Window frames must be set plumb and level so that sliding sash shall retain proper weathering contact to the frame. Do not at any time twist or force window in an opening too small or in an opening too large.

GLAZING: Glazing of ventilators shall be done at the factory or in the field. Windows shall be glazed in with vinyl glazing channel and using DSB glass.



HORIZONTAL SLIDING WINDOWS



ABOVE ARE JUST A FEW COMBINATIONS OF UALCO HORIZONTAL SLIDING WINDOWS

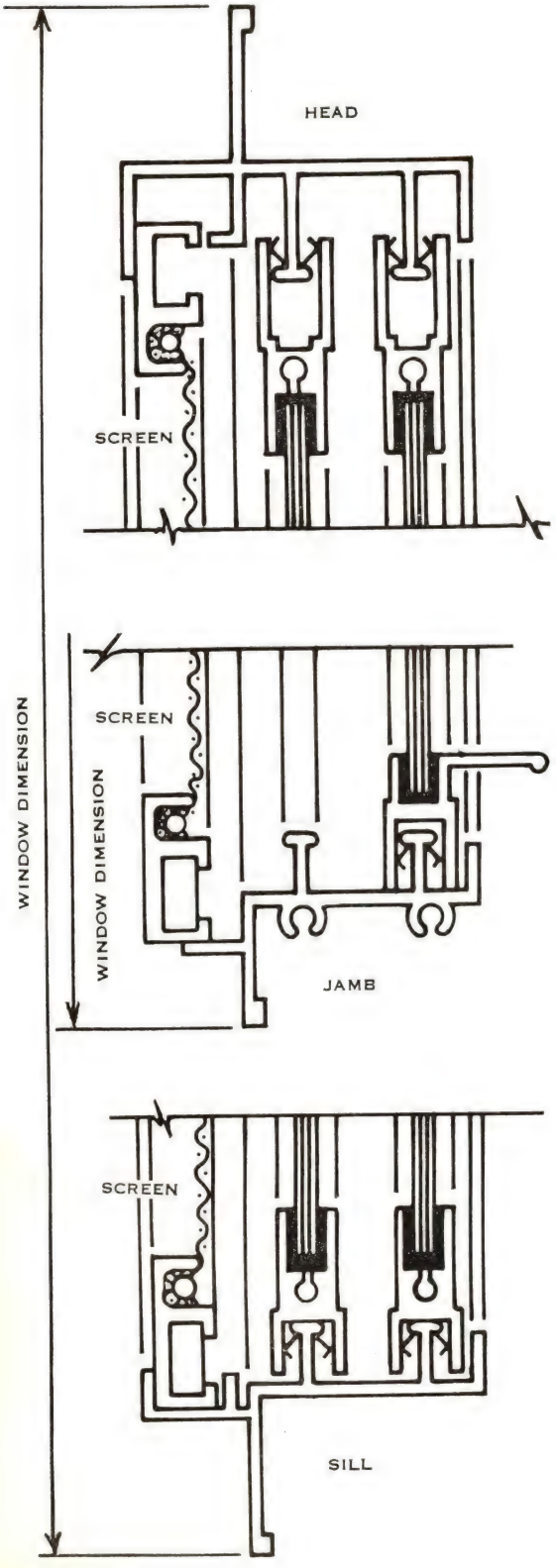
GLASS SIZES

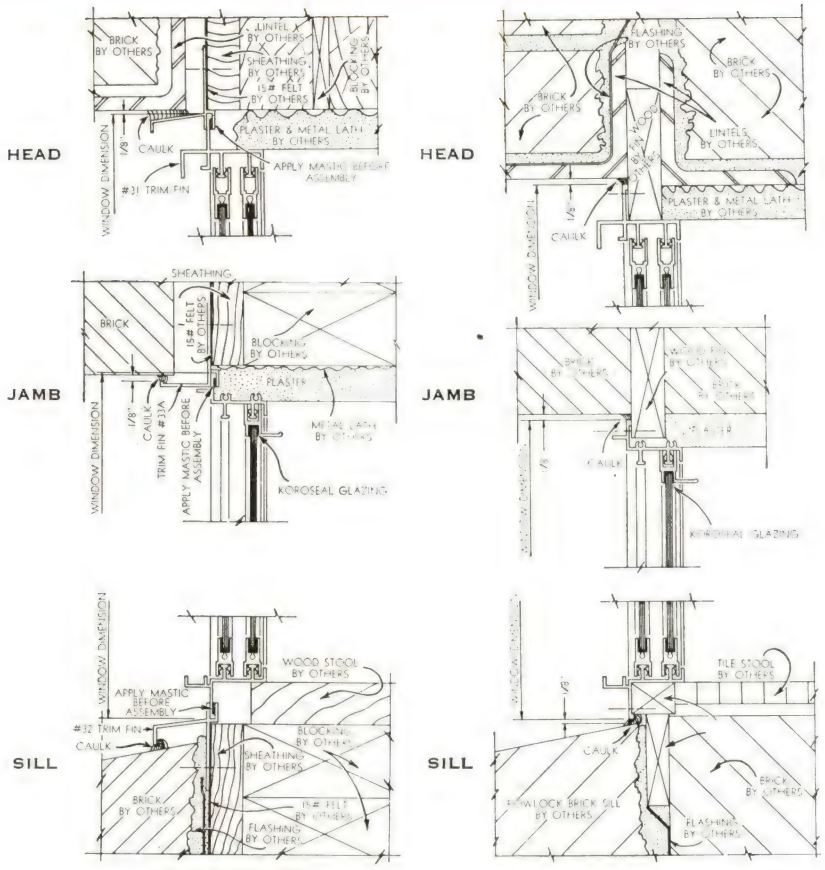
Normal Size	Window Dimension Width Height	Glass Size	Normal Size	Window Dimension Width Height	Glass Size
2020S	1' 11-5/8" x 1' 11-5/8"	10-1/2" x 20-1/16"	3034S	2' 11-5/8" x 3' 3-5/8"	16-1/2" x 36-1/16"
3020S	2' 11-5/8" x 1' 11-5/8"	16-1/2" x 20-1/16"	3434S	3' 3-5/8" x 3' 3-5/8"	18-1/2" x 36-1/16"
3420S	3' 3-5/8" x 1' 11-5/8"	18-1/2" x 20-1/16"	3834S	3' 7-5/8" x 3' 3-5/8"	20-1/2" x 36-1/16"
3820S	3' 7-5/8" x 1' 11-5/8"	20-1/2" x 20-1/16"	4034S	3' 11-5/8" x 3' 3-5/8"	22-1/2" x 36-1/16"
4020S	3' 11-5/8" x 1' 11-5/8"	22-1/2" x 20-1/16"	4834S	4' 7-5/8" x 3' 3-5/8"	26-1/2" x 36-1/16"
4820S	4' 7-5/8" x 1' 11-5/8"	26-1/2" x 20-1/16"	5434S	5' 3-5/8" x 3' 3-5/8"	30-1/2" x 36-1/16"
5420S	5' 3-5/8" x 1' 11-5/8"	30-1/2" x 20-1/16"	6034S	5' 11-5/8" x 3' 3-5/8"	34-1/2" x 36-1/16"
6020S	5' 11-5/8" x 1' 11-5/8"	34-1/2" x 20-1/16"			
3030S	2' 11-5/8" x 2' 11-5/8"	16-1/2" x 32-1/16"	3438S	3' 3-5/8" x 3' 7-5/8"	18-1/2" x 40-1/16"
3430S	3' 3-5/8" x 2' 11-5/8"	18-1/2" x 32-1/16"	3838S	3' 7-5/8" x 3' 7-5/8"	20-1/2" x 40-1/16"
3830S	3' 7-5/8" x 2' 11-5/8"	20-1/2" x 32-1/16"	4038S	3' 11-5/8" x 3' 7-5/8"	22-1/2" x 40-1/16"
4030S	3' 11-5/8" x 2' 11-5/8"	22-1/2" x 32-1/16"	4838S	4' 7-58"/ x 3' 7-5/8"	26-1/2" x 40-1/16"
4830S	4' 7-5/8" x 2' 11-5/8"	26-1/2" x 32-1/16"	5438S	5' 3-5/8" x 3' 7-5/8"	30-1/2" x 40-1/16"
5430S	5' 3-5/8" x 2' 11-5/8"	30-1/2" x 32-1/16"	6038S	5' 11-5/8" x 3' 7-5/8"	34-1/2" x 40-1/16"
6020S	5' 11-5/8" x 2' 11-5/8"	34-1/2" x 32-1/16"			

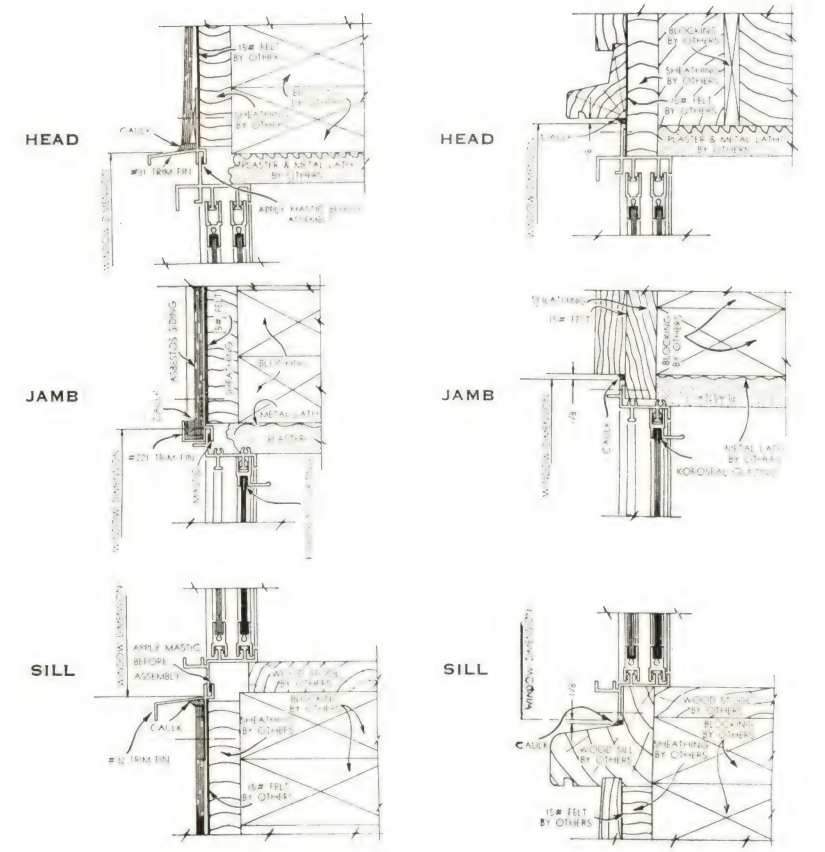
NOTE: The maximum height for any sliding window (special or standard) will be 3' 7-5/8".

HORIZONTAL SLIDING
ASSEMBLY DETAILS

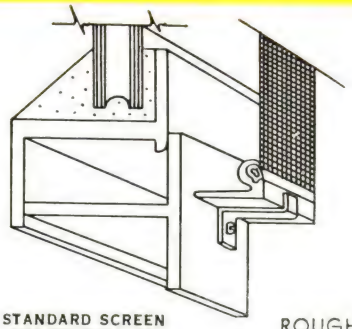
SCALE FULL SIZE







ALUMINUM RANCH WINDOW WALL



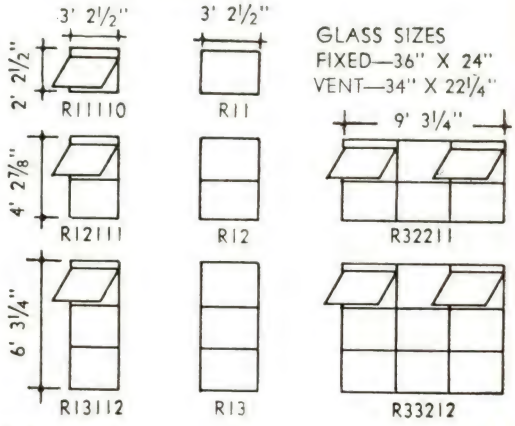
SCREEN ASSEMBLY DETAIL FOR WICKET SCREEN USING CAM HANDLE LOCK.

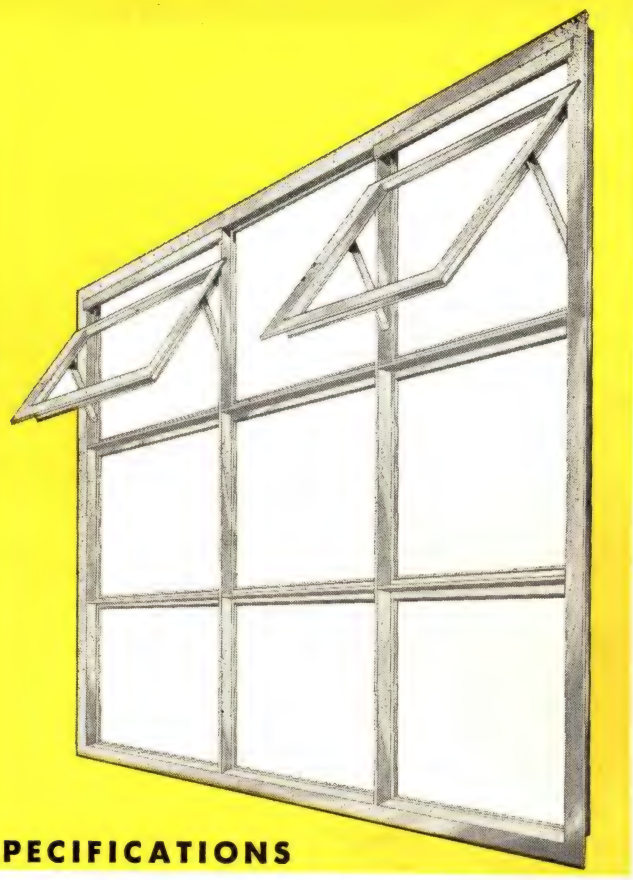
SCREEN ASSEMBLY

STANDARD SCREEN SHAPES WILL BE USED FOR UNDER SCREEN ROTO OPERATOR.

ROUGH OPENING SUB. 1¼" FROM WINDOW DIM.

WINDOW SIZES





SPECIFICATIONS

GENERAL—All windows shall be UALCO standard sizes of project-out or project-in type, manufactured by the Union Aluminum Co., Inc., Sheffield, Alabama.

MATERIAL—All sections shall be ⅛" thickness. Ventilator sections shall be 1¾" deep and frame sections shall be 1⅝" deep. Windows shall be extruded aluminum alloy 6063-T5 and having a tensile strength of about 22,000 P.S.I. Muntin sections shall be 1½" deep.

CONSTRUCTION—Frame and ventilator corners shall be mortise and tenon and securely riveted at corners. Ranch wall windows are designed for outside glazing and plate glass ½" thermopane glass.

VENTILATORS—Project-out or project-in vents have stainless steel friction shoes, spring loaded to maintain constant friction shoe pressure at all positions of the ventilator opening and balance arms which position ventilator up to 50 per cent maximum opening.

Ventilators shall have double contact weathering surfaces—parallel to the face of the window.

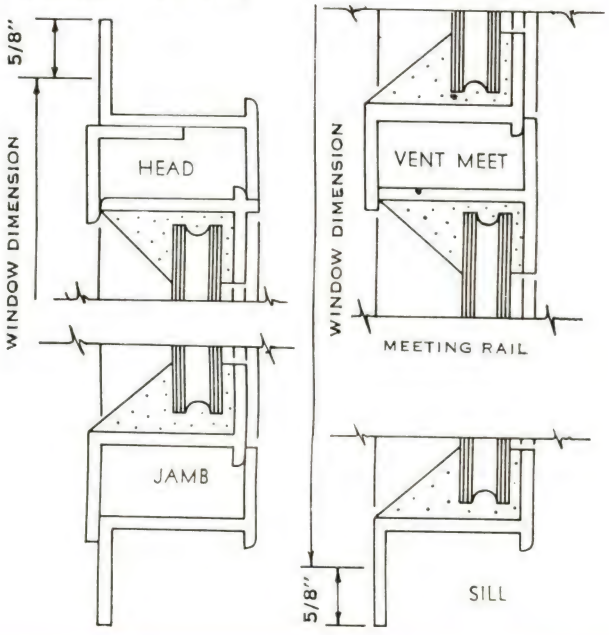
SCREENS—Windows are prepared for screens at additional cost. Screens for project-out vents are mounted on the inside. Screens for project-in vents are mounted on the outside. (Removable from inside). Screen frames are of extruded aluminum 6063-T5 alloy and the wire mesh shall be aluminum wire mesh 14 x 18.

MULLION—Mullion shall be UALCO standard Ranch Wall window TEE mullion.

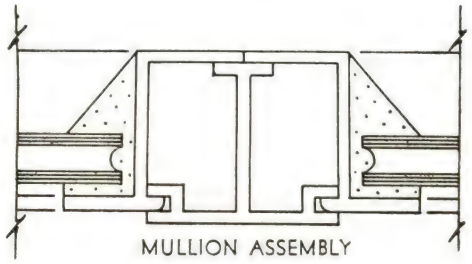
HARDWARE—Cam handle or spring catch hardware is optional on project-in vents. Project-out vents use cam handle or ring type cam handle. All hardware shall be with bronze and clear lacquer finished.

GLAZING—UALCO Ranch Wall windows are designed for outside glaze and will accommodate thermopane or T window.

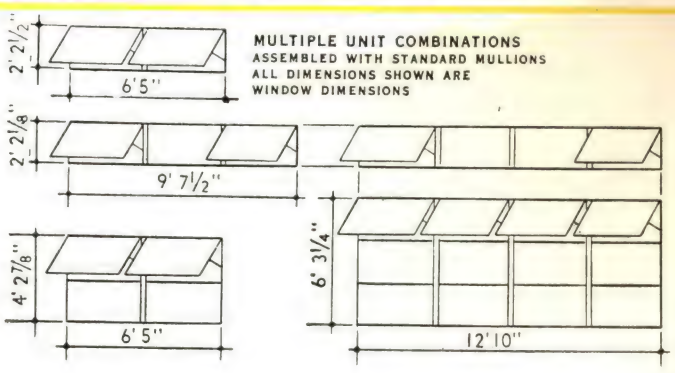
ASSEMBLY DETAILS



MULLION ASSEMBLY DETAILS



MULTIPLE UNIT COMBINATIONS ASSEMBLED WITH STANDARD MULLIONS ALL DIMENSIONS SHOWN ARE WINDOW DIMENSIONS



ALUMINUM COMMERCIAL PROJECTED WINDOWS

SPECIFICATIONS

SECTIONS AND CONSTRUCTION:
Extruded aluminum shapes ⅛" minimum thickness. These windows are designed for inside glazing. Outside frame sections are 1½" and 1⅝" deep and provide ⅝" wall bearing. Frame and ventilator combined depth horizontal is 1¾" and 2⅛" vertical. Corners of frame, ventilator and muntins are mortised and tenoned—then swedged. Muntins are 1½" deep with intersections mechanically formed without distortion and for added strength.

VENTILATORS:
Project-out ventilators open out at bottom, project-in ventilators open in at top. Ventilators have stainless steel sliding friction shoes, pivoting at top of project-out ventilators and at the bottom of project-in ventilators. Concealed springs maintain constant friction shoe pressure at all positions of ventilator opening, and balance arms which position ventilator up to 50 percent maximum opening.

WEATHERING:
Ventilators have two weathering surfaces parallel to the face of the window.

SCREENS:
Windows are prepared for screens at additional cost. Screens for project-out vents are mounted inside and project-in vents are screen mounted on the outside. (Removable from inside.) Screen frames are of extruded aluminum. Screen cloth of aluminum, 14 x 18 mesh.

MULLION:
Adjustable from 1⅜" minimum to 2⅝" maximum. Extruded heavy aluminum tee section. Flat surface outside. Inside cover plate available at extra cost, or plate mullion if specified.

OPERATING HARDWARE:
Cast white bronze, commercial type operating hardware, with satin finish or lacquered finish as specified. Trouble-free operation and maintenance.

PROJECT OUT VENTILATORS
INSIDE GLAZE: Straight end handle UN-12 locks horizontally on Bronze strike UN-4 and is standard. Pole ring handle UN-14 also locks horizontally on strike plate UN-4 and is available on request as alternate.

OUTSIDE GLAZE: Straight end handle UN-1 locks horizontally on Bronze strike UN-4. Pole ring end UN-2 locking horizontally on strike UN-4 is available on request as alternate.

PROJECT IN VENTS
INSIDE GLAZE: Straight end handle UN-3 locking horizontally on UN-5, UN-6, UN-8, or UN-17 strikes, depending on location of vents is standard. Pole end handle UN-15 using same strikes is available as alternate. Spring catch pole ring handle UN-10 also available as alternate.

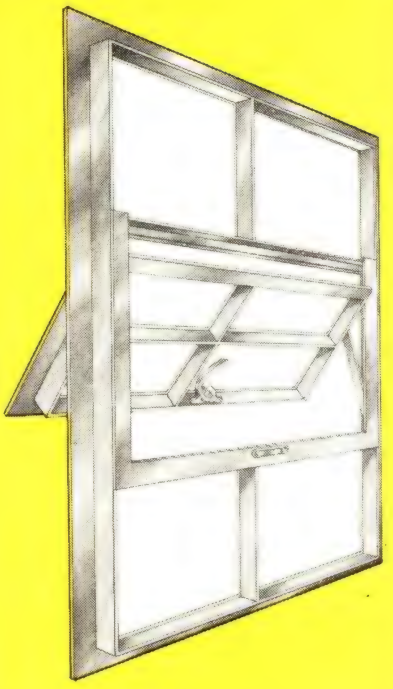
NOTE: In all units bottom vent glaze is always same as top vent glaze regardless of direction of projection.

MOUNTING CLIPS:
Made of aluminum in a variety of sizes and shapes.

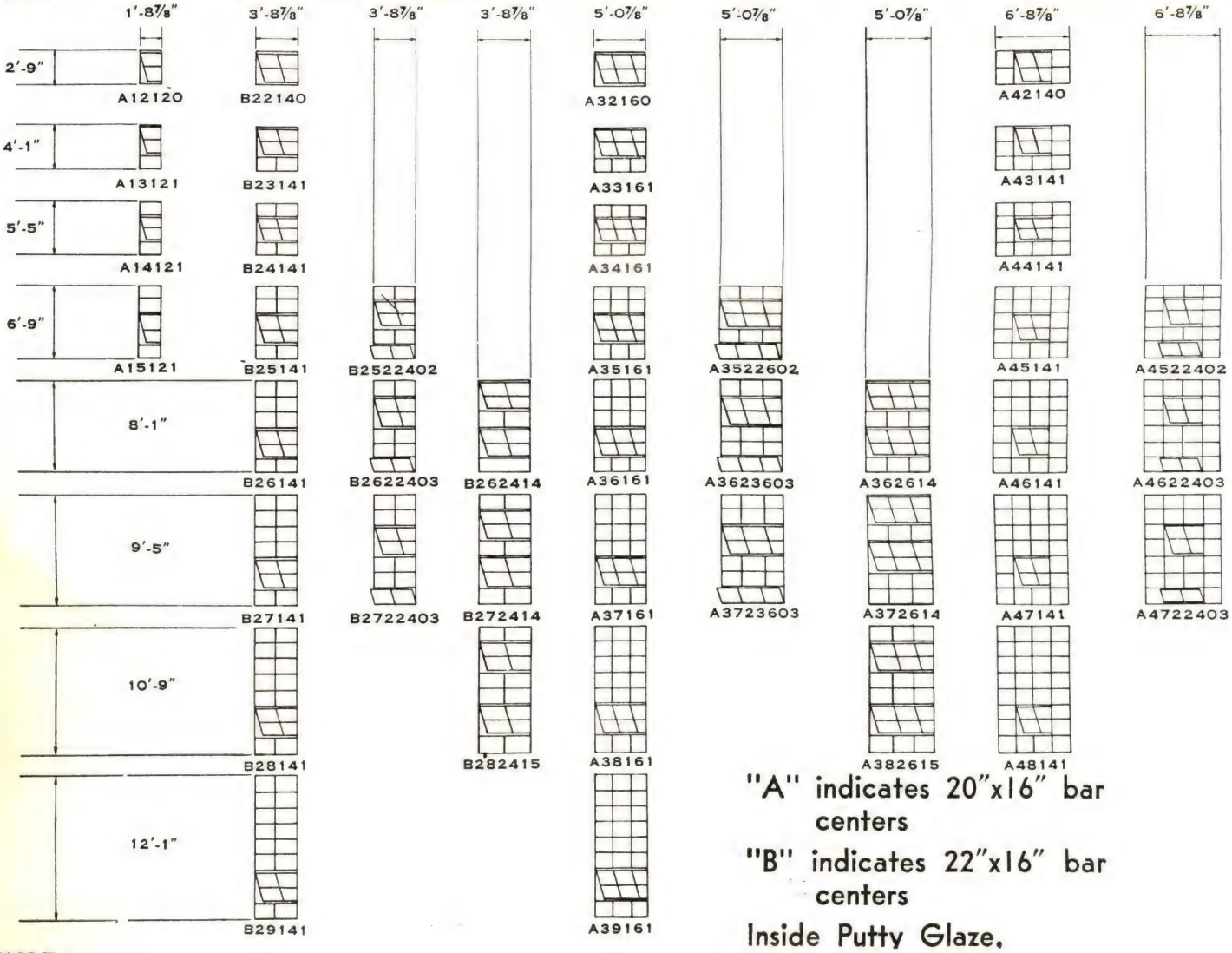
GLAZING:
Single lights inside bed and face compound standard under another contract.

THERMOPANE OR TWINDOW GLAZING:
UALCO Projected Windows are of extra deep extrusions for installation of ½" maximum Thermopane or Twindow.

GLAZING SUGGESTIONS:
Bed with glazing compound. Support panes with blocks at lower corner and insert glazing clips, and face with compound.



Types and Sizes



"A" indicates 20"x16" bar centers

"B" indicates 22"x16" bar centers

Inside Putty Glaze.

SPECIFICATIONS

SECTIONS AND CONSTRUCTION:

Extruded aluminum shapes ⅛" minimum thickness. Alum. alloy 6063-T5—Has 22000 PSI tensile strength. These windows are designed for outside glazing. Outside frame sections are unequal leg sections 1⅝" and 1¾" deep and provide ⅝" wall bearing. Frame and ventilator combined depth horizontal is 1¾" and 2-15/16" vertical. Corners of frame, ventilator and muntins are mortised and tenoned—then swedged. Muntins are 1⅝" deep, with intersections mechanically formed without distortion and for added strength.

VENTILATORS:

Project-out ventilators open out at bottom, project-in ventilators open in at top. Ventilators have stainless steel sliding friction shoes, pivoting at top of project-out ventilator and at the bottom of project-in ventilator. Concealed springs maintain constant friction shoe pressure at all positions of ventilator opening, and balance arms which position ventilator up to 50 percent maximum opening.

WEATHERING:

Ventilators have two weathering surfaces parallel to the face of the window.

SCREENS:

Windows are prepared for screens at additional cost. Screens for project-out vents are mounted inside and project-in vents are screen mounted on the outside. (Removable from inside.) Screen frames are of extruded aluminum. Screen cloth of aluminum, 14x18.

MULLION:

Adjustable from 1⅜" minimum to 2⅝" maximum. Extruded heavy aluminum tee section. Flat surface outside. Inside cover plate available at extra cost. Or 3⅛" mullion variable from 2⅛" to 3⅛" max.

OPERATING HARDWARE:

Cast white bronze, commercial type operating hardware, with satin finish or lacquered finish as specified. Trouble-free operation and maintenance.

PROJECT OUT VENTILATORS:

INSIDE GLAZE: Straight end handle UN-12 locks horizontally on Bronze strike UN-4 and is standard. Pole ring handle UN-14 also locks horizontally on strike plate UN-4 and is available on request as alternate.

OUTSIDE GLAZE: Straight end handle UN-1 locks horizontally on Bronze strike UN-4. Pole ring end UN-2 locking horizontally on strike UN-4 is available on request as alternate.

PROJECT IN VENTS:

INSIDE GLAZE: Straight end handle UN-3 locking horizontally on UN-5, UN-6, UN-8, or UN-17 strikes, depending on location of vents is standard. Pole end handle UN-15 using same strikes is available as alternate. Spring catch pole ring handle UN-10 also available as alternate.

NOTE: In all units bottom vent glaze is always same as top vent glaze regardless of direction of projection.

MOUNTING CLIPS:

Made of aluminum in a variety of sizes and shapes.

GLAZING:

Single lights outside bed and face compound standard under another contract.

THERMOPANE OR TWINDOW GLAZING:

UALCO Projected Windows are of extra deep extrusions for installation of ½" Thermopane or Twindow.

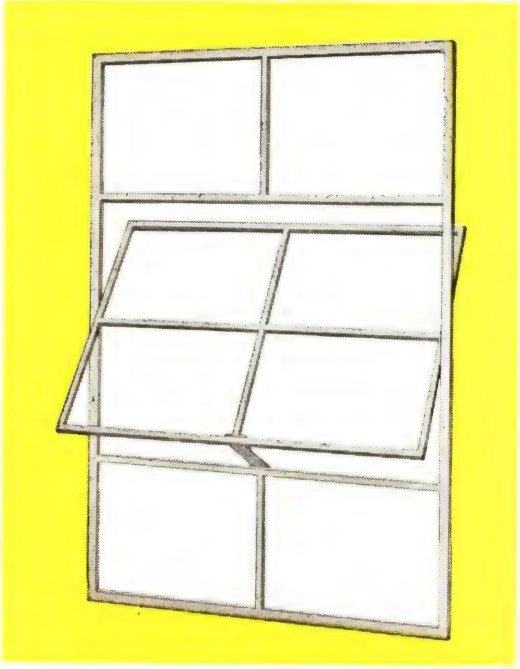
GLAZING SUGGESTION:

Bed with glazing compound. Support panes with blocks at lower corners and insert glazing clips, and face with compound.

INTERMEDIATE PROJECTED Types and Sizes



Ualco Pivoted Windows are designed for permanence and rugged use. Made of extra heavy solid extruded aluminum. Ventilators are accurately balanced and assure maintenance free operation. Hardware is heavy duty. Ualco Pivoted Windows may be installed as units or as continuous walls of glass. They meet all construction requirements for light, ventilation and economy.



SPECIFICATIONS

SECTIONS AND CONSTRUCTION:
Extruded aluminum shapes ⅛" minimum thickness. These windows are designed for inside glazing. Outside frame sections are 1½" and 1⅜" deep and provide ⅝" wall bearing. Frame and ventilator combined depth horizontal is 1¾" and 2" vertical. Corners of frame, ventilator and muntins are mortised and tenoned—then swedged. Muntins are 1½" deep with intersections mechanically formed without distortion and for added strength.

PIVOT: (Non-Screened):
Ventilators have integral pivot located 2-1/16" above center of ventilator.

PIVOT HARDWARE:
Push bar type for ventilators within reach and spring catch and chain for ventilators out of reach.

WEATHERING:
Ventilators have two weathering surfaces.

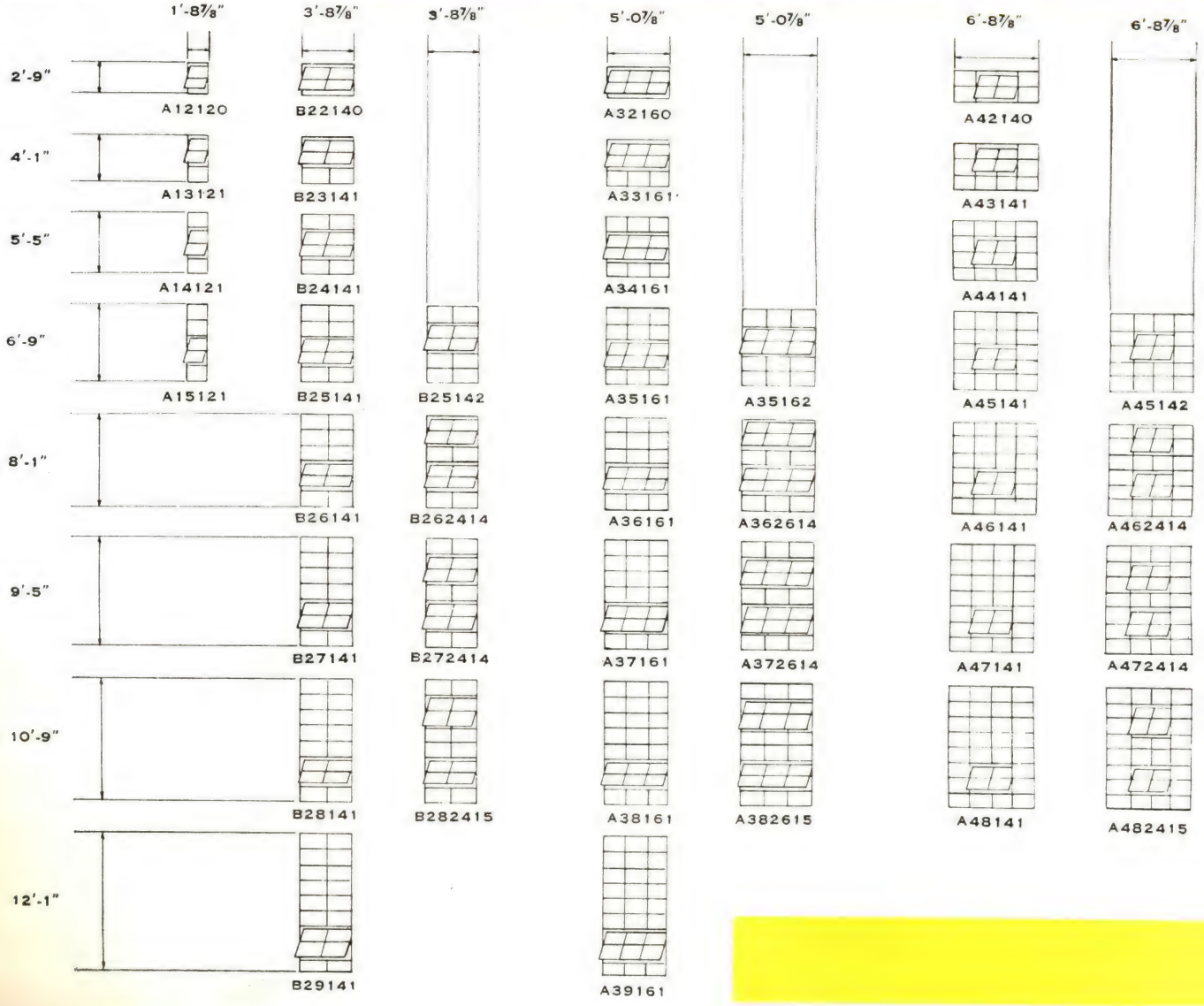
MULLION:
Adjustable from 1⅜" minimum to 2⅝" maximum. Extruded heavy aluminum tee section. Flat surface outside. Inside cover plate available at extra cost, or plate mullion if specified.

MOUNTING CLIPS:
Made of aluminum in a variety of sizes.

GLAZING:
Single lights inside bed and face compound standard under another contract.

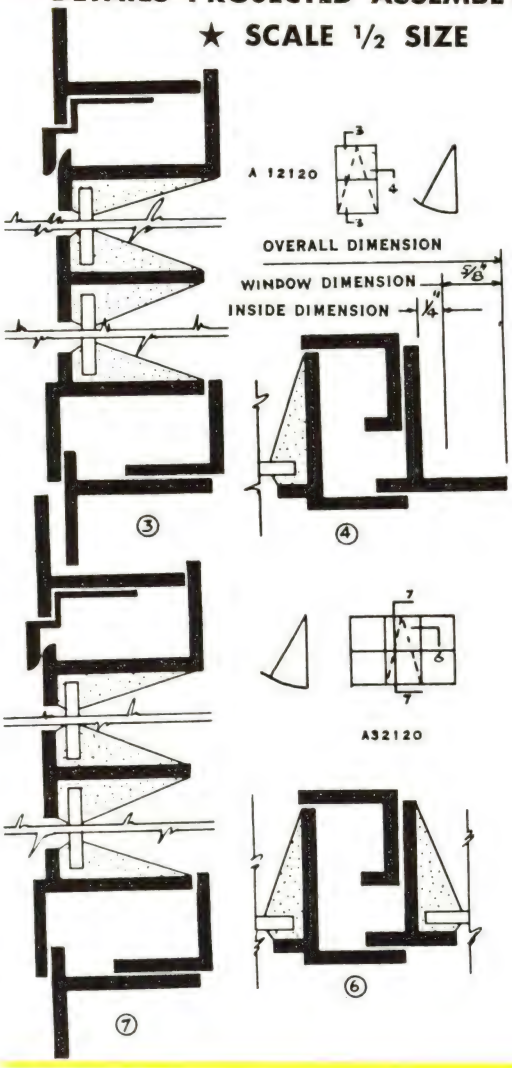
GLAZING SUGGESTIONS:
Bed with glazing compound. Support panes with blocks at lower corners and insert glazing clips and face with compound.

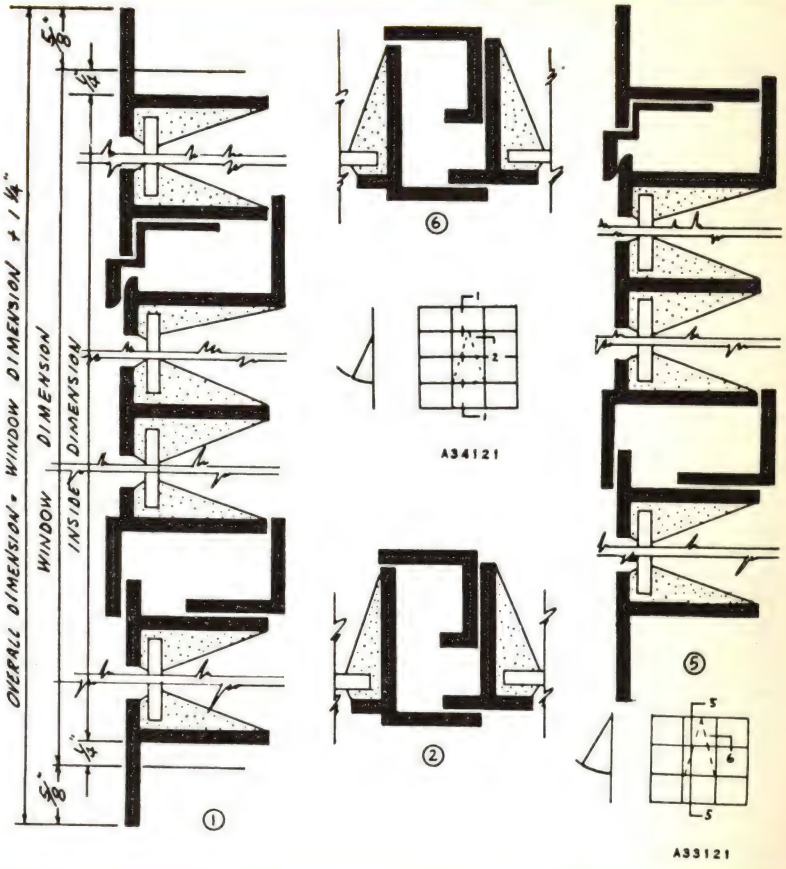
PIVOTED Types & Sizes



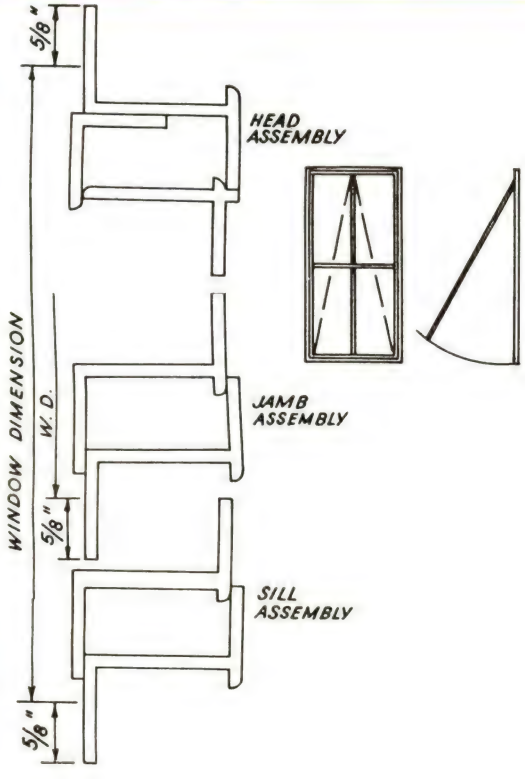
DETAILS PROJECTED ASSEMBLY

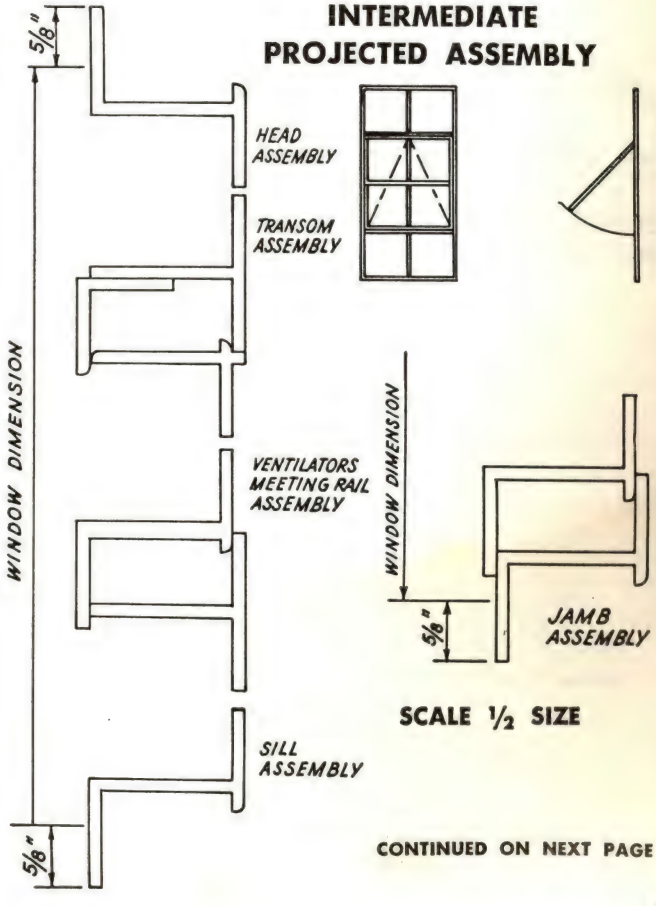
★ SCALE 1/2 SIZE





• DETAILS INTERMEDIATE PROJECTED ASSEMBLY

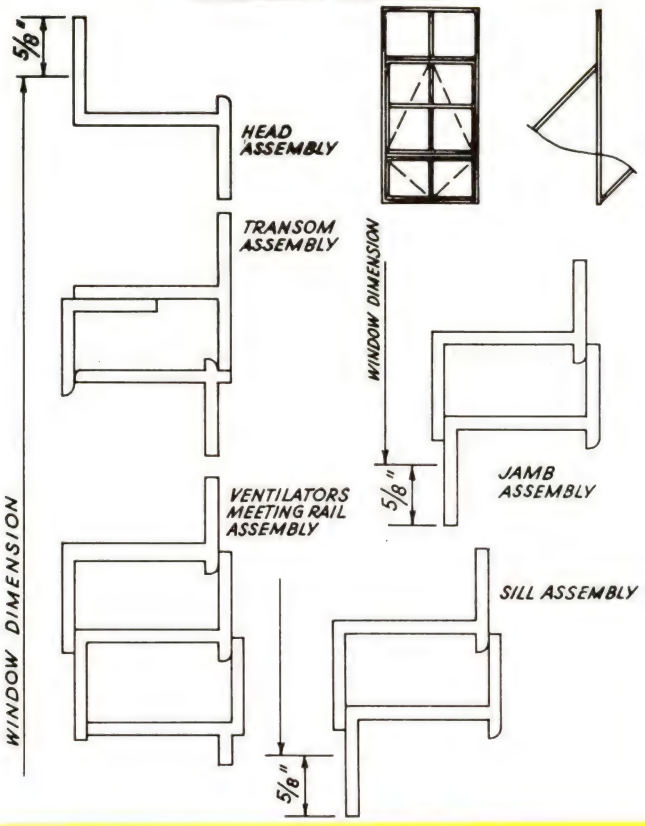




SCALE 1/2 SIZE

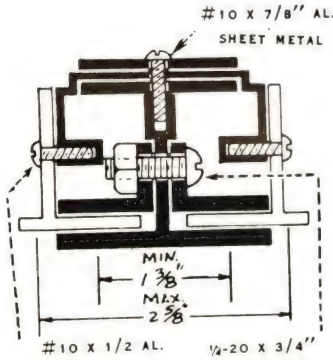
CONTINUED ON NEXT PAGE

INTERMEDIATE CONTINUED



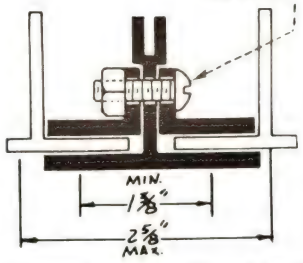
MULLION ASSEMBLY DETAILS

TEE MULLION NO. R-63
PIVOTED & COMMERCIAL PROJECTED
180° TEE MULLION & COVER PLATE ASSEMBLY



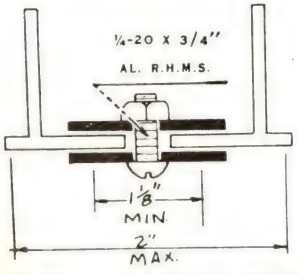
#10 X 1/2 AL. SHEET METAL (2)
1/4-20 X 3/4" AL. R.H.M.S.
VARIABLE MULLION, 1 1/4" ADJUSTMENT FROM 1 3/8" TO 2 5/8"

TEE MULLION NO. R-62
HORIZONTAL
PIVOTED & COMMERCIAL PROJECTED
180° VARIABLE TEE MULLION



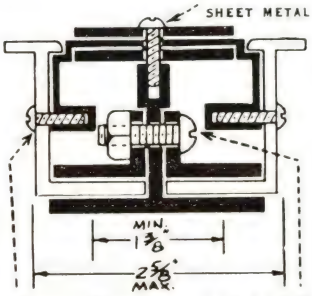
ADJUSTMENT FROM 1 3/8" TO 2 5/8"
FOR WINDOWS UP TO 12'-1" IN HEIGHT

PLATE MULLION NO. M-62
PIVOTED & COMMERCIAL PROJECTED



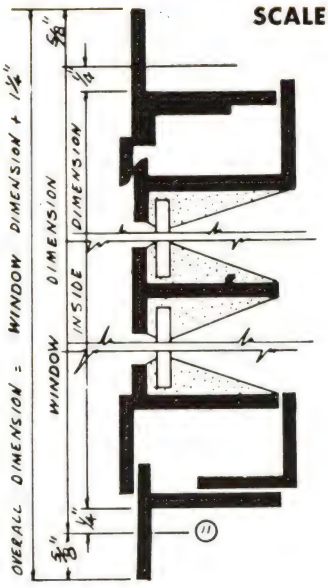
180 DEGREE PLATE MULLION ASSEMBLY
VARIABLE FROM 1 1/8" TO 2"
7/8" ADJUSTMENT
FOR WINDOWS UP TO 5'5" IN HEIGHT

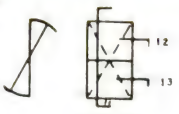
TEE MULLION NO. R-63
INTERMEDIATE PROJECTED
180° TEE MULLION & COVER PLATE ASSEMBLY

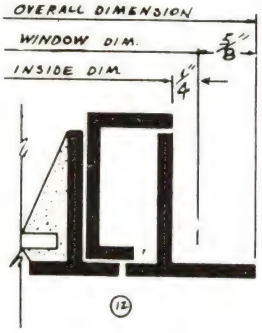


#10 X 1/2 AL. SHEET METAL (2)
1/4-20 X 3/4" AL. R.H.M.S.
VARIABLE MULLION, 1 1/4" ADJUSTMENT FROM 1 3/8" TO 2 5/8"

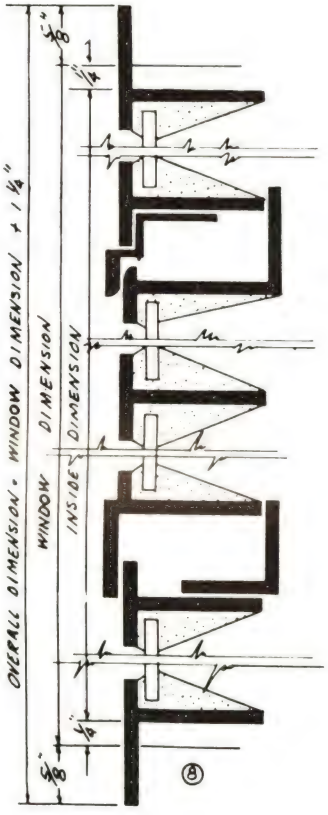
SCALE 1/2 SIZE

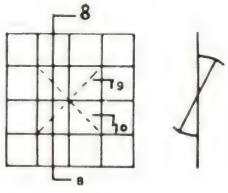


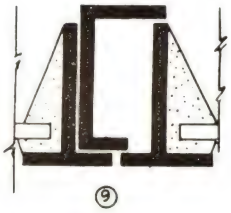


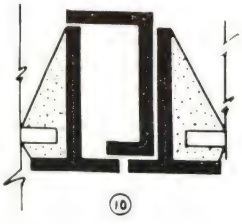


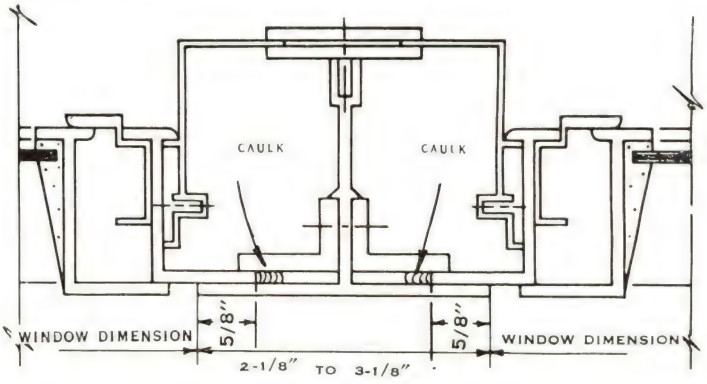




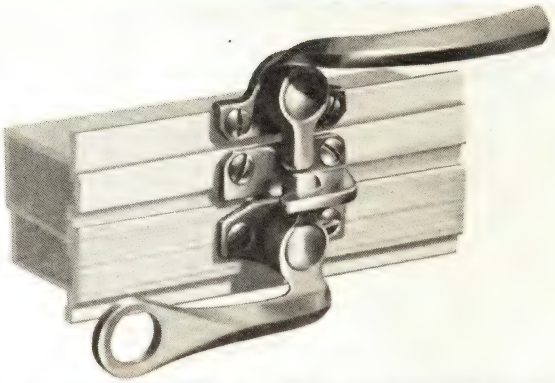




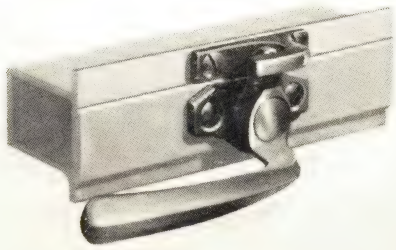




UN-1 CAM LOCK HANDLE ▼



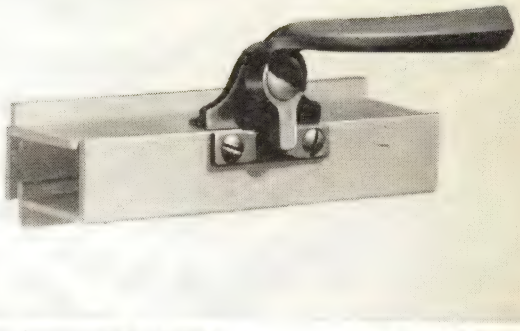
UN-15 CAM LOCK HANDLE ▲ UN-5 COMB. STRIKE & KEEPER



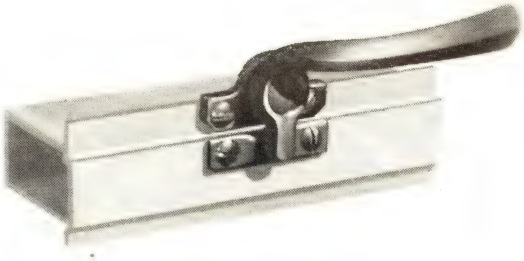
UN-6 KEEPER UN-3 CAM LOCK HANDLE



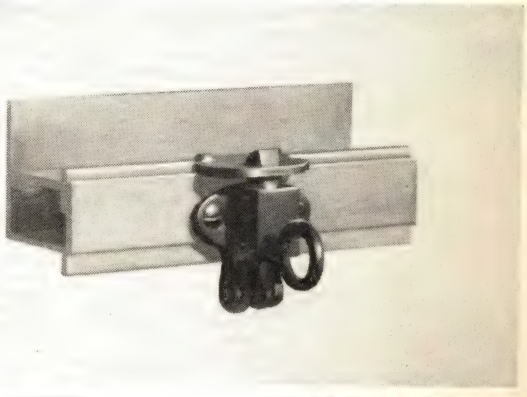
UN-17 KEEPER UN-3 CAM LOCK HANDLE



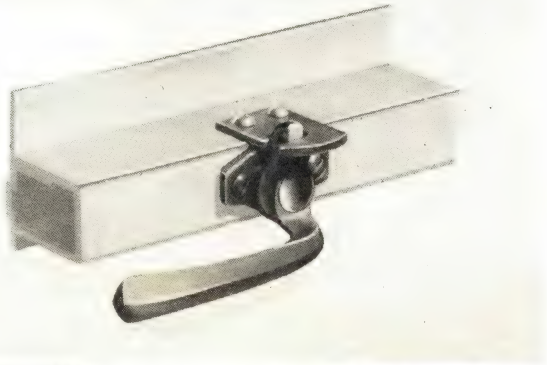
UN-12 CAM LOCK HANDLE UN-4 STRIKE PLATE



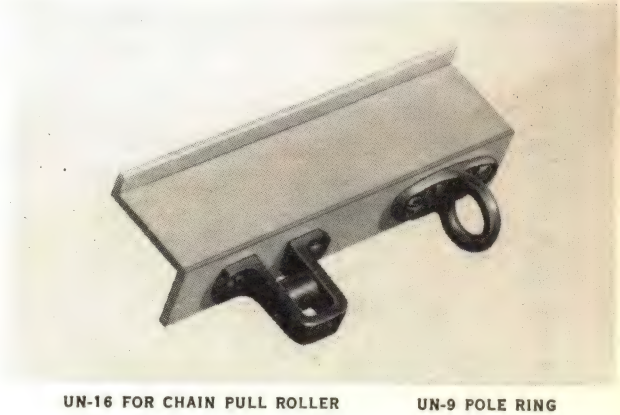
UN-4 STRIKE PLATE UN-1 CAM LOCK HANDLE



UN-7 KEEPER UN-10 SPRING CATCH



UN-17 KEEPER UN-3 CAM LOCK HANDLE



UN-16 FOR CHAIN PULL ROLLER UN-9 POLE RING

SPECIFICATIONS

GENERAL
All windows shall be UALCO standard sizes of project-in or project-out type, Manufactured by the Union Aluminum Co., Inc., Sheffield, Alabama.

MATERIAL
All sections shall be ⅛" thickness. Ventilator sections shall be 1⅝" deep and frame sections shall be 4½" deep and channel reinforced. The drip section shall be extruded integral in the head section, forming a watershed. Windows shall be constructed of extruded aluminum alloy 6063-T5 and having a tensile strength of about 22,000 pounds per square inch.

CONSTRUCTION
Ventilators shall be mortise and tenon and securely riveted at all corners. Frame sections shall be caped and corners secured with 3 #10 sheet metal screws ⅞" long at each and every corner. Frame head and sill sections shall be continuous over entire opening up to 12 feet maximum length. Frame head sections shall support entire weight of glass blocks, eliminating lintel.

VENTILATORS
Ventilators shall have continuous two contact-weathering. Ventilators may project-in or out in ribbon or individual glass block window as specified.

HARDWARE
Cam handle or spring catch hardware is optional on project-in types. Project-out types cam handle or ring type cam handle hardware shall be furnished. All hardware shall be of white bronze-clear lacquer finished.

SCREENS
Windows shall be prepared for screens at additional cost. Screens for project-out vents are mounted inside and project-in vents are screen mounted on the outside. (Removable from inside). Screens shall be of extruded aluminum frame with 14x18 mesh screen cloth mounted.

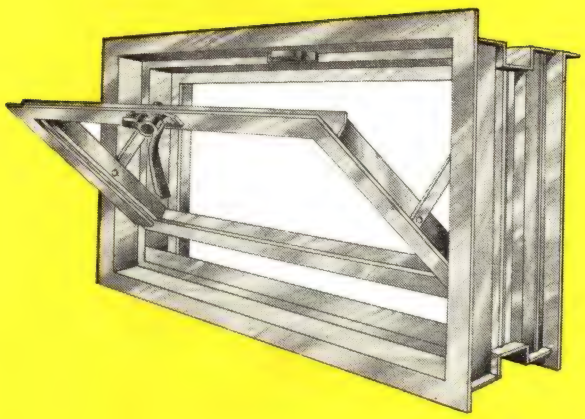
MULLION
Mullion shall be variable from 2 3/16" minimum to 2 9/16" maximum. Mullion shall be mechanically fitted to eliminate the use of screws and nuts.

GLAZING
Project-out and project-in windows shall be glazed on the outside.

GLASS SCHEDULE

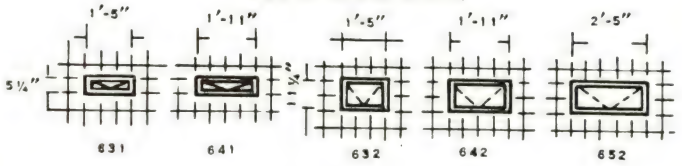
A	13¾"	1⅞"
B	19¾"	1⅞"
C	13¾"	7⅞"
D	19¾"	7⅞"
E	25¾"	7⅞"
F	19¾"	3⅞"
G	27¾"	3⅞"
H	19¾"	11⅞"
I	11¾"	11⅞"
J	27¾"	11⅞"
K	17⅝"	11⅞"
L	19¾"	19⅞"
M	27¾"	19⅞"
N	17⅝"	19⅞"
O	19¾"	27⅞"
P	27¾"	27⅞"
Q	17⅝"	27⅞"
R	19¾"	7⅞"
S	31¾"	7⅞"
T	31¾"	19⅞"

FIXED AND PICTURE WINDOWS ALSO AVAILABLE

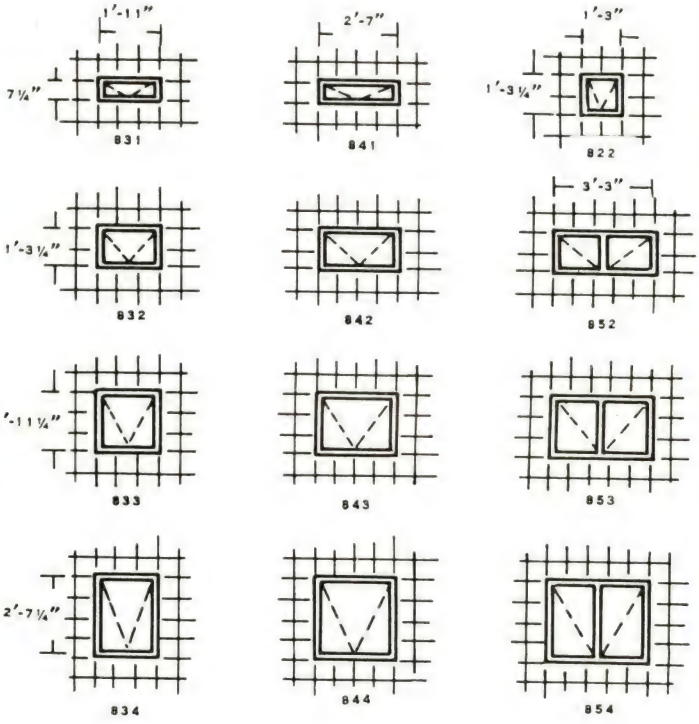


GLASS BLOCK WINDOW SIZES

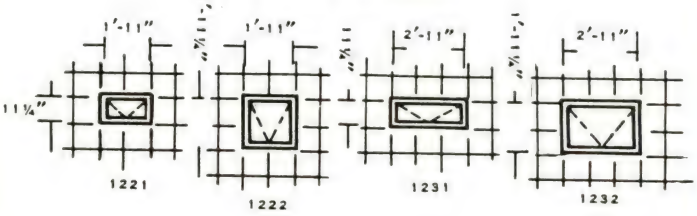
FOR 6" GLASS BLOCK



FOR 8" GLASS BLOCK

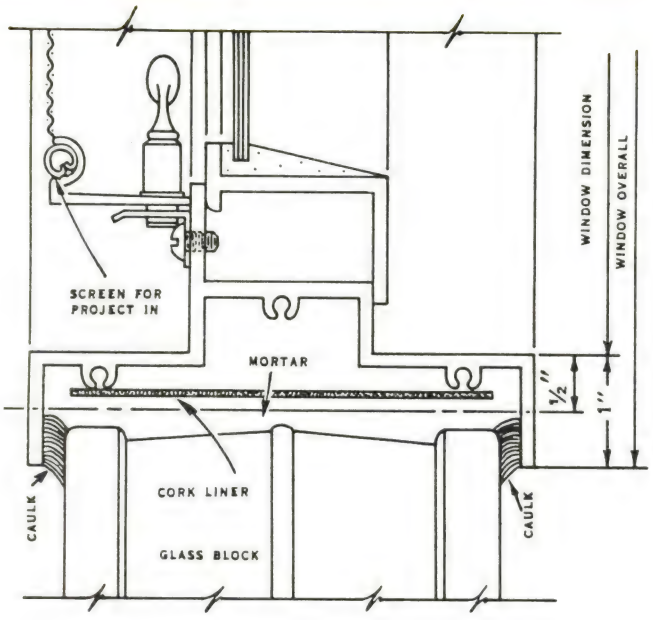


FOR 12" GLASS BLOCK

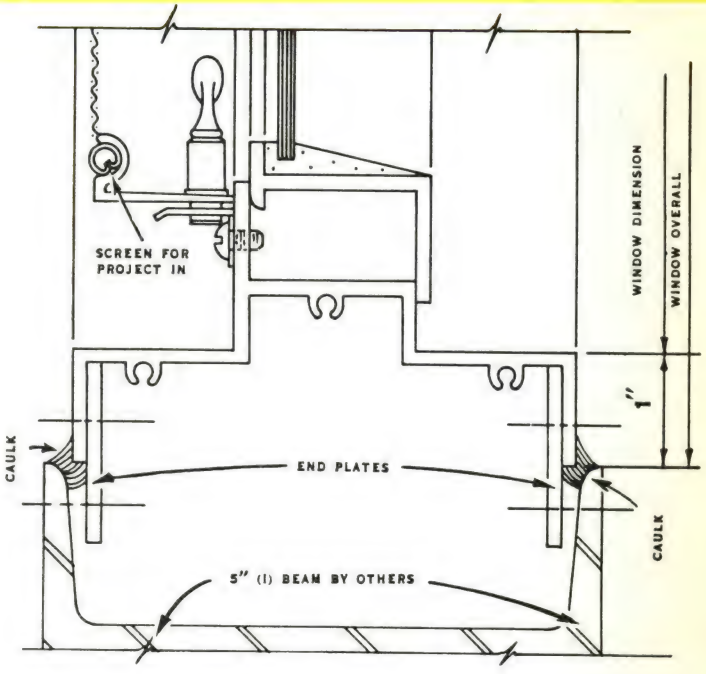


(SECTIONAL DETAILS)

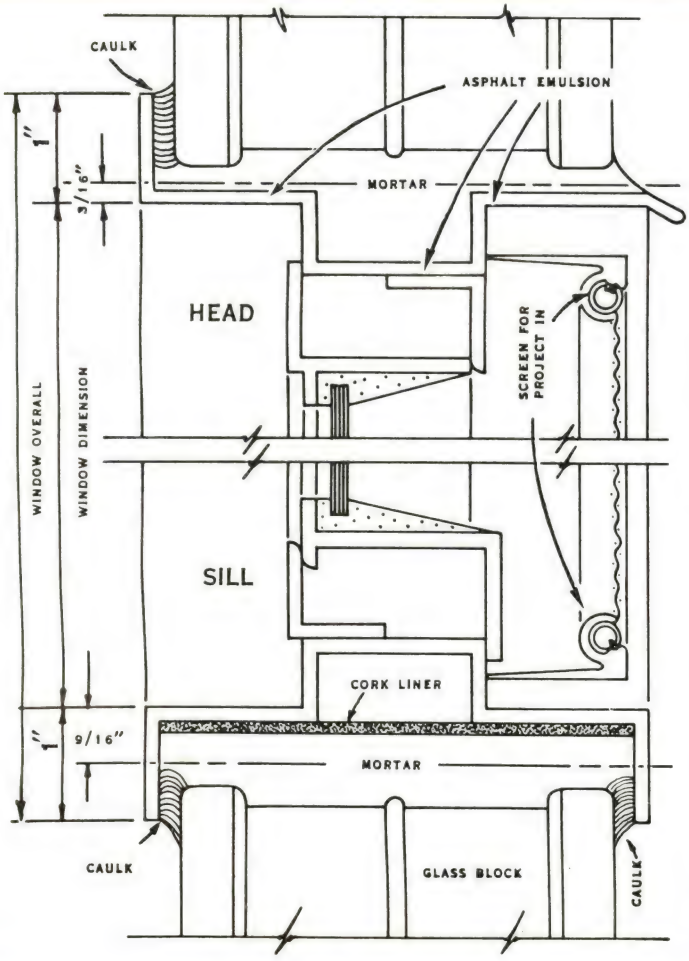
GLASS BLOCK WINDOW



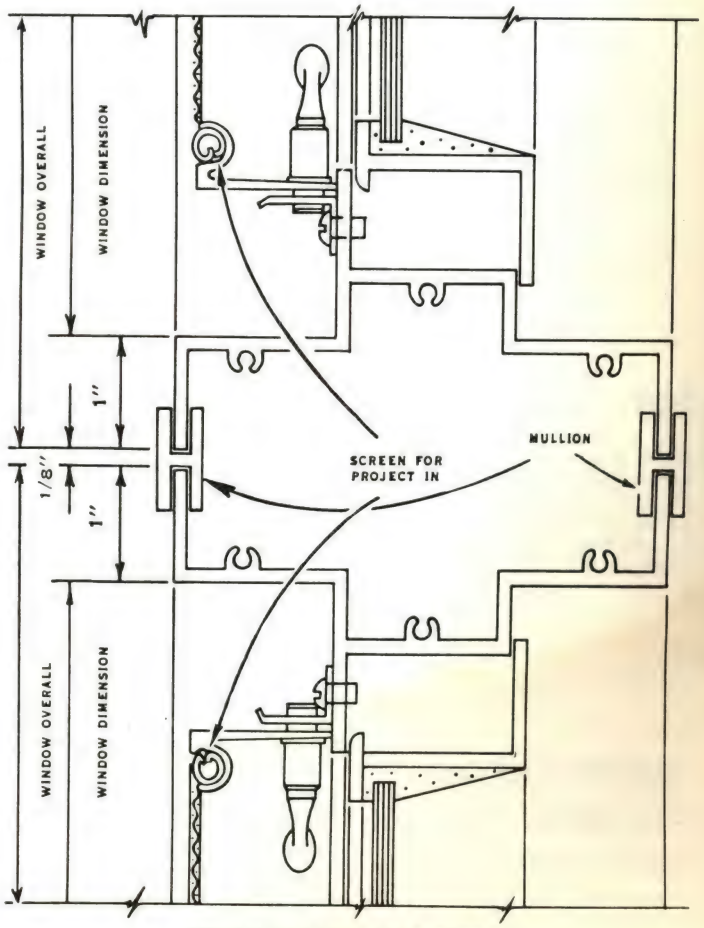
GLASS BLOCK WINDOW JAMB DETAIL
AT GLASS BLOCK



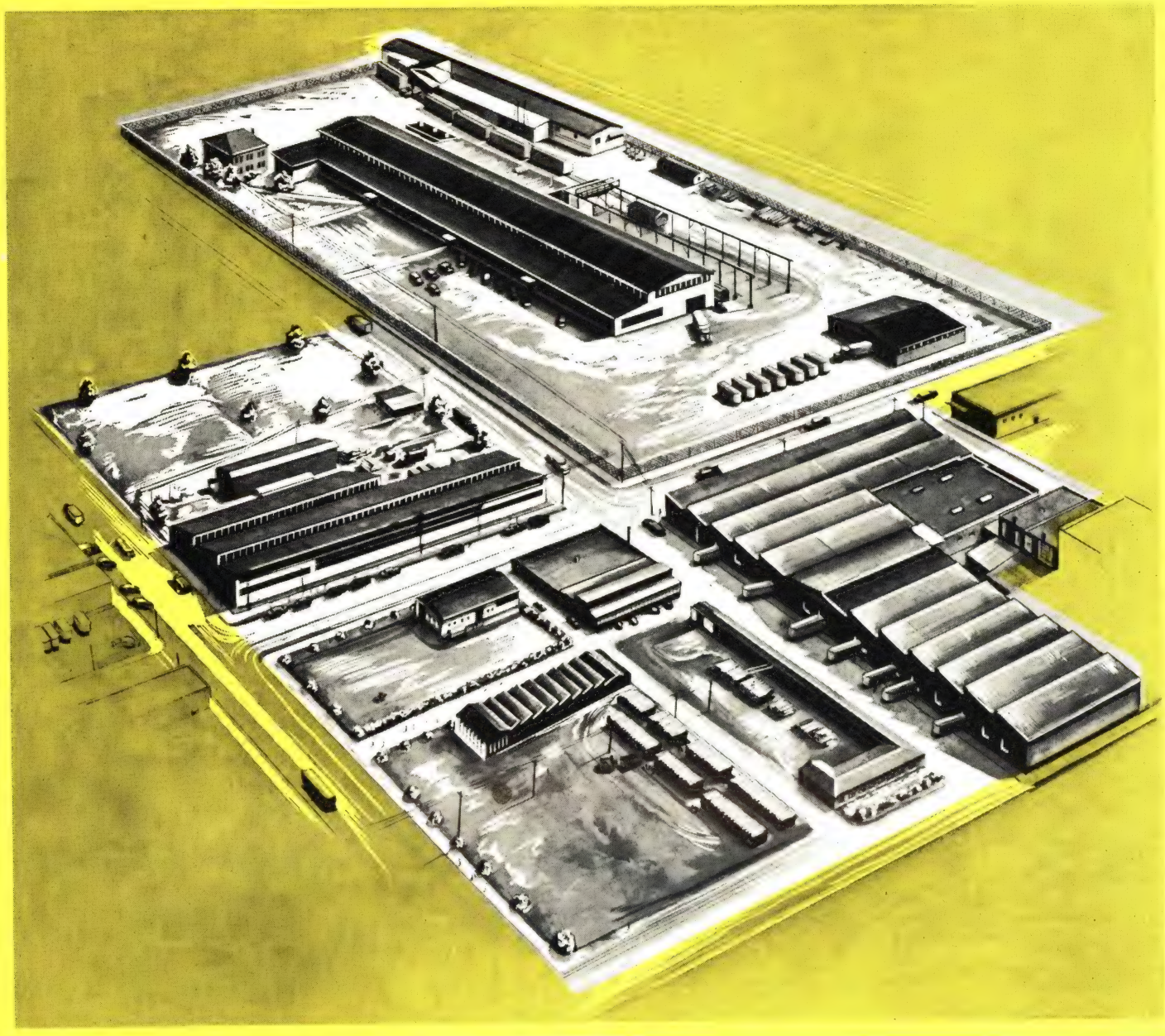
GLASS BLOCK WINDOW JAMB DETAIL
AT 5" "I" BEAM



GLASS BLOCK INSTALLATION



TYPICAL MULLION JAMB SECTION
P. O. & P. I.



The Ualco Plant . . . one source supply for all window needs!

There is one undeniable reason for Ualco's being the world's largest manufacturer of aluminum windows. That reason is UALCO'S UNSURPASSED QUALITY and COMPLETE LINE OF WINDOWS! When you specify Ualco, you can be sure you're selecting windows with heavier extruded sections which have greater tensile strength . . . finest operating mechanisms which are engineered for trouble-free service . . . advanced designs which have greater beauty!

Yes, all over the continent, architects, contractors, builders and individuals know they can "LOOK TO UALCO"—the one-source supply for all window needs!

Ualco
U-AL-CO

Aluminum Windows

SOUTHERN SASH SALES AND SUPPLY COMPANY, INC.

SHEFFIELD, ALABAMA

WAREHOUSES AND SALES OFFICES: CANTON, OHIO; ELIZABETH, N. J.; HIALEAH, FLA.; FLORENCE, ALA.; MONTGOMERY, ALA.; VAN NUYS, CALIF.; GREENSBORO, N. C.; AURORA, ILL.; RUSTON, LA.; KANSAS CITY, MO.

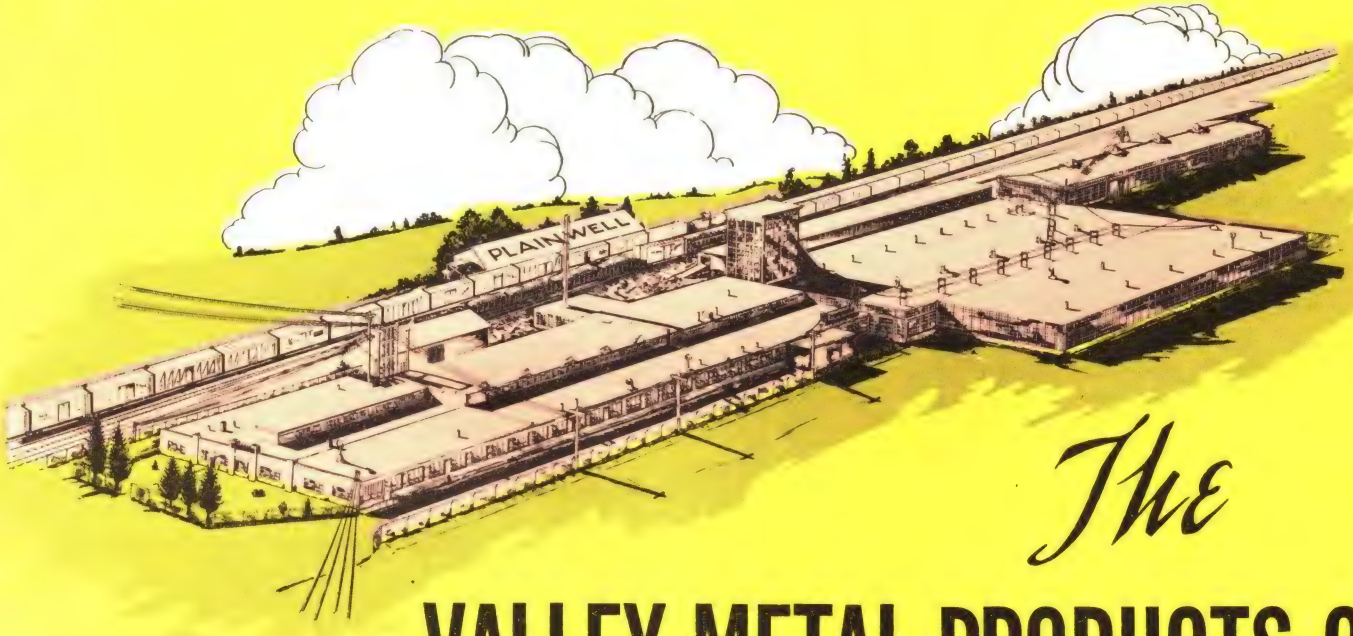
ENGINEERING PLANNING SERVICE: SPECIALLY DESIGNED TO ASSIST ARCHITECTS, ENGINEERS AND CONTRACTORS IN MAKING "TAKE-OFFS" AND SOLVING THEIR WINDOW PROBLEMS.

UALCO ALUMINUM WINDOWS ARE UNCONDITIONALLY GUARANTEED AGAINST DEFECTIVE MATERIALS AND WORKMANSHIP

5a
Va

VAMPCO

ALUMINUM WINDOWS FOR LIGHT CONSTRUCTION



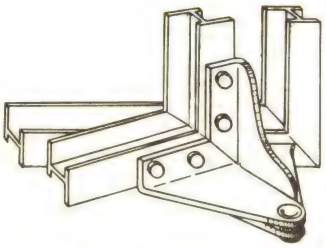
The

VALLEY METAL PRODUCTS CO.

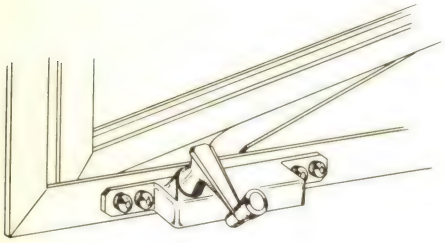
PLAINWELL, MICHIGAN

A Subsidiary of Mueller Brass Company Port Huron, Michigan

A NAME THAT MEANS THE VERY FINEST IN ALUMINUM WINDOWS



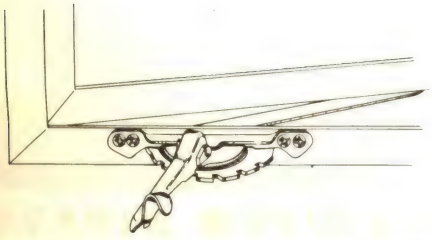
EXTENSION HINGE C66700-R and C66701-L. A sturdy aluminum hinge designed for ease of window washing from inside.



ROTO-OPERATOR A15074-R and A15075-L. Efficient Die cast operator which will not interfere with Screens or Storm Windows. Has aluminum lacquer finish.



LOCKING HANDLE A15072-R and A15073-L. Attractive die cast cam handle lock, securely locks the ventilator in the center. Has aluminum lacquer finish.



LEVER OPERATOR A15078-R and A15079-L. Economical pressed steel operator for underscreen operation. Positively controls vent to any desired opening.



SOLID SECTION — Extruded aluminum alloy of high tensile strength.

FLASH WELDED — Frame and vent corners are welded with electronically controlled flash for strength and rigidity.

MINIMUM OF MAINTENANCE — No painting or re-finishing required as aluminum cannot rust, warp or rot.

SAFER CLEANING — Both sides of window washed easily from inside.

ECONOMICAL INSTALLATION — In range of the better grade steel casements.

SPECIFICATIONS

GENERAL — All windows shall be **VAMPCO** Champion casements of standard types and sizes as manufactured by Valley Metal Products Company, Plainwell, Michigan.

MATERIAL — Windows shall be constructed of extruded aluminum alloy 63S of special temper, having a tensile strength of not less than 28,000 lbs. PSI. Sections to be ⅛" thickness and 1" depth.

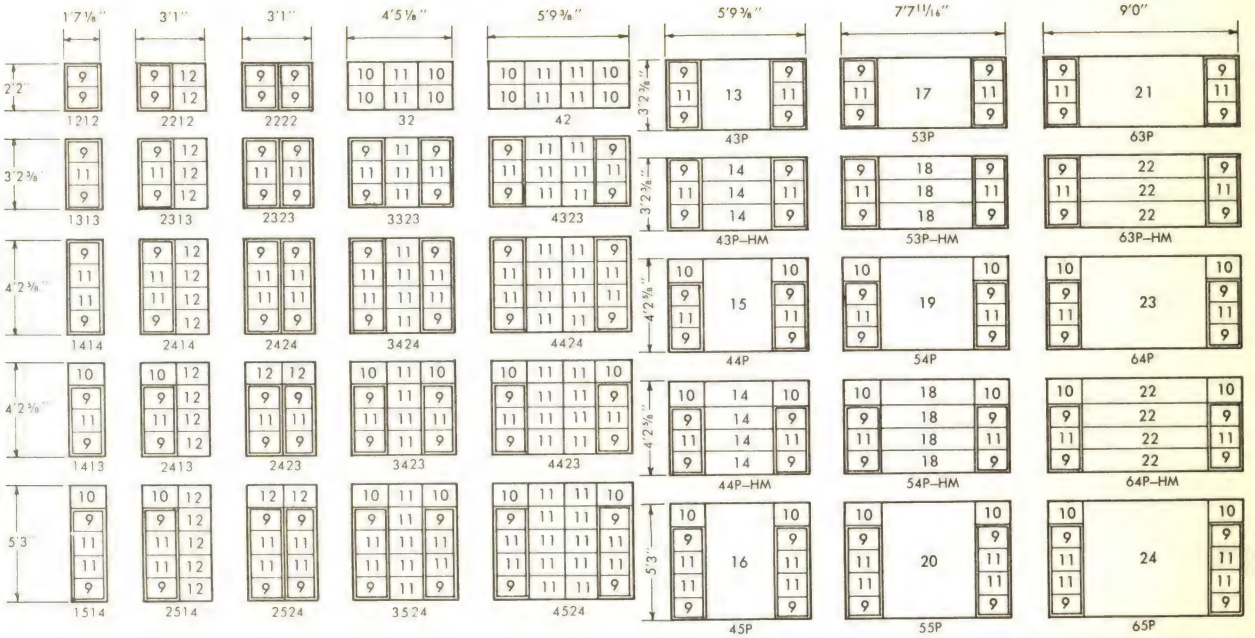
CONSTRUCTION — Windows shall be designed for outside glazing. Frames and Ventilator corners shall be electrically flash welded. All muntins shall be welded at intersections. Ventilators shall have continuous double contact weathering.

HARDWARE — All hardware shall be aluminum or aluminum lacquer finish. Operators shall be roto or lever type as may be specified. Locking device shall be cam action locking handle.

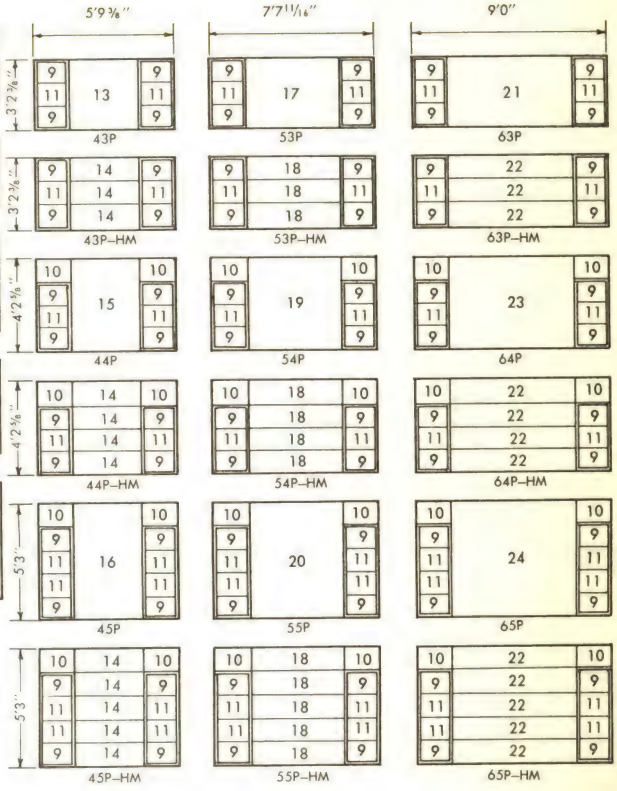
SCREENS AND STORM WINDOWS — Windows are designed for easy attachments of screens and storm windows. Screens and storm windows are not a part of window contract but can be furnished by Valley Metal Products Company.

FINISH — Windows should be free from serious mars and blemishes. All windows to be cleaned by means of a caustic cleaner, resulting in a slight etch. All windows shall receive a coat of water-clear methchrylate lacquer for protection from mortar and plaster during installation.

CHAMPION CASEMENT WINDOWS



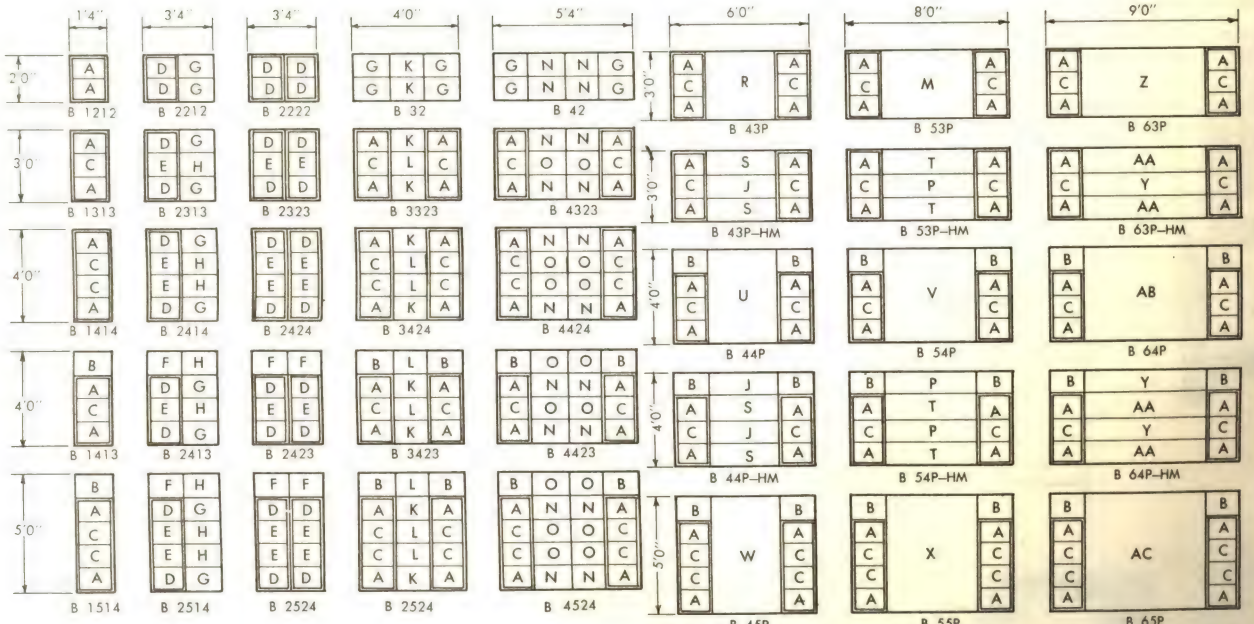
NOTE: All sizes shown as vented can be furnished in fixed types. All muntin bars may be omitted.

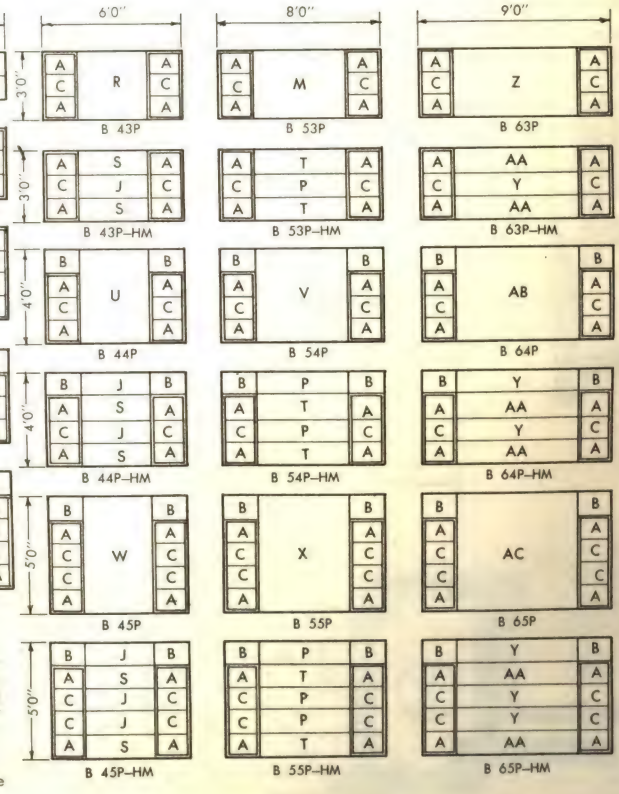


GLASS SIZE STANDARD		
MK	W	H
9	15 13/16	11 3/16
10	17 3/16	11 13/16
11	15 13/16	11 7/8
12	17 7/16	11 7/8
13	32 1/4	36 1/2
14	32 1/4	11 7/8
15	32 1/4	48 13/16
16	32 1/4	61 1/8
17	51 3/16	36 1/2
18	51 3/16	11 7/8
19	51 3/16	48 13/16
20	51 3/16	61 1/8
21	67 1/2	36 1/2
22	67 1/2	11 7/8
23	67 1/2	48 13/16
24	67 1/2	61 1/8

If 1" thick insulated glass is used in picture window center sections, deduct ¼" in widths and heights from sizes shown.

MODULAR TYPES & SIZES



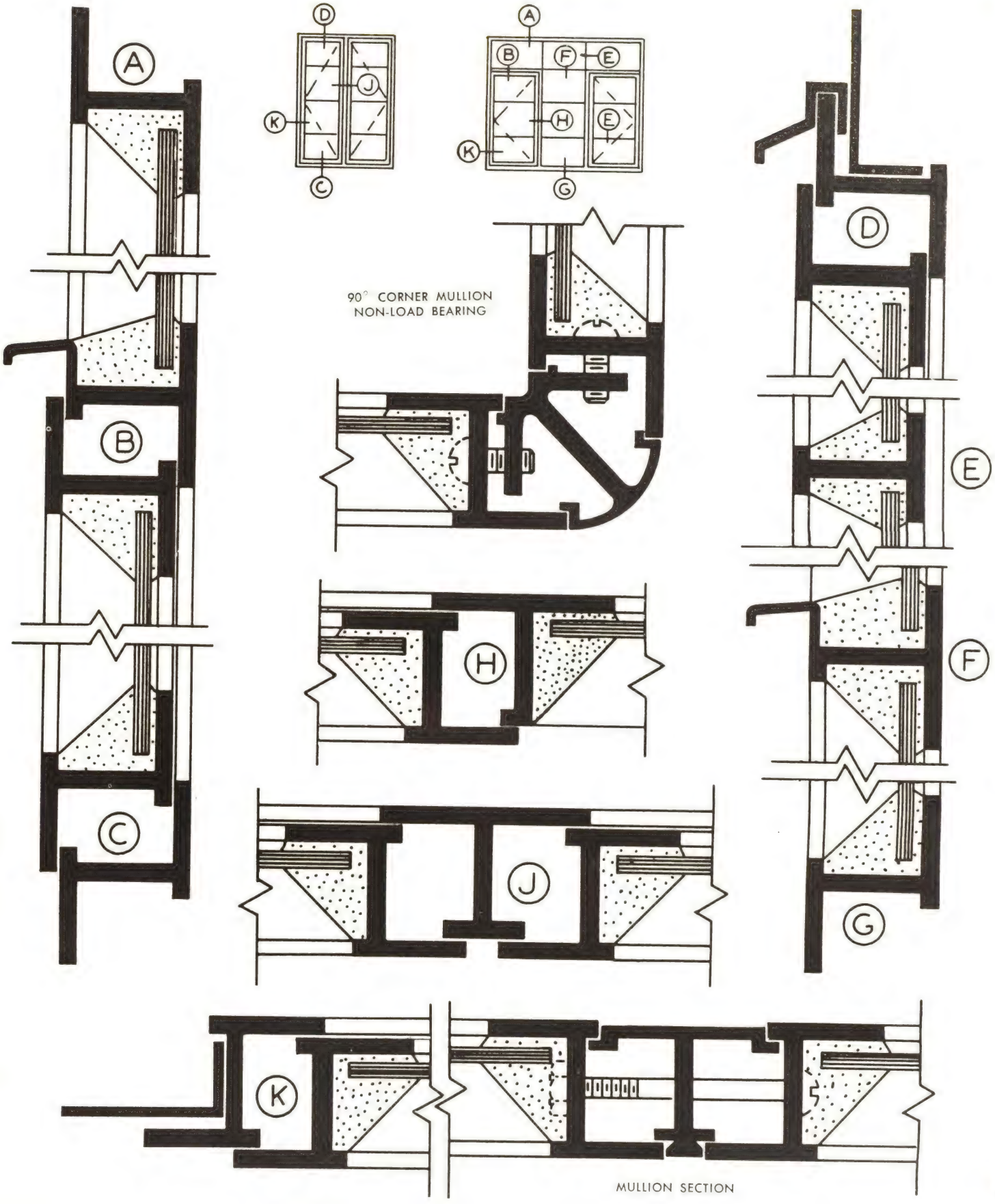


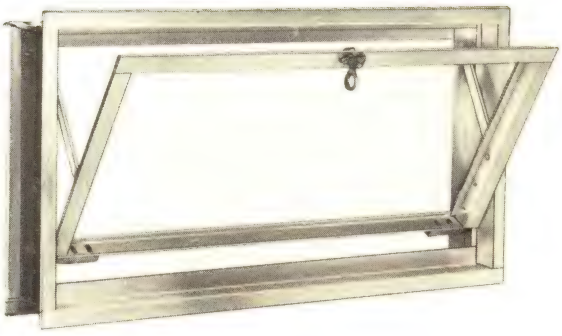
GLASS SIZE MODULAR		
MK	W	H
A	12¾	10 3/16
B	14⅛	11 7/16
C	12¾	10½
D	17 5/16	10 3/16
E	17 5/16	11½
F	18 13/16	11 7/16
G	19	10⅞
H	19	11½
J	41	11½
K	16⅞	10⅞
L	16⅞	11½
M	61⅝	34⅛
N	16 11/16	10⅞
O	16 11/16	11½
P	61⅝	11½
R	41	34⅛
S	41	10⅞
T	61⅝	10⅞
U	41	46⅛
V	61⅝	46⅛
W	41	58⅛
X	61⅝	58⅛
Y	73⅝	11½
Z	73⅝	34⅛
AA	73⅝	10⅞
AB	73⅝	46⅛
AC	73⅝	58⅛

IMPORTANT: Dimensions shown are actual window sizes. For clearances to masonry or rough openings see installation details. All ventilators swing out. Windows with single ventilator may have hinges on either right or left side (viewed from outside). In ordering, always include with suffix "R" (hinged at right) or "L" (hinged at left).

Champion picture windows in width of 7', 7-11/16 and 9' 0 are shipped in three units — picture window, two flanking casements and mullions.

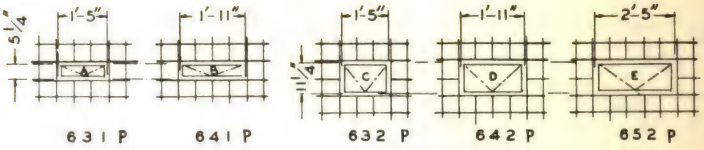
CHAMPION CASEMENT WINDOWS

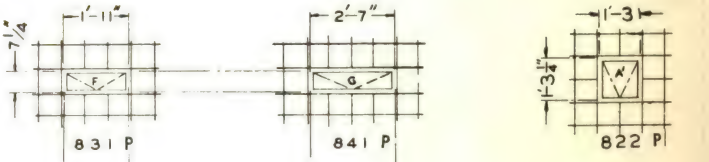


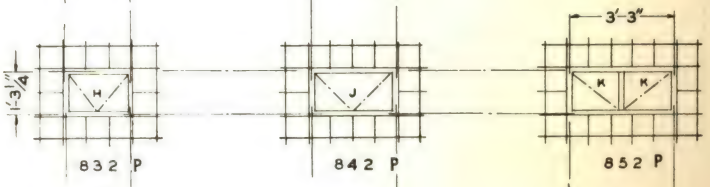


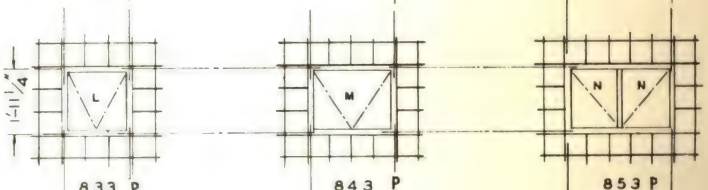
VAMPCO Glass Block Windows are ideal for glass block walls, and offer the advantage of lintel elimination. The flanged head section is amply strong to function as a lintel, thus maintaining a narrow trim line around the entire perimeter. The window is available in fixed light, projected in, bottom hinged or casement types, in sizes indicated.

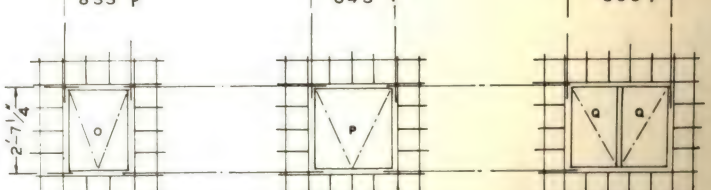
Double contact weathering assures a water-tight and weatherproof seal between frame and sash. Aluminum outside screens for project-in types and inside screens for casement types are available for easy attachment. Locking hardware may be spring catch or cam handle for project-in and bottom hinged types. Casement type has cam locking handle and Roto operator.



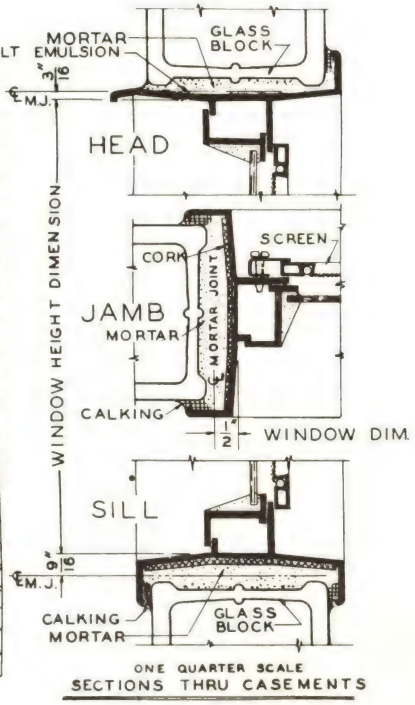




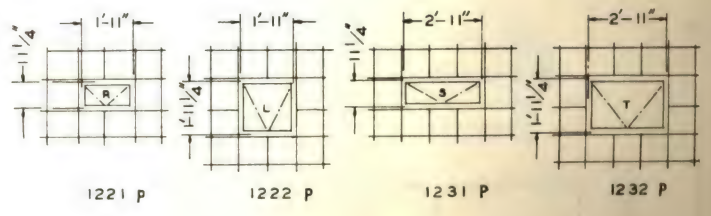


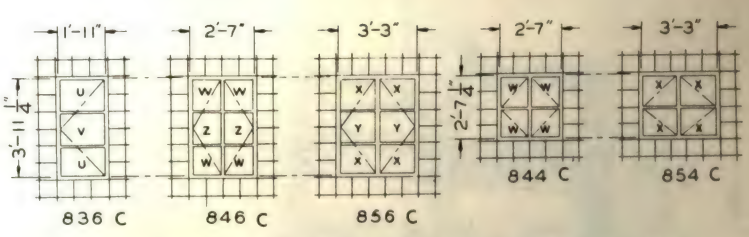


GLASS SCHEDULE		
MARK	WIDTH	HEIGHT
A	14 3/8"	2 5/8"
B	20 3/8"	2 5/8"
C	14 3/8"	8 5/8"
D	20 3/8"	8 5/8"
E	26 3/8"	8 5/8"
F	20 3/8"	4 5/8"
G	28 3/8"	4 5/8"
H	20 3/8"	12 5/8"
J	28 3/8"	12 5/8"
K	18"	12 5/8"
L	20 3/8"	20 5/8"
M	28 3/8"	20 5/8"
N	18"	20 5/8"
O	20 3/8"	28 5/8"
P	28 3/8"	28 5/8"
Q	18"	28 5/8"
R	20 3/8"	8 5/8"
S	32 3/8"	8 5/8"
T	32 3/8"	20 5/8"
U	20 7/8"	14 3/8"
V	20 7/8"	15 5/8"
W	13 7/16"	14 3/8"
X	17 7/16"	14 3/8"
Y	17 7/16"	15 5/8"
Z	13 7/16"	15 5/8"
A'	12 3/8"	12 5/8"



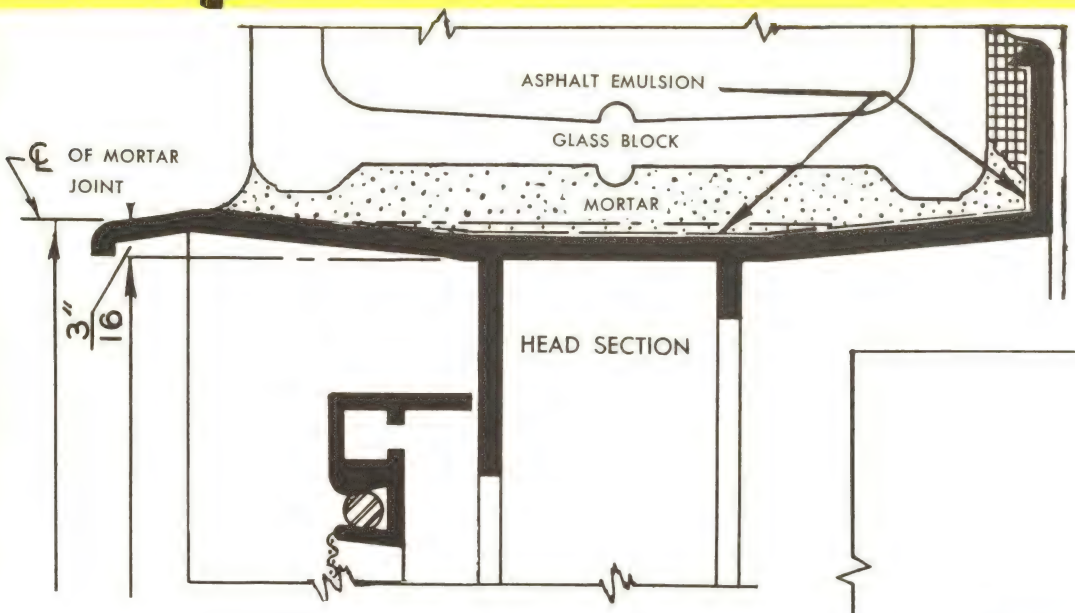
ONE QUARTER SCALE
SECTIONS THRU CASEMENTS

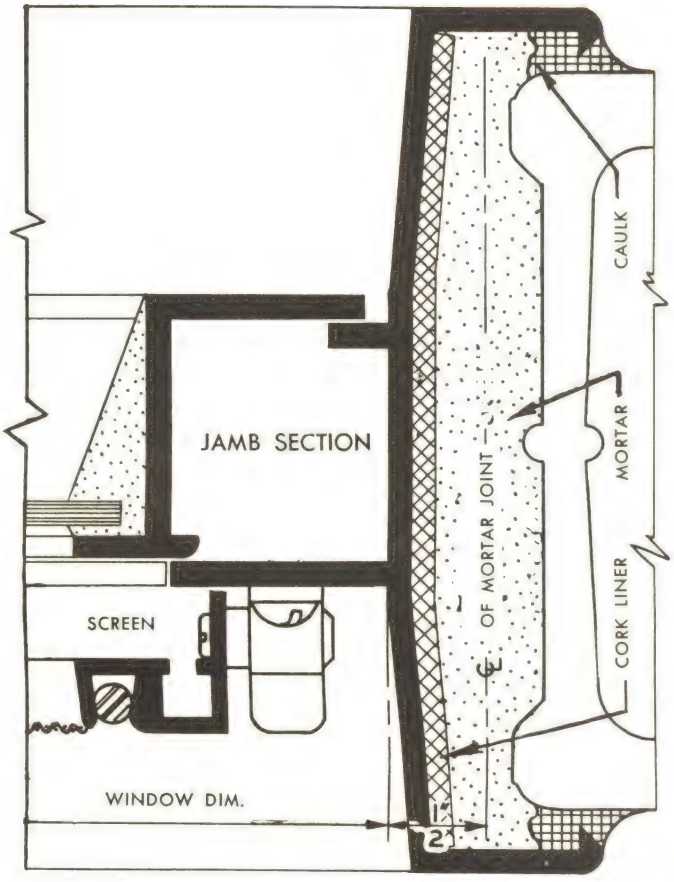


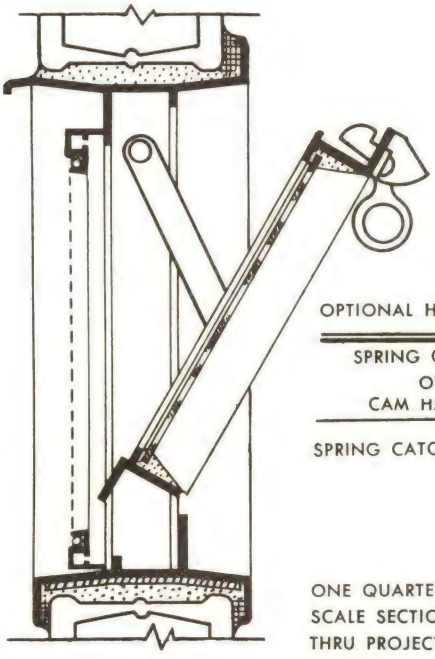


NOTE: All types are available as fixed or operating windows. Types 631, 641, 831 and 841 are bottom hinged for residential installation primarily. In ordering, give type number and specify whether fixed or operating. Also state type of locking hardware desired. All projected types shown to project in may be made to project out at slight additional cost.

GLASS BLOCK WINDOWS





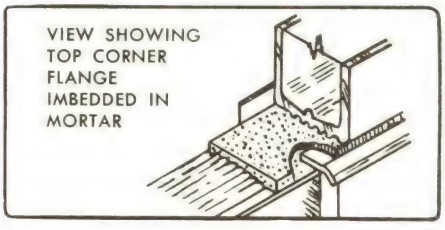


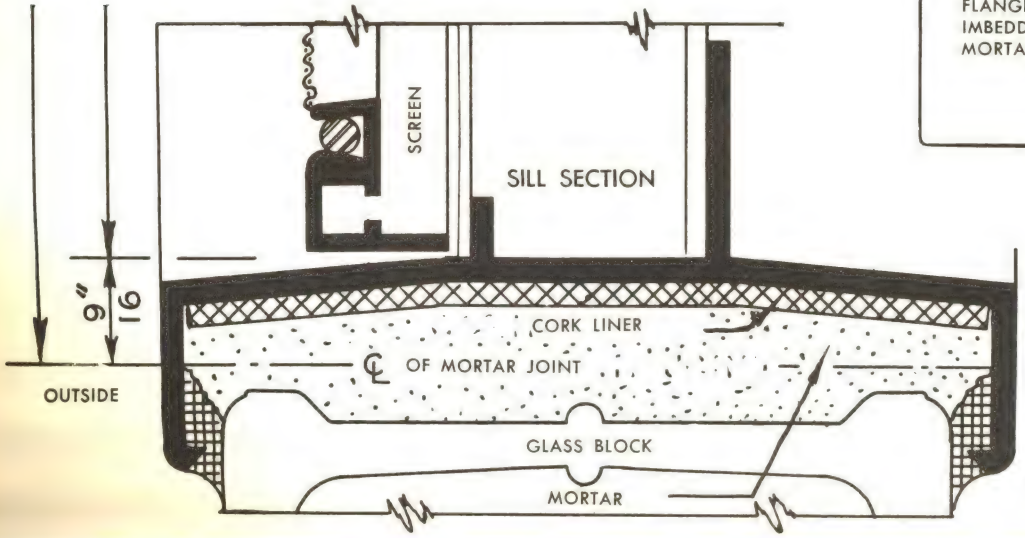
OPTIONAL HARDWARE

SPRING CATCH
OR
CAM HANDLE

SPRING CATCH SHOWN

ONE QUARTER SCALE SECTION THRU PROJECTED WINDOW

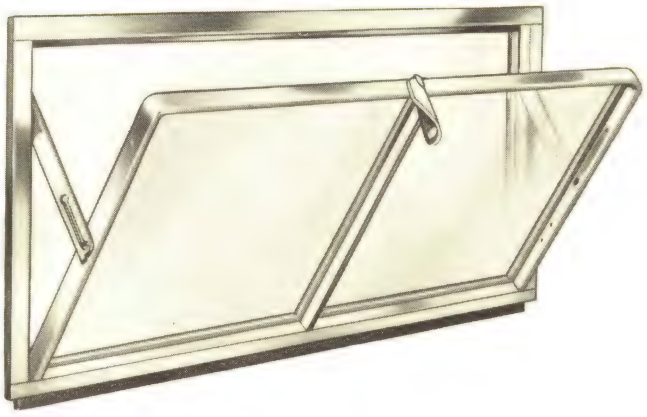




SECTIONS THRU WINDOW

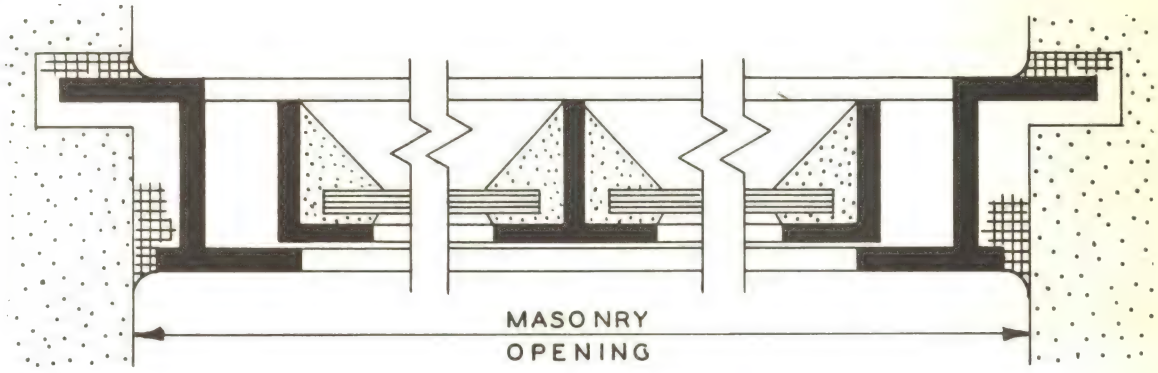
NOTE - CORK LINER AT JAMBS & SILL ALLOWS FOR EXPANSION OF BLOCKS

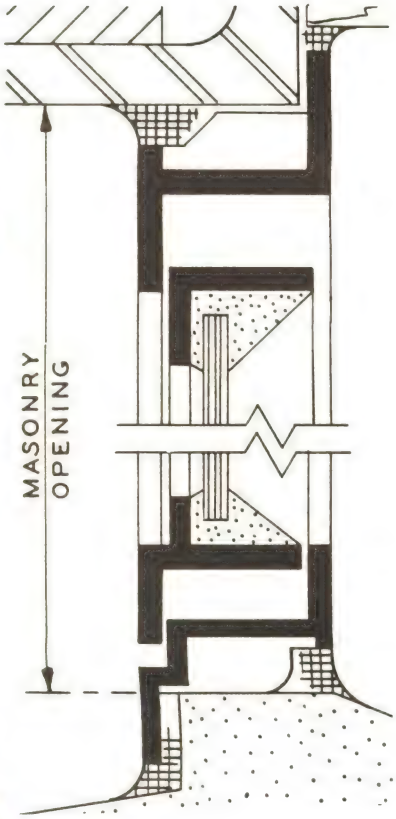
BASEMENT AND UTILITY WINDOWS



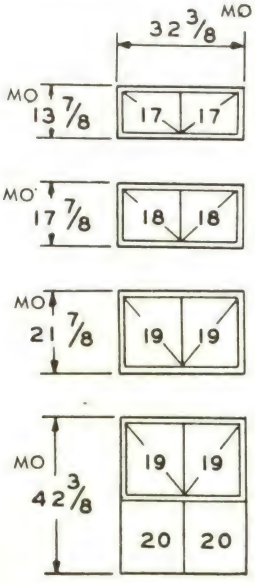
VAMPCO Aluminum Basement Windows are constructed of the same heavy extruded sections as **VAMPCO** Casements. Glass can be cleaned from the inside. Ventilators are easily removed for convenient glazing or to give full opening for receiving packages. Windows are for putty glazing only.

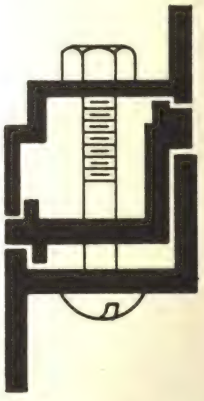
VAMPCO Aluminum Basement Windows are prepared to receive screens and combination screens and storm windows. Screens and storm windows are not a part of the window contract but can be furnished by Valley Metal Products Company.



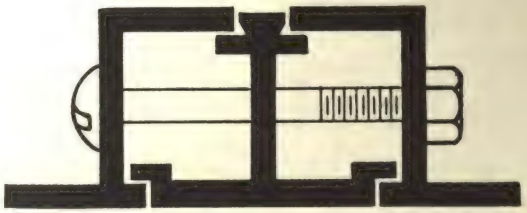


GLASS SIZES		
MARK	W	H
17	15	12
18	15	16
19	15	20
20	15 1/2	20





HORIZONTAL MULLION



VERTICAL MULLION

VAMPCO

PLAINWELL MICHIGAN

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Known and used Internationally

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Andrew J. Havrilla Co.
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Springfield, Massachusetts

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Lansing, Michigan

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Virgil H. Roush Co.
Box 948
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Scranton, Pennsylvania

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249 South 24th St.
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Buie Building Material Co.
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Conner Company
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Memphis, Tennessee

Gerstner Steel Supply Co.
863 East 7th Street
Salt Lake City, Utah

C. Grady Cates Company
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Roanoke, Virginia

Montague-Betts Company
Lynchberg, Virginia

Hall-Hodges Company
1344 Ballentine Boulevard
Norfolk, Virginia

W. H. Stovall Co., Inc.
514 North 11th Street
Richmond, Virginia

Town & Country Glass Company
Bellevue, Washington

Dunbar Supply & Sash Company
Dunbar, West Virginia

Central Glass Company
24th and 4th Avenue
Huntington, West Virginia

Oscar F. Henry
605-7-9 Delaware Avenue
Charleston, West Virginia

W. F. Whittaker
Box 211
Rhinelander, Wisconsin

Wauwatosa Fuel & Supply Co.
7700 West State Street
Wauwatosa, Wisconsin

Aluminum Products of Hawaii
663 Sheridan Street
Honolulu, Hawaii

Earl K. Burton
P. O. Box 1367
San Juan, Puerto Rico

Home Office
800 East Bridge Street
Plainwell, Michigan

WARE

ALUMINUM WINDOWS

RESIDENTIAL MONUMENTAL

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ECONOWALL AWNING	10
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CURTAIN WALLS	24
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QUALITY APPROVED

A.W.M.A. Quality Specifications—Materials, Construction, Strength of sections and Air infiltration requirements—confirmed by PITTSBURGH TESTING LABORATORY
MEMBER—ALUMINUM WINDOW MANUFACTURERS ASSOCIATION

WARE LABORATORIES INC., MIAMI, FLORIDA

WARE installations ...from Coast to Coast

The exacting, high quality standards set down by management have become the by-word of all Ware personnel. Pride in product and satisfaction of customer are synonymous with success in business under the Ware policy.

Every Ware Aluminum Window manufactured carries a one-year material and workmanship guarantee, which is offered as proof of our pride in product and our desire for customer satisfaction.

And in addition, the Ware Aluminum Windows which have been tested and approved as meeting the Association's specifications, have been awarded the Aluminum Window Manufacturers Association Quality Seal of Approval, a facsimile of which is reproduced on this page.

Ware *quality* Aluminum Windows may be purchased with confidence.

Compare, and you will buy Ware Aluminum Windows.

QUALITY APPROVED

A.W.M.A. Quality Specifications—Materials, Construction, Strength of sections and Air infiltration requirements—confirmed by Pittsburgh Testing Laboratory.
Member—Aluminum Window Manufacturers Association

"A Fine Name in Fenestration"

KNOWN FOR WEIGHT
ENGINEERING
WORKMANSHIP
BUILT FOR LASTING PERFORMANCE



James E. Scott Homes, Miami, Florida
Architects: Stewards & Skinner, Rob't Law Weed & Assoc.



Arlington Towers, Arlington, Virginia
Architects: G. V. Stone and D. H. Drayer
Contractor: John McShain, Inc.



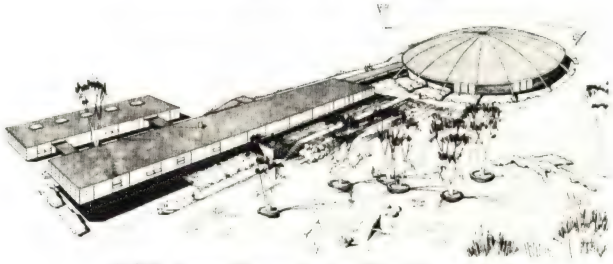
Park LaBrea Development, Los Angeles, California
Owners: Metropolitan Life Insurance Co.
Architects: Leonard Schultze and Associates
Builders: Starrett Bros. And Eken, Inc.

From Coast to Coast and many foreign countries, Ware Laboratories, Inc., takes pride in thousands of installations in residential and monumental construction.

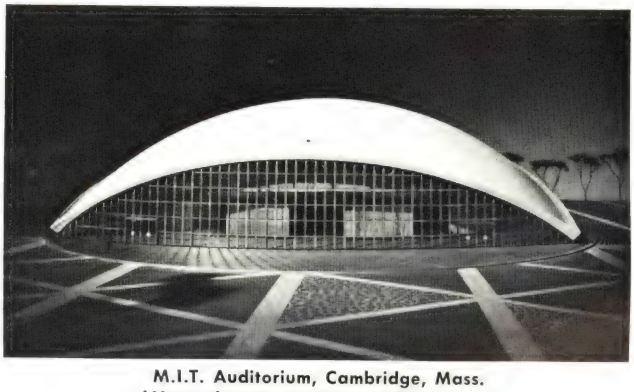
The quality and workmanship of Ware windows found in residences, schools, hospitals, factories, government and office buildings is proof of superior craftsmanship and engineering.



"Jose Marti" National Library, Havana, Cuba
Architects: Govantes y Cabarrocas



A.&M. Consolidated Senior High School,
College Station, Texas
Architects: Caudill, Rowlett, Scott & Associates
Contractor: Andrews-Parker, Inc.

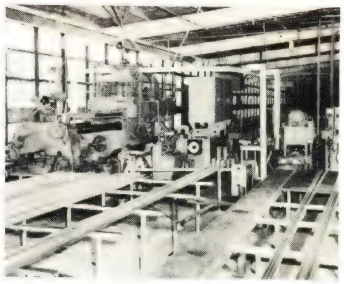


M.I.T. Auditorium, Cambridge, Mass.
(Massachusetts Institute of Technology)
Architects: Eero Saarinen & Associates
Associate Architects: Anderson & Beckwith
General Contractors: George A. Fuller Co.



Sheridan Shores Apartment, Chicago, Ill.
Architect: Erwin Fredrich, Chicago
Contractor: Welso Construction Co., Chicago





PROGRESS

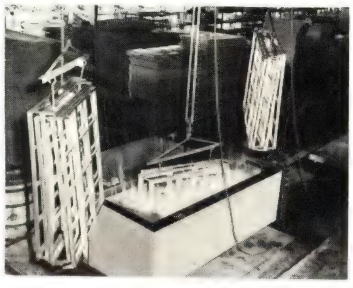
This new modern extrusion press and heat treating oven is another step in Ware's expansive development program. This modern press enables greater flexibility in stock control and allows for greater versatility of special aluminum shapes to meet architectural requirements.





AVAILABILITY

The above views show part of Ware's on-hand factory stock of standard types and sizes available for immediate delivery to supplement large regional warehouse stocks. Thousands of windows are available for shipment direct from factory or branch warehouses to facilitate customer service.





ACID CLEANED, ETCHED AND LACQUERED

All windows are chemically cleaned. After being washed in a series of tanks they are dipped in lacquer. Dirt and mill grease is removed. The lusterous etched finish is then preserved with lacquer to prevent mortar stains during installation.



PERFORMANCE TESTED

Each new Ware window design is subjected to rigorous weather conditions before production approval. The window is tested for dynamic water and air conditions to determine water and air infiltration. Hurricane winds of 125 mph and over, with 20 gallons of water per minute injected into the air stream are used in these tests.

intermediate awning windows | center sill operator



INTERIOR VIEW

DISTINCTIVE FEATURES

Weatherstripped by Koroseal locked in extruded channel unexposed to weather.

No special locking devices to cause distortion of ventilators and put undue strain on operator.

Wide overlap of weathering members. Minimum outside at jambs 5/16".

No exposed gears — Operator factory sealed in oil.

Operator concealed in sill at factory eliminating on-the-job installation.

Heavy reinforced sill.

Snap-on glazing bead available.

All ventilators of each window equal height and drop for easy cleaning.

All windows chemically cleaned, etched and lacquered per FHA requirements.

QUALITY APPROVED
A-A2
A.W.M.A. Quality Specifications—Materials, Construction, Strength of sections and Air infiltration requirements—confirmed by Pittsburgh Testing Laboratory.
MEMBER—ALUMINUM WINDOW MANUFACTURERS ASSOCIATION

FIN TRIM AVAILABLE



CENTER SILL OPERATOR — ADVANTAGES

Operating force at center of sill synchronizing action of heavy duty torque bar at opposite jambs preventing torque lag which requires racking or distortion of ventilators.

Smart tilted crank clears any stool. Does not require adjustment of shaft.

Crank does not protrude in room to interfere with furniture or passage.

No interference with drapes or curtains.

Allows quick positive closing without force.

Eliminates problem of right and left hand operators in floor plans.

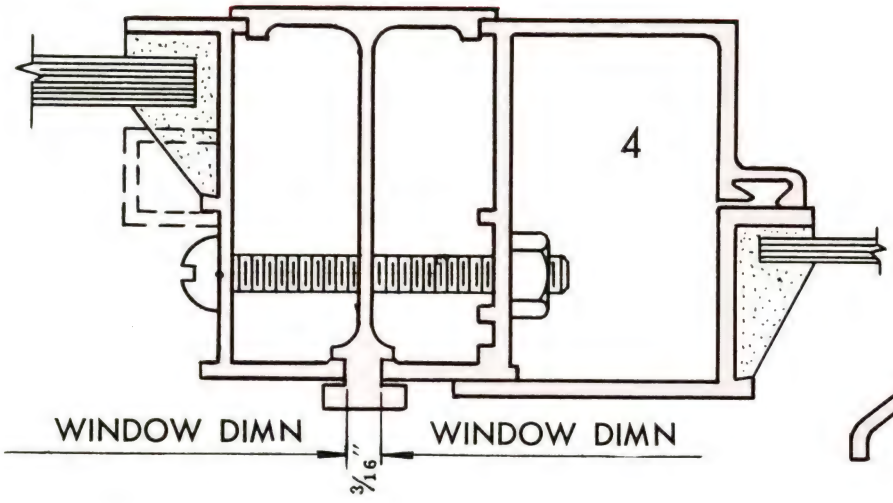


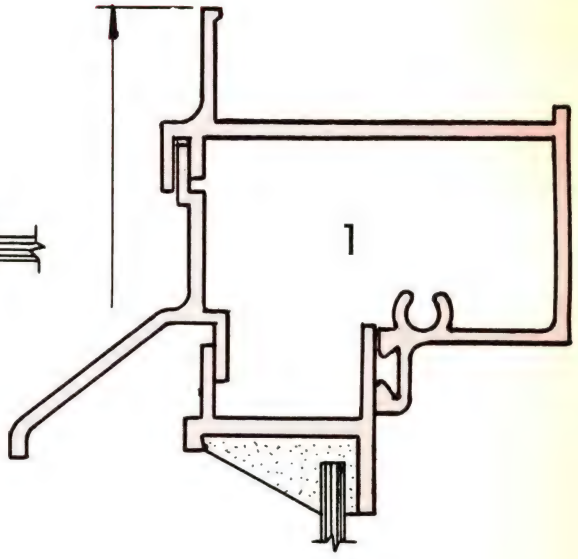
EXTERIOR VIEW

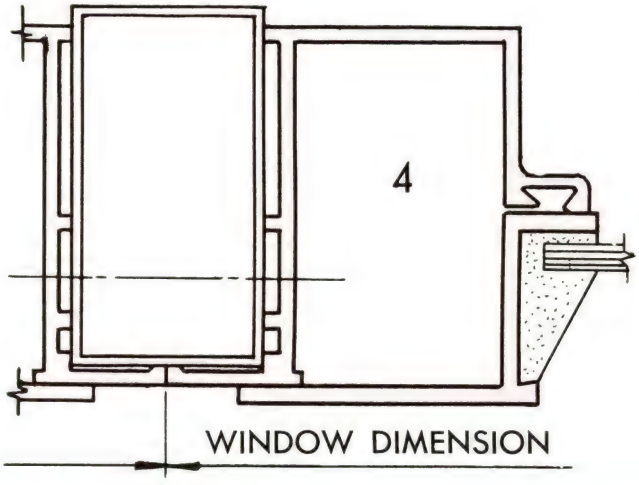
LOW AIR INFILTRATION 0.093 CFM under static air pressure equal to 25 mile per hour wind velocity. (Pittsburgh Testing Laboratory).

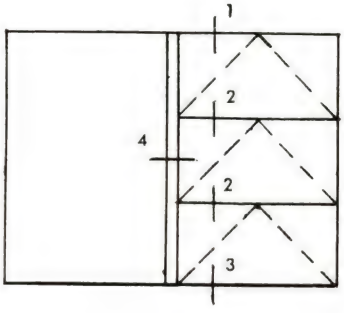
full scale details

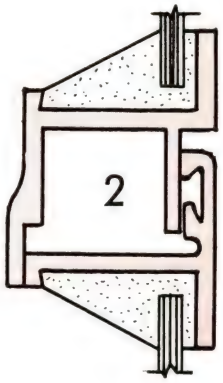
ware awning windows center sill operator

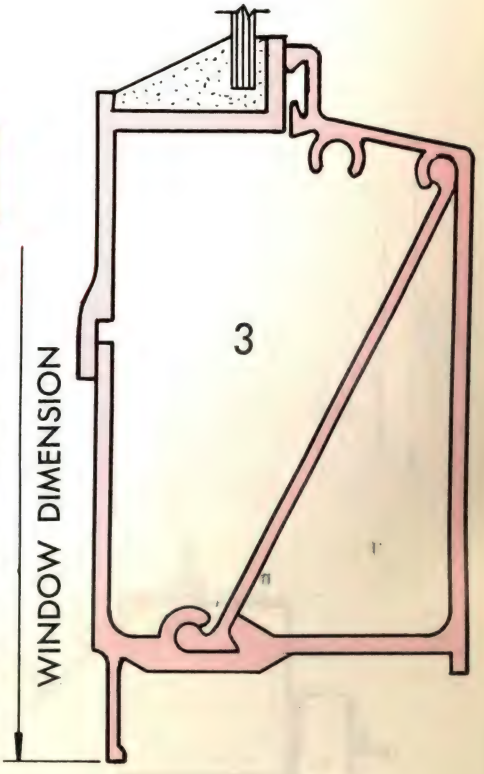












SPECIFICATIONS

WORK INCLUDED: Windows shall be Ware Awning Type weatherstripped as herein specified (or with design and/or engineering changes which will provide the user with equal or superior operation, appearance and service) and shall be furnished complete with hardware and all standard erection fittings.

MATERIAL: Frames and Ventilators shall be of solid extruded aluminum alloy 63S-T5, mill finish. No section of the ventilating member shall be less than 1" deep. At no point shall the frame section be less than 1⅞" deep. (Commercial tolerances observed.)
The ventilating member shall have a web not less than $\frac{36}{100}$" in thickness. Weather drips of extruded aluminum shall be furnished with each window, shipped loose and must be applied to the head member of window frame. The face of the frame extrusions shall extend beyond the buck measurement of the window in such a manner as to provide a ½" flange at head, jamb and sill of the exterior face of the window.

CONSTRUCTION: Frame corners shall be assembled with stainless steel sheet metal screws to assure a strong mechanical joint.
Corner members of all ventilators shall be joined to the side rails by mortise and tenoned joints and shall be air-hammer riveted in a satisfactory and workmanlike manner.
Ventilators shall be hung on aluminum pivots.

HARDWARE: Operator shall be center sill type. All internal gears, brackets and power tubes shall be of aluminum or stainless steel or other non-ferrous metal, or if ferrous metal is required, it shall be given a protective coating. The operator housing shall be grease-tight to protect worm and worm wheel and shall be packed with grease.
Construction of hardware shall be such as to permit a normal operating opening of 70° on all ventilators.
All bolts and nuts, screws, washers and hinge pins shall be either aluminum or stainless steel.

PROTECTIVE COATING: All windows shall be chemically cleaned to remove fabrication compounds and dirt accumulations, et cetera, and be given a protective coating of a clear water-white methacrylate lacquer. This lacquer when applied on the aluminum surface must be such as to withstand the action of lime mortar for a period of at least one month at an atmosphere of 100% relative humidity at room temperature.

ERECTION: All openings must be fully prepared to receive the aluminum windows and installation must not be started until all other work around the opening is first completed. The window shall be set plumb and true and imbedded in a water-proof mastic and thoroughly caulked.

SCREENS: Shall be made of rolled section aluminum frames mitered and joined by aluminum corner angles. Screen cloth shall be 18/14 aluminum mesh and held in place by aluminum splines or other satisfactory material.

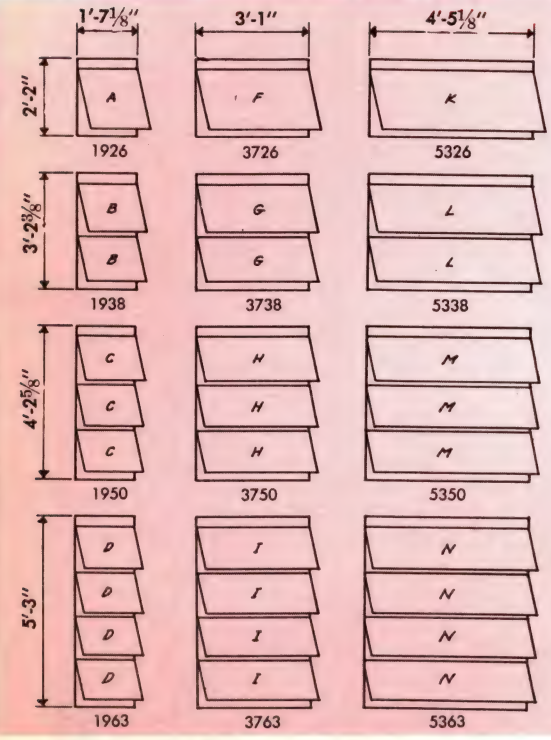
GLAZING: All windows shall be glazed on the outside and shall be well back-puttied and then face-puttied. Aluminum sash putty or compound of No. 1 commercial grade shall be furnished and used by the glazier.

WEATHERSTRIPPING: To be of a high grade plastic inset in extruded channel.

ware awning windows

types and sizes

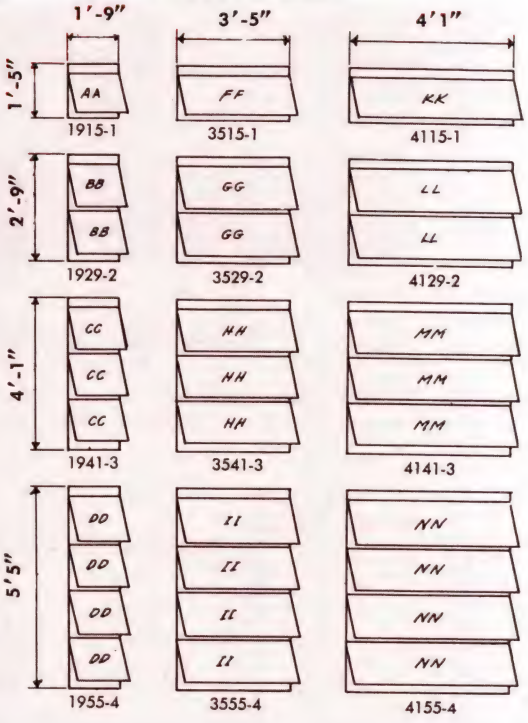
STANDARD SIZES



STANDARD

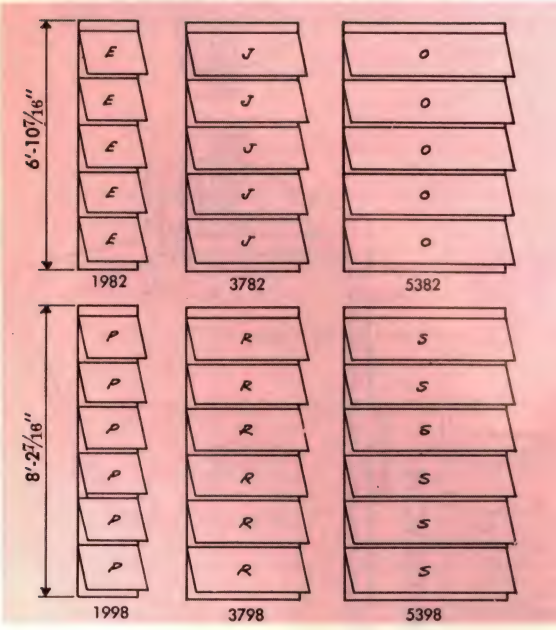
Wind. Type	Glass Ltr.	Glass Size
1926	A	15 3/16" x 20"
1938	B	15 3/16" x 15 5/8"
1950	C	15 3/16" x 14 1/8"
1963	D	15 3/16" x 13 7/16"
1982	E	15 3/16" x 14 7/16"
1998	P	15 3/16" x 14 1/2"
3726	F	33 1/16" x 20"
3738	G	33 1/16" x 15 5/8"
3750	H	33 1/16" x 14 1/8"
3763	I	33 1/16" x 13 7/16"
3782	J	33 1/16" x 14 7/16"
3798	R	33 1/16" x 14 1/2"
5326	K	49 3/16" x 20"
5338	L	49 3/16" x 15 5/8"
5350	M	49 3/16" x 14 1/8"
5363	N	49 3/16" x 13 7/16"
5382	O	49 3/16" x 14 7/16"
5398	S	49 3/16" x 14 1/2"

MODULAR SIZES



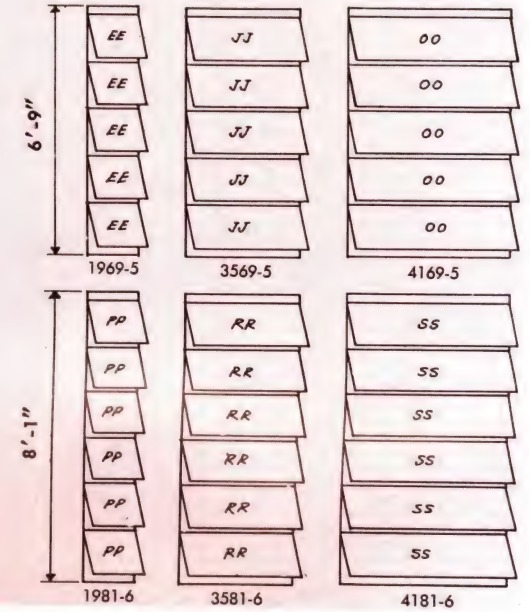
The above standard sizes carried as stock items in all warehouses. Window sizes noted below fabricated on special order.

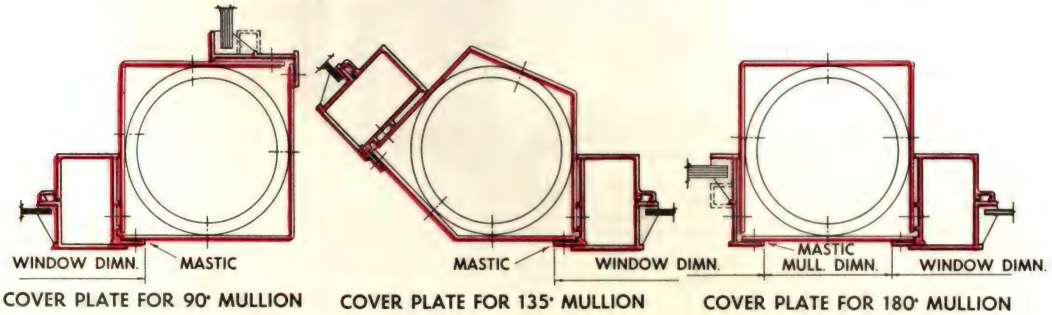
Modular sizes shown above carried as stock in factory only. Sizes noted below fabricated on special order.



MODULAR

Wind. Type	Glass Ltr.	Glass Size
1915-1	AA	17 1/16" x 11"
1929-2	BB	17 1/16" x 12 5/16"
1941-3	CC	17 1/16" x 13 5/8"
1955-4	DD	17 1/16" x 13 15/16"
1969-5	EE	17 1/16" x 14 1/8"
1981-6	PP	17 1/16" x 14 1/4"
3515-1	FF	37 1/16" x 11"
3529-2	GG	37 1/16" x 12 5/16"
3541-3	HH	37 1/16" x 13 5/8"
3555-4	II	37 1/16" x 13 15/16"
3569-5	JJ	37 1/16" x 14 1/8"
3581-6	RR	37 1/16" x 14 1/4"
4115-1	KK	45 1/16" x 11"
4129-2	LL	45 1/16" x 12 5/16"
4141-3	MM	45 1/16" x 13 5/8"
4155-4	NN	45 1/16" x 13 15/16"
4169-5	OO	45 1/16" x 14 1/8"
4181-6	SS	45 1/16" x 14 1/4"





COVER PLATE FOR 90° MULLION

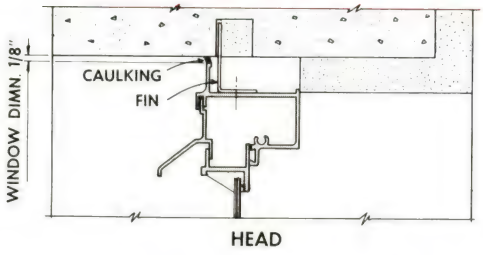
COVER PLATE FOR 135° MULLION

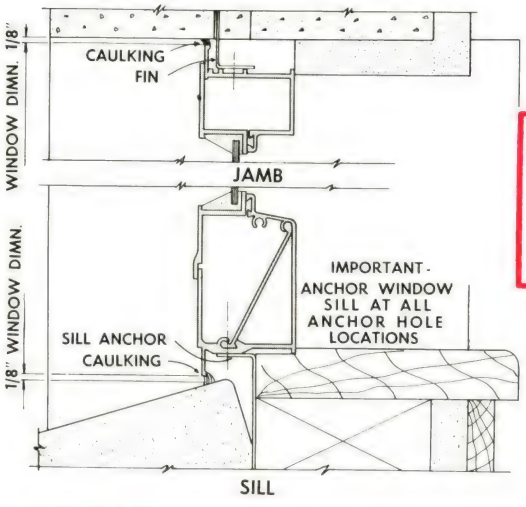
COVER PLATE FOR 180° MULLION



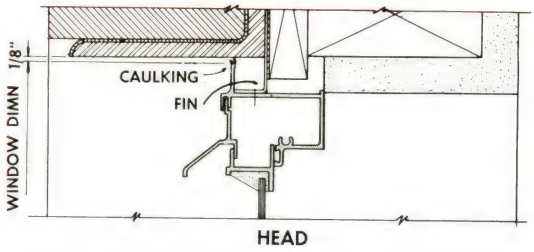
STORM WINDOW

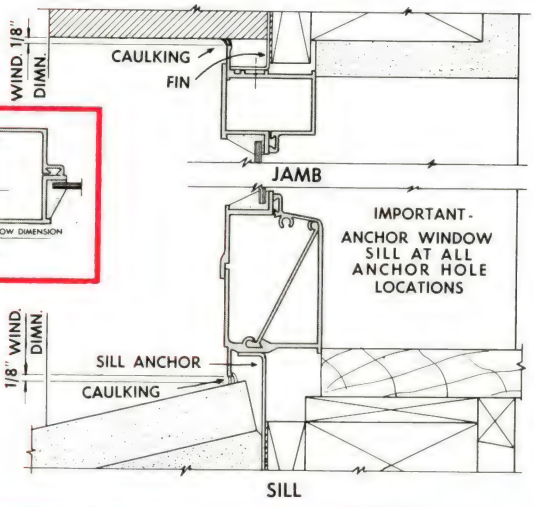
CONCRETE OR CONCRETE BLOCK

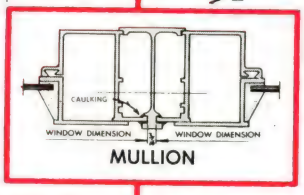




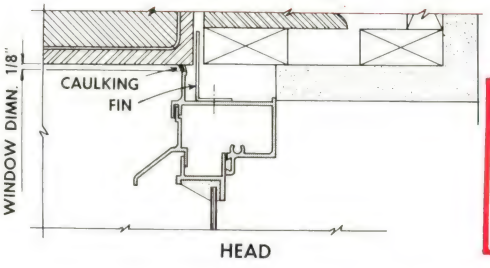
BRICK VENEER

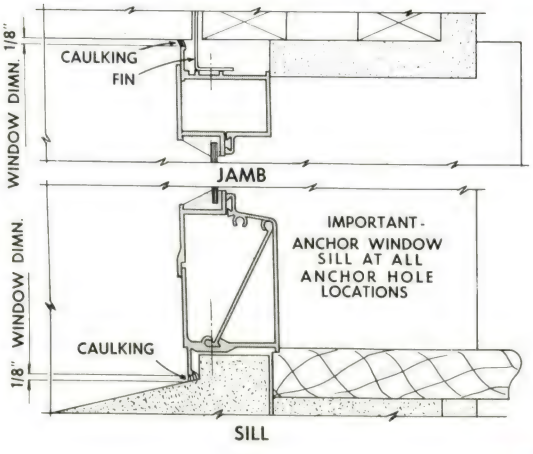


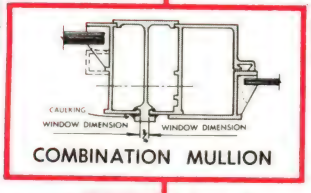


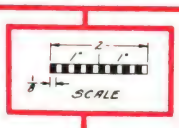


SOLID BRICK

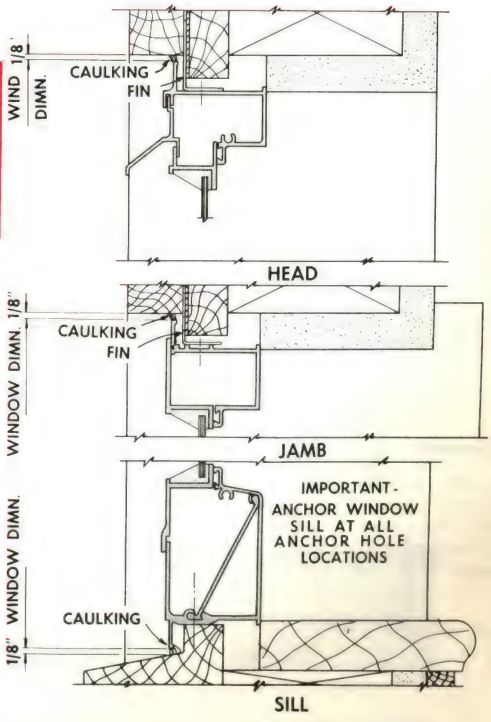






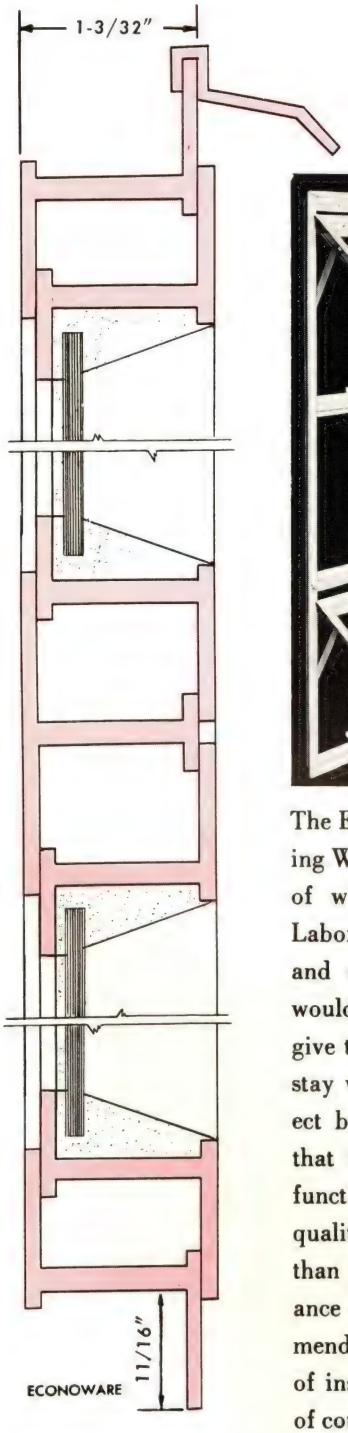


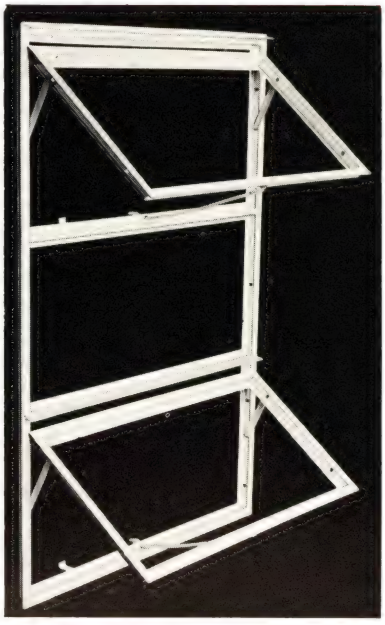
FRAME



Full scale details on request.

Econ-O-Ware awning windows





The Econ-O-Ware Aluminum Awning Window is the first in the series of windows developed by Ware Laboratories to be mass produced and sold in a price range that would permit the project builder to give the utmost in quality and still stay within the confines of a project building budget. The premise that it was possible to design a functionally perfect, low-cost, high-quality window, has been more than justified by the wide acceptance of these units. Users recommend their neat appearance, ease of installation and operation, and, of course, their permanence.

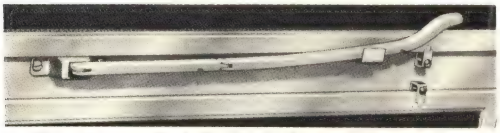
distinctive features

- Underscreen operator — Complete screen protection
- Positive locking
- All-weather protection of an awning window
- Attractive horizontal sight lines
- Variable sizes and mullion combinations
- Selective ventilation — Ventilators operate separately
- All corners electrically flash welded
- Seals tight with leverage — Ventilators controlled at center prevent distortion, permitting even weathering
- Trouble free — Simplicity of design —
- Stainless steel bushings
- Controlled ventilation

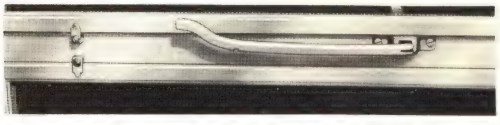
CASINGS AND FIN TRIM AVAILABLE



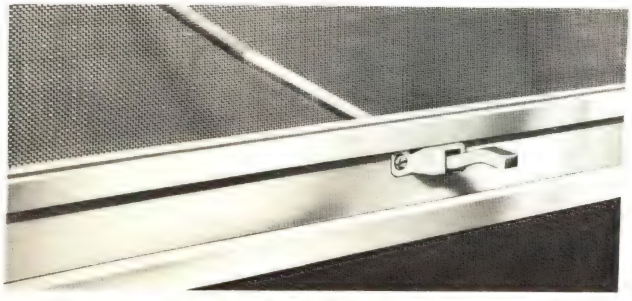
Typical Econ-O-Ware installations



Ware-O-Matic Push Bar, fully closed and locked.

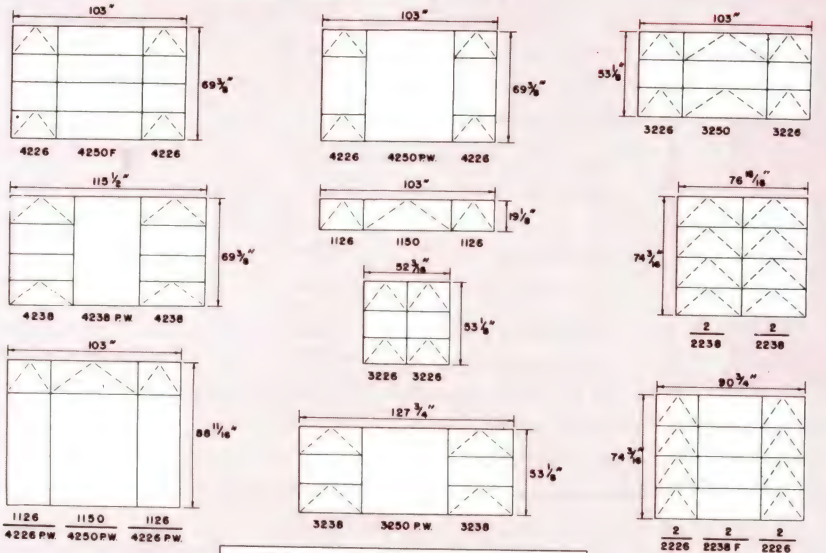


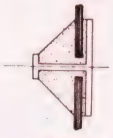
Ware-O-Matic Push Bar, half open and locked.



Ware-O-Matic Push Bar, in fully open position.

SOME POSSIBLE COMBINATIONS FOR
LOW COST ALUMINUM FENESTRATION

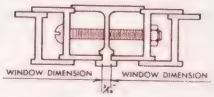




MUNTIN

TABLE OF GLASS SIZES

A	22 3/4 x 15 7/8	I	36 3/8 x 35	Q	36 3/8 x 51 1/8
B	24 x 17 1/4	J	48 5/8 x 35	R	48 5/8 x 67 3/8
C	35 1/8 x 15 7/8	K	24 x 35	S	48 5/8 x 15 5/8
D	36 3/8 x 17 1/4	L	24 x 15 5/8	T	48 5/8 x 51 1/8
E	47 3/8 x 15 7/8	M	24 x 51 1/8	U	24 x 67 3/8
G	48 5/8 x 17 1/4	N	36 3/8 x 15 5/8	V	36 3/8 x 67 3/8



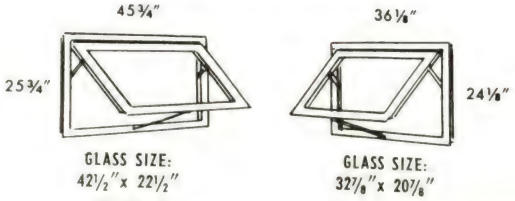
MULLION



NOTES

AVAILABLE ONLY IN SIZES AND TYPES SHOWN ABOVE
(F) INDICATES FIXED
(O) INDICATES OPTIONAL MUNTIN- STATE IF MUNTIN OMITTED (M.O.) WHEN ORDERING
ALL VENTS OUTSWINGING ONLY

PANEL WALL VENTILATORS



GLASS SIZE:
42 1/2" x 22 1/2"
STANDARD
DOUBLE GLAZING

GLASS SIZE:
32 7/8" x 20 7/8"

STORM WINDOWS



SEE PAGE 16 FOR INSTALLATION DETAILS

WORK INCLUDED: Windows shall be Ware "Econ-O-Ware" Aluminum Awning Type windows as herein specified (or with design and/or engineering changes which will provide the user with equal or superior operations, appearance and service), and shall be furnished complete with hardware.

MATERIAL: Frames, ventilators and muntin members shall be of solid extruded aluminum alloy 63S-T5, mill finish not less than 1 3/32" deep. (Commercial tolerances observed.)
The ventilators shall have a 3/32" projection running around the perimeter of each vent which shall be incorporated as a putty glazing stop.

CONSTRUCTION: The corners of the frame and ventilator members shall be mitered and joined by electric flash welding only, and methods which introduce other materials, or where flux is used, will not be permitted.
Muntins and meeting rail bars shall be tenoned and air-hammer riveted to the frame section.
Only horizontal muntin bars will be included and shall have a depth of 1 3/32" and shall have a sight line which will approximate the horizontal sight line at the point where ventilator sill bar and meeting rail engage in a closed position.
Ventilators shall be hung on aluminum fastenings with pins of aluminum, stainless steel or other non-ferrous material.

HARDWARE: Shall consist of a jointed Ware-O-Matic aluminum push bar jointed in such a manner as to permit the bar to be folded back against the meeting rail or frame sill bar section adjacent to the bottom of the ventilator when the window is in either a half open or fully closed position. The push bar shall be constructed in such a manner as to avoid scraping any normal width sill (6½"). The Ware-O-Matic push bar, when drawn over the push bar stop and interlocked in the keeper, shall provide a positive lock against opening the window from the outside.
All hardware shall be of substantial construction and uniform pattern and shall be of aluminum, stainless steel or other non-ferrous materials.

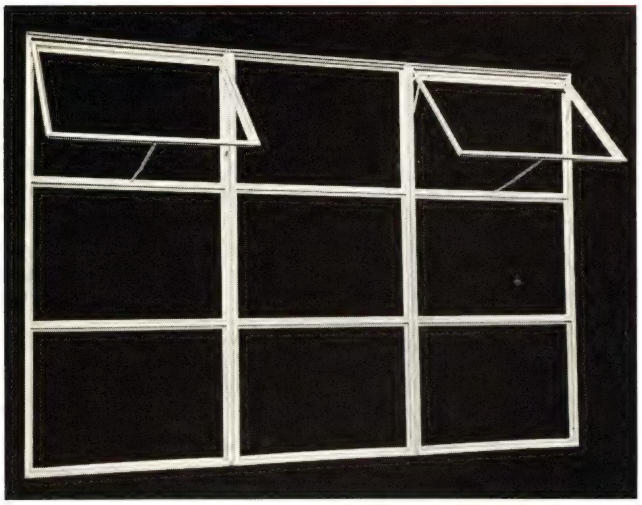
ERECTION: All openings must be fully prepared to receive the aluminum windows, and installation must not be started until all other work around the opening is first completed. The window shall be imbedded in caulking compound and shall be set plumb and true.
All ventilators shall be adjusted before glazing for smooth operation and tight contact and the hardware shall be installed before glazing.

SCREENS: Shall be made of rolled section aluminum frames .781 inches by .437 inches mitered and joined by concealed aluminum corner angle. Screen cloth shall be 18/14 mesh aluminum wire, held in place by aluminum splines or other satisfactory material.

GLAZING: All windows shall be glazed on the outside and shall be well back-puttied and then face-puttied. Aluminum sash putty of No. 1 commercial grade shall be furnished and used by the glazier. Use of glazing clips shall be optional.

PROTECTIVE COATING: Chemically cleaned and lacquered per FHA specifications.

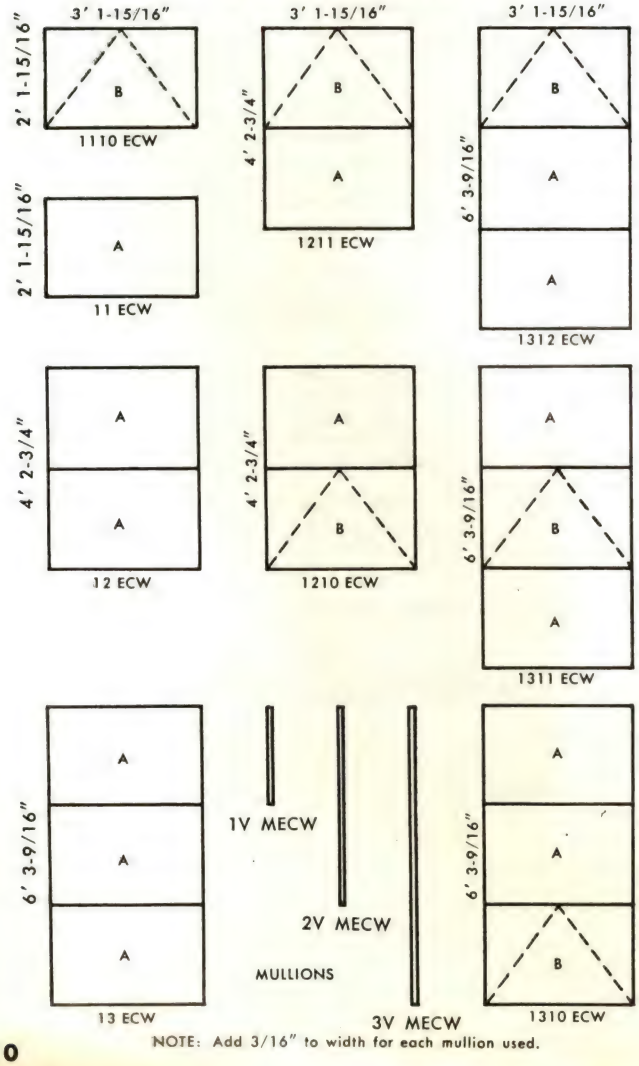
Econ-O-Wall awning windows



A modern window designed for modern living

- **ECONOMY**
- **VARIABLE VENT ARRANGEMENT**
- **STANDARD THERMOPANE OR EQUAL THROUGHOUT**
- **SPECIAL GLAZING ADAPTERS NOT NEEDED**

STOCK SIZES



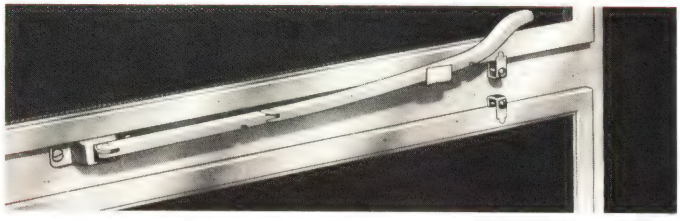
NOTE: Add 3/16" to width for each mullion used.

Ware Econ-O-Wall Awning Windows bring new beauty with economy to the modern home.

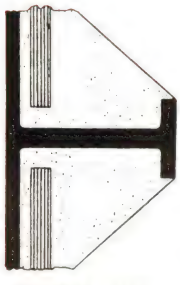
From nine standard sizes almost unlimited combinations can be made with variable vent arrangements. Many of these possible combinations are shown on the next page. It is truly a window where a choice of ventilation and sizes can be given your customer without additional cost.

Each vent is equipped with a Ware-O-Matic under-screen operator offering complete screen protection. The simplicity of the window minimizes maintenance and insures easy installation. Excellent weathering with leverage and positive locking is established by design.

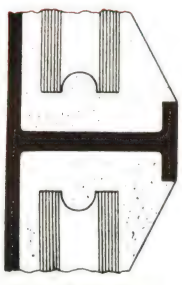
The single or smaller mulled combinations are attractive, functional, low cost units. Their use is practical in the home as a prime window. The larger combinations enhance the home where light, expansive vision with ventilation are desired.



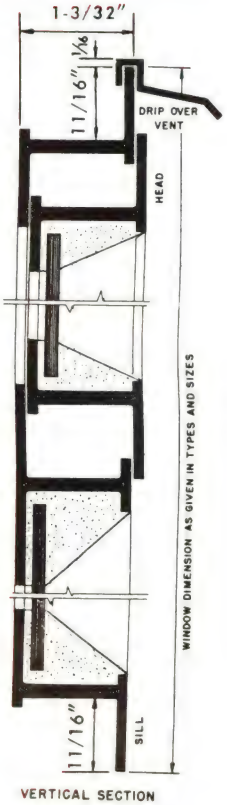
- Complete screen protection (Under screen operators)
- Positive Locking — Trouble-free performance
- Highly weathertight — Seals tight with leverage



SINGLE GLAZING



DOUBLE GLAZING



VERTICAL SECTION

glass sizes

½" Thermopane or equal	
A	36 x 24
B	34 1/16 x 22 1/16
D.S. glass	
A	36 x 24 1/8
B	34 1/16 x 22 13/16

Standard stock sizes for individual use, or, in combinations shown on next page.

SPECIFICATIONS

WORK INCLUDED: Windows shall be Ware "Econ-O-Wall" Aluminum Awning Type windows as herein specified (or with design and/or engineering changes which will provide the user with equal or superior operation, appearance and service), and shall be furnished complete with hardware.

MATERIAL: Frames, ventilators and muntin members shall be of solid extruded aluminum alloy 63S-T5, mill finish not less than 1 3/32" deep. (Commercial tolerances observed.)
The ventilator shall have a 3/32" projection running around the perimeter of each vent which shall be incorporated as a putty glazing stop.

CONSTRUCTION: The corners of the frame and ventilator members shall be mitered and joined by electric flash welding only, and methods which introduce other materials, or where flux is used, will not be permitted. Muntins and meeting rail bars shall be tenoned and air-hammer riveted to the frame section.
Only horizontal muntin bars will be included and shall have a depth of 1 3/32" and shall have a sight line which will approximate the horizontal sight line at the point where ventilator sill bar and meeting rail engage in a closed position.
Ventilators shall be hung on aluminum fastenings with pins of aluminum, stainless steel or other non-ferrous material.

HARDWARE: Shall consist of a jointed Ware-O-Matic aluminum push bar jointed in such a manner as to permit the bar to be folded back against the meeting rail or frame sill bar section adjacent to the bottom of the ventilator when the window is in either a half open or fully closed position. The push bar shall be constructed in such a manner as to avoid scraping any normal width sill (6½"). The Ware-O-Matic push bar, when drawn over the push bar stop and interlocked in the keeper, shall provide a positive lock against opening the window from the outside.
All hardware shall be of substantial construction and uniform pattern and shall be of aluminum, stainless steel or other non-ferrous materials.

ERECTION: All openings must be fully prepared to receive the aluminum windows, and installation must not be started until all other work around the opening is first completed. The window shall be imbedded in caulking compound and shall be set plumb and true. All ventilators shall be adjusted before glazing for smooth operation and tight contact and the hardware shall be installed before glazing.

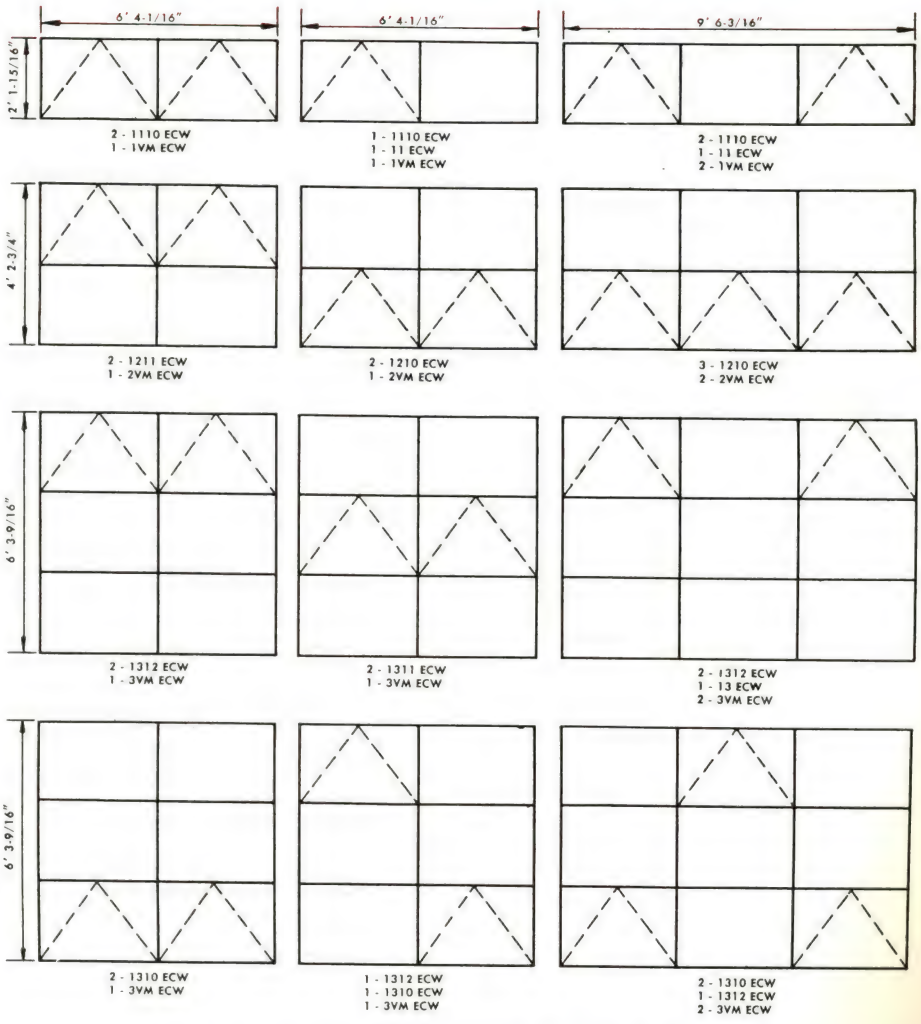
SCREENS: Shall be made of rolled section aluminum frames .781 inches by .437 inches mitered and joined by concealed aluminum corner angle. Screen cloth shall be 18/14 mesh aluminum wire, held in place by aluminum splines or other satisfactory material.

GLAZING: All windows shall be glazed on the outside and shall be well back-puttied and then face-puttied. Aluminum sash putty of No. 1 commercial grade shall be furnished and used by the glazier. Use of glazing clips shall be optional.

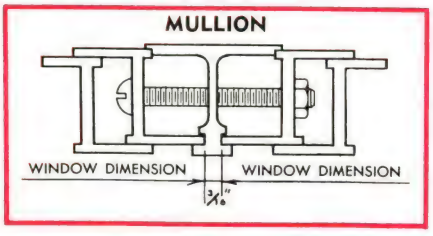
NOTE: To obtain units above and other variable combinations order the component stock sizes and assemble in the field.

PROTECTIVE COATING: Chemically cleaned and lacquered per FHA specifications.

Suggested combinations showing overall dimensions



Made from standard Econ-O-Wall windows & mullions



NOTE

TO OBTAIN UNITS ABOVE AND OTHER VARIABLE COMBINATIONS ORDER THE COMPONENT STOCK SIZES AND ASSEMBLE IN THE FIELD.

MORE LIGHT — MORE VENTILATION — MORE BEAUTY

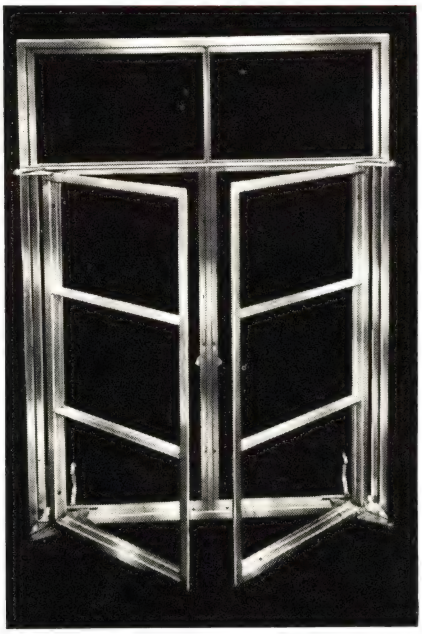
EXPANSIVE VISION AND LIGHT OF A PICTURE WINDOW
VENTILATION WITH ALL WEATHER PROTECTION
ARCHITECTURAL ENHANCEMENT — HORIZONTAL LINES

ENGINEERED FOR ECONOMY AND PERFORMANCE
FOR RESIDENTIAL, COMMERCIAL & INSTITUTIONAL CONSTRUCTION

AVAILABLE:

● STORM SASH ● CASINGS AND FIN TRIM

SEE PAGE 16 FOR INSTALLATION DETAILS



The use of Ware Aluminum Casement Windows is the economical method of solving your building problems. They are economical to buy and economical to maintain. The silvery beauty and architectural harmony will endure a lifetime. The extreme depth and weight of the sections provides the user with far more strength and functional quality than can be purchased anywhere at a comparable price. Flash welded corners and extra tensile strength aluminum, affords the user of quality synonymous with the WARE name.

economical

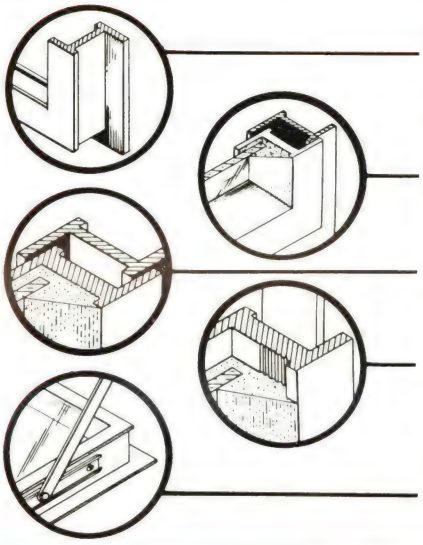
Ware Aluminum Casement Windows are "economy minded." Your first cost is your last cost. The coating of methacrylate lacquer eliminates any marring of the extrusion during construction of the building. The use of aluminum windows eliminates the costly painting operation forever. Ware aluminum casement windows make satisfied home owners.

QUALITY APPROVED

C-A1

A.W.M.A. Quality Specifications—Materials, Construction, Strength of sections and Air Infiltration requirements—confirmed by Pittsburgh Testing Laboratory.

MEMBER—ALUMINUM WINDOW MANUFACTURERS ASSOCIATION



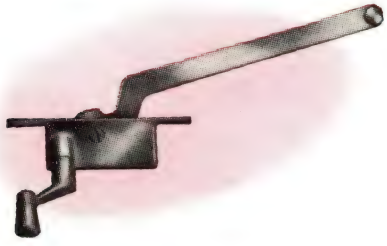
Extra-strong 1 3/32" extruded sections stand up under heavier loads and usage.

Extra-sturdy ventilator web is 3/16" thick provides greater strength and stiffness to prevent binding, and to make possible tighter closing.

The broad faces of the Ware vented sections assure maximum protection against weather thru greater metal-to-metal contact.

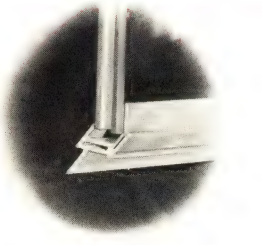
Serrations in metal to retain putty are another maintenance-savings feature! Putty adheres easily—stays firmly in place.

No channel rusting! Stainless steel channel for operator arm eliminates rust and maintenance worries in all climates.

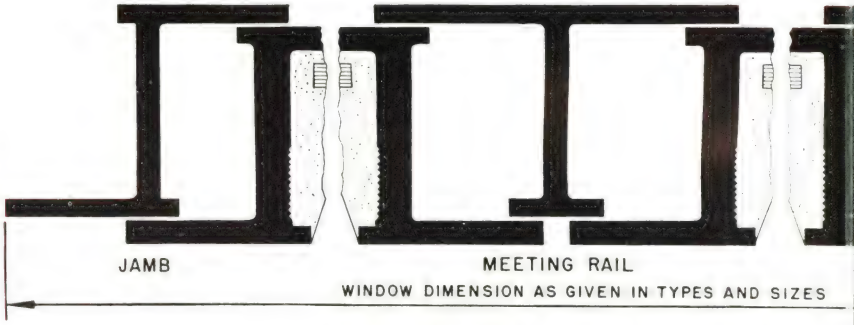


Roto (cranktype) Operators provide the opening and closing power of the window. A few deft turns of the handle open the ventilator to the maximum or securely close and weather the window.

SMOOTH PRECISION CORNERS
ELECTRICALLY FLASH WELDED FOR STRENGTH
LUSTROUS CHEMICAL FINISH FOR BEAUTY
FHA LACQUER SPECIFICATIONS
STAINLESS STEEL PARTS FOR RUGGED WEAR



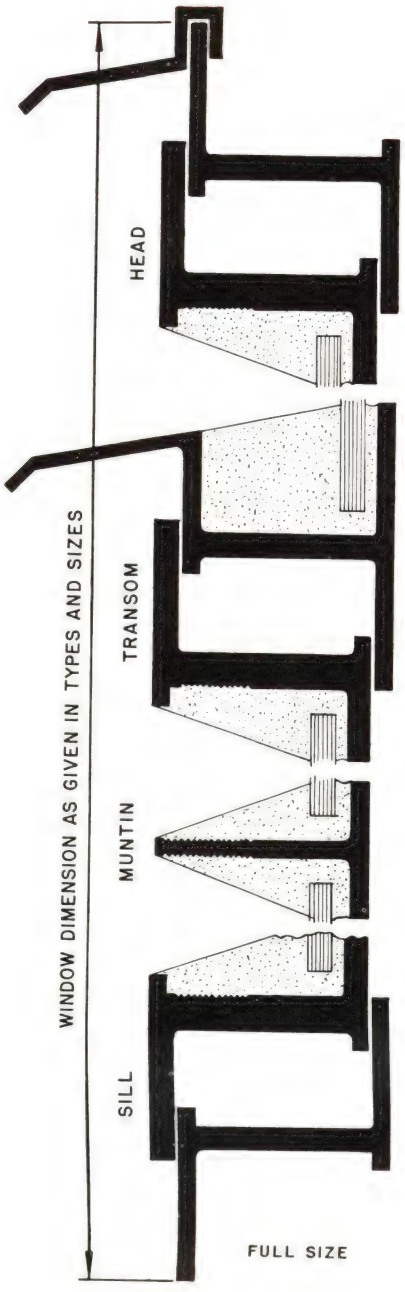
Further proof of Ware engineering excellence is portrayed in this modern application of an Aluminum Picture Window designed for double glazing. The Thermopane or Twindow glass is installed from the inside and is positively secured with an aluminum snap-in glazing bead.



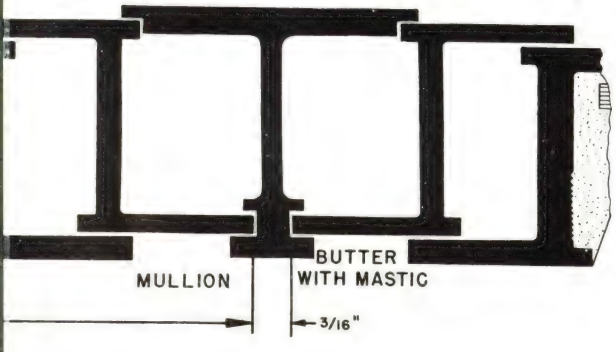
PLAN SECTION – FULL SIZE

Compare, and you will buy

CASINGS AND FIN TRIM AVAILABLE



VERTICAL SECTION



specifications

WORK INCLUDED: Windows shall be Ware Aluminum Casements as herein specified (or with design and/or engineering changes which will provide the user with equal or superior operation, appearance and service), and shall be furnished complete with hardware and all erection fittings.

MATERIAL: Frames, Ventilators and Muntin members shall be of solid extruded aluminum alloy 63S-T5, mill finish, not less than $1\frac{3}{32}$" deep. (Commercial tolerances observed.)

The ventilator member shall have a web not less than $\frac{3}{16}$" in thickness and both the ventilator and muntin members shall have the exclusive Ware Putty Retaining Feature on surfaces adjoining glazing areas.

Weather drips of extruded aluminum shall be furnished over all full height ventilators, shipped loose and to be applied to the top member of window frame prior to installation.

CONSTRUCTION: Corners of frame and vent bars shall be mitered and joined by electric flash welding only, and methods which introduce other materials, or where flux is used, will not be permitted.

Muntins and meeting rail bars shall be tenoned and air-hammer riveted to frame or ventilator sections.

Horizontal and vertical muntin bars shall be mortised at intersecting points so as to interlock, and shall be firmly secured in place. The over-all depth of of the material at the joint shall be $1\frac{3}{32}$".

Ventilators shall be hung on aluminum hinges with pins of stainless steel or other non-ferrous materials.

HARDWARE: Shall consist of locking handles and Roto controls of zinc or aluminum die cast, or bronze with baked aluminum finish. All hardware shall be of substantial construction and uniform pattern, and shall be non-ferrous or stainless steel. Fins of galvanized steel shall be furnished at extra cost where desired for building into masonry walls. Fins to receive one coat of Bituminous Asphalt paint at point of contact with the window frame (this painting furnished by others). Fins shall be bolted to the aluminum frames with aluminum bolts and nuts as furnished by the manufacturer.

ERECTION: All openings must be fully prepared to receive the aluminum windows, and installation must not be started until all other work around the opening is first completed. The windows shall be imbedded in caulking compound, and shall be set plumb and true.

All vents shall be adjusted before glazing for smooth operation and tight contact, and hardware shall not be applied until after painting of building is completed.

SCREENS: Shall be made of extruded aluminum frames $\frac{3}{4}$" by $\frac{5}{16}$" mitered and riveted at the corners, and/or rolled section aluminum frames .781" x .437" mitered and joined by a concealed aluminum corner angle. Screen cloth shall be 18/14 mesh aluminum wire, held in place by aluminum splines or other satisfactory material.

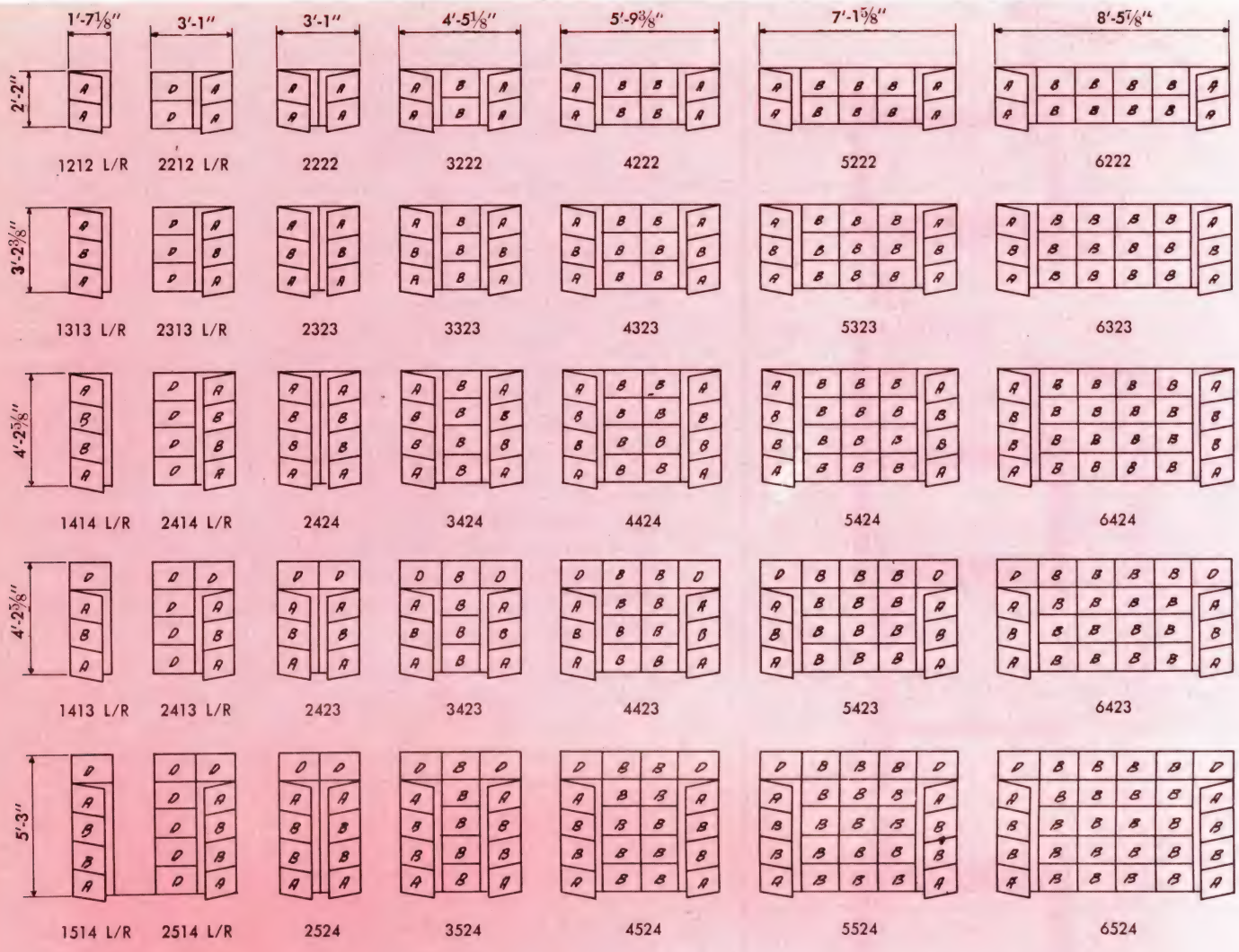
GLAZING: All windows shall be glazed on the outside and shall be well back-puttied and then face-puttied. Aluminum sash putty of number one commercial grade shall be furnished and used by glazier. Use of glazing clips shall be optional.

PROTECTIVE COATING: Chemically cleaned and lacquered per FHA specifications.

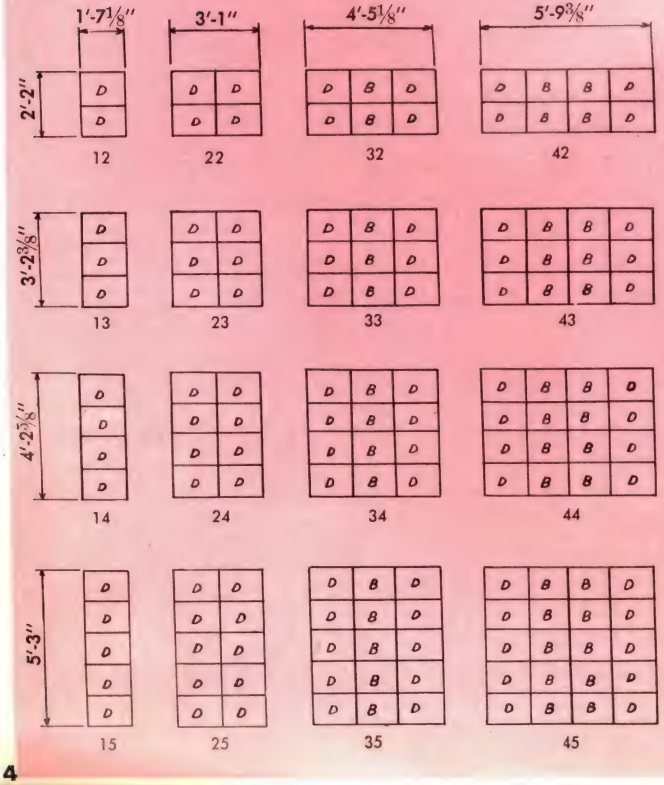
WARE LABORATORIES, INC

residential casements — standard

TYPES AND SIZES

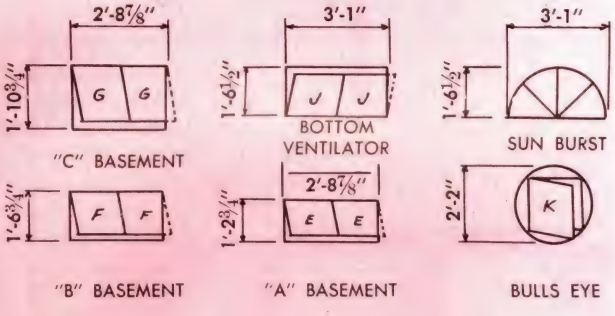


FIXED FRAMES

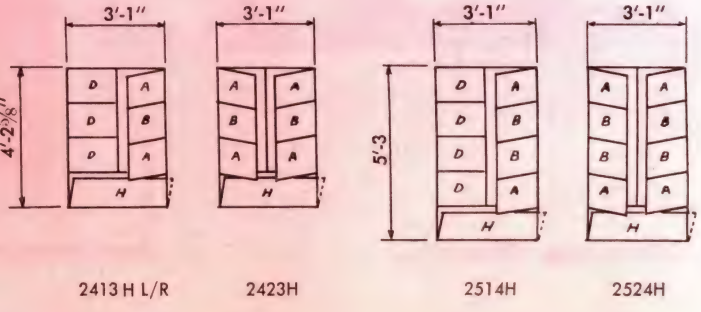


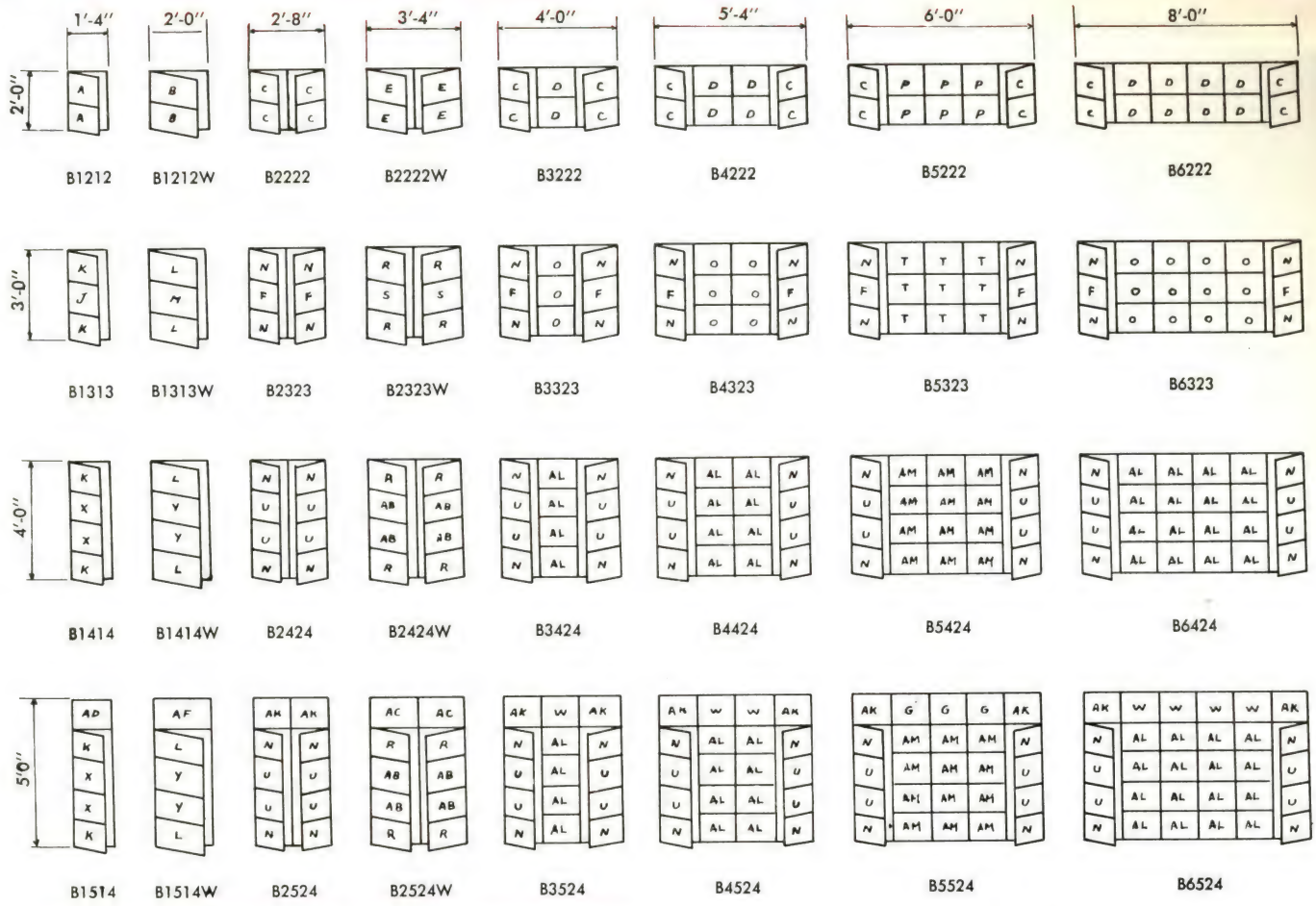
STD. GLASS SIZES

A — 15¾ x 11¼
B — 15¾ x 12
D — 17¼ x 12
E — 14⅜ x 11⅛
F — 14⅜ x 15⅛
G — 14⅜ x 19⅛
H — 32½ x 10³⁄₁₆
J — 16 x 14¾
K — 14¾ x 14¾



SUNBURST AVAILABLE IN ALL STD. WIDTHS





B1212 B1212W B2222 B2222W B3222 B4222 B5222 B6222

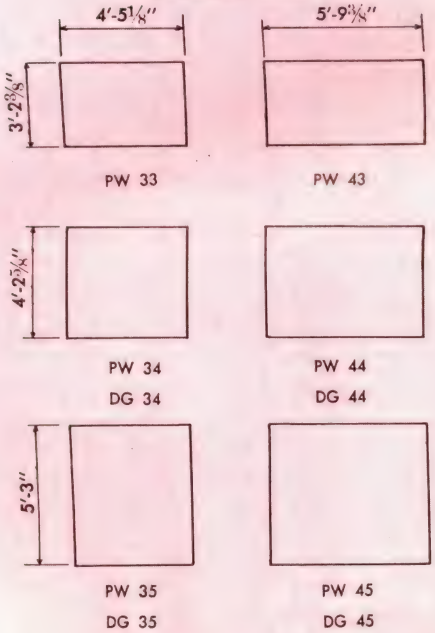
B1313 B1313W B2323 B2323W B3323 B4323 B5323 B6323

B1414 B1414W B2424 B2424W B3424 B4424 B5424 B6424

B1514 B1514W B2524 B2524W B3524 B4524 B5524 B6524

PICTURE WINDOWS

PW — SINGLE GLAZE
DG — DOUBLE GLAZE



PW 33 PW 43

PW 34 PW 44
DG 34 DG 44

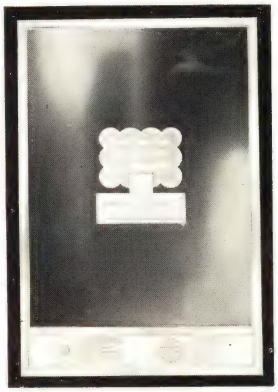
PW 35 PW 45
DG 35 DG 45

GLASS SIZES FOR PW & DG

	THERMOPANE OR EQUAL
33 STD. GLASS 51¼ x 36½	
43 STD. GLASS 67½ x 36½	
34 STD. GLASS 51¼ x 48¾	50⅜ x 47¾
44 STD. GLASS 67½ x 48¾	66⅝ x 47¾
35 STD. GLASS 51¼ x 61⅛	50⅜ x 60⅛
45 STD. GLASS 67½ x 61⅛	66⅝ x 60⅛

GLASS SIZES

A — 12 11/16 x 10 3/16	L — 20 11/16 x 10½	X — 12 11/16 x 11 5/16
B — 20 11/16 x 10 3/16	M — 20 11/16 x 11⅛	Y — 20 11/16 x 11 5/16
C — 13¼ x 10 3/16	N — 13¼ x 10½	AB — 17¼ x 11 5/16
D — 15⅝ x 10⅞	O — 15⅝ x 11⅛	AC — 18 13/16 x 11⅝
E — 17¼ x 10 3/16	P — 13 x 10⅞	AD — 14 x 11⅝
F — 13¼ x 11⅛	R — 17¼ x 10½	AF — 22 1/16 x 11⅝
G — 13 x 11⅝	S — 17¼ x 11⅛	AK — 14⅞ x 11⅝
J — 12 11/16 x 11⅛	T — 13 x 11⅛	AL — 15⅝ x 11 5/16
K — 12 11/16 x 10½	U — 13¼ x 11 5/16	AM — 13 x 11 5/16
	W — 15⅝ x 11⅝	



Storm Window

Note: Standard and Modular units with single ventilators may be hinged right or left.

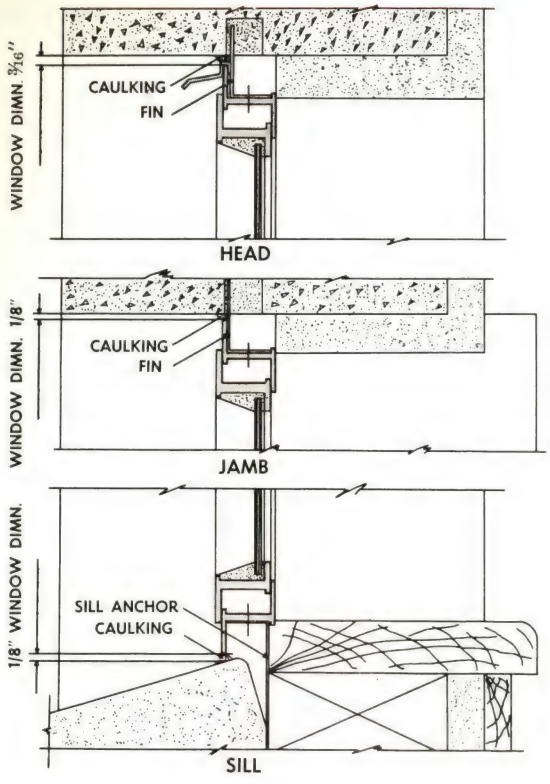
Fixed units furnished for all sizes.

PW for single pane glazing (PW-33M, PW43M, PW35M, PW45M, PW34M, PW44M).

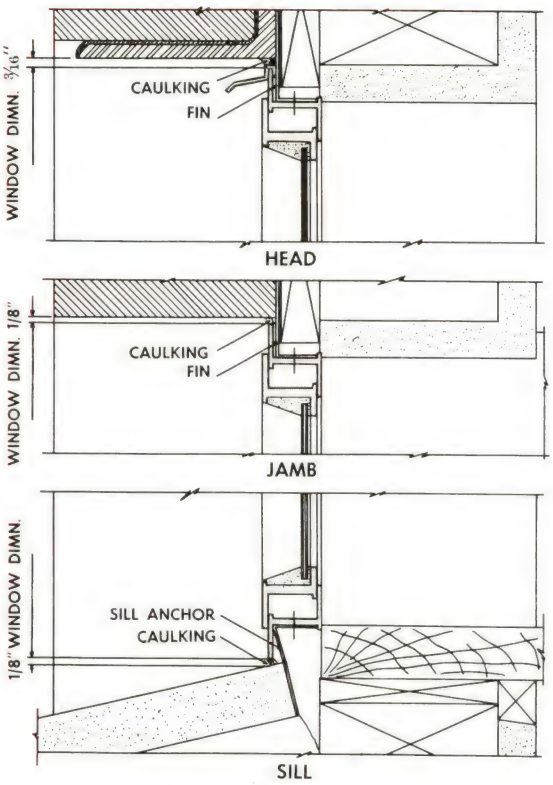
DG for 1" thick double insulated glass units in stock sizes. Not available in standard sizes for Modular Picture Window.

installation details | casements

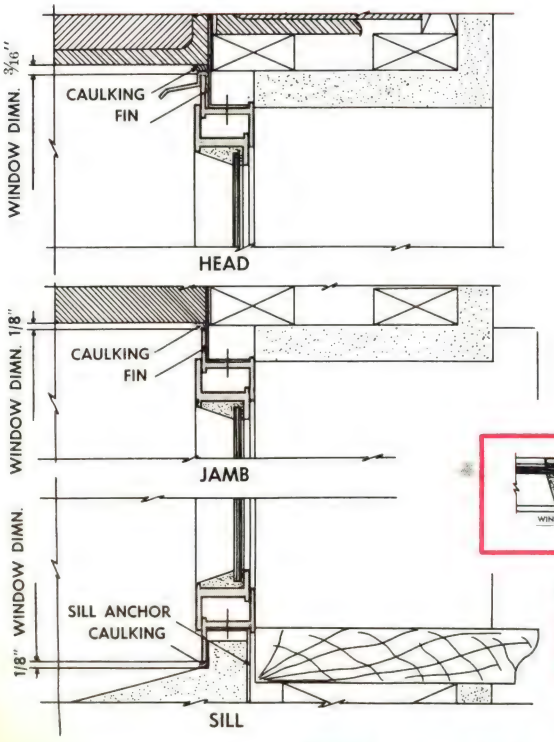
CONCRETE OR CONCRETE BLOCK



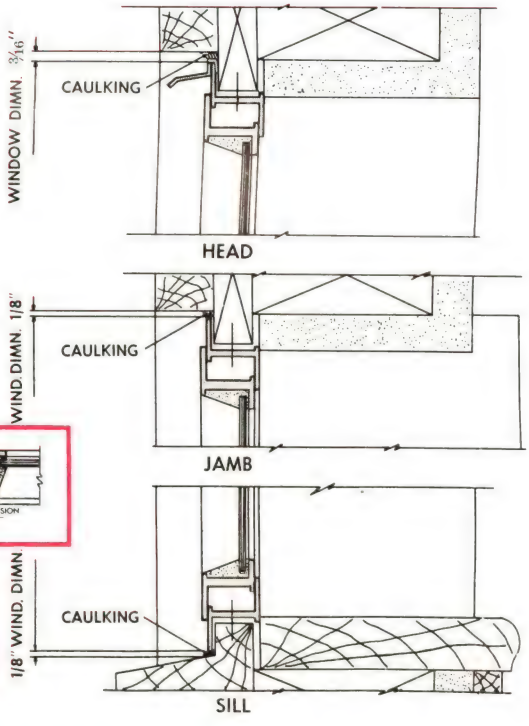
BRICK VENEER

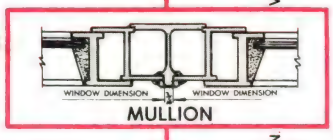


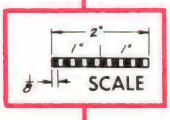
SOLID BRICK



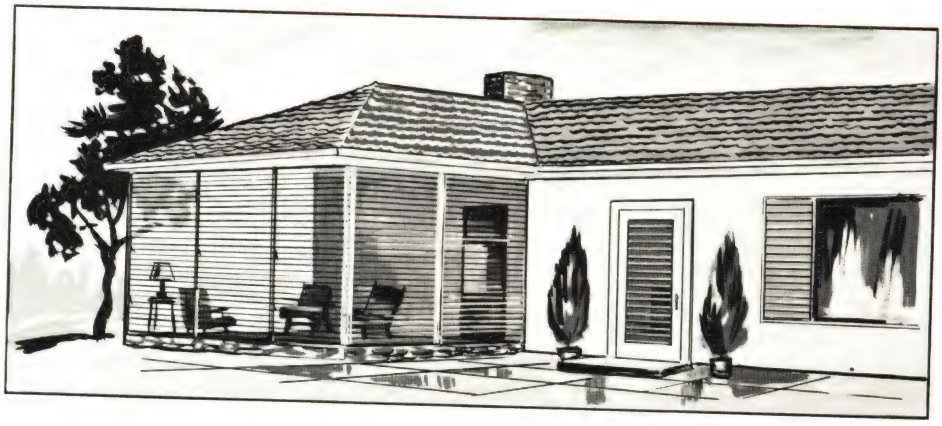
FRAME

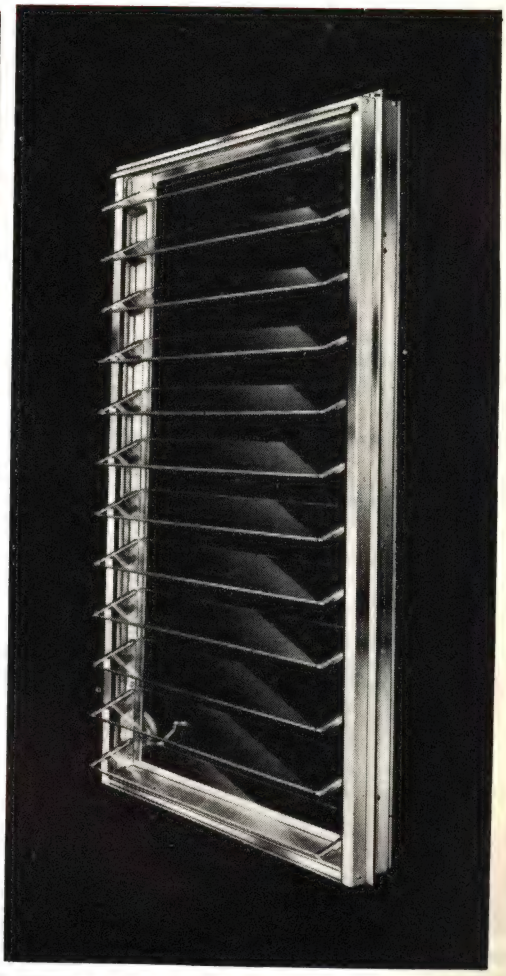






NOTE — Econ-O-Ware and Econ-O-Wall Installations Similar





AS MODERN AS TOMORROW—Full vision; 100% Ventilation; Controlled Air Circulation; All Weather Protection.

DESIGNED FOR LONG LIFE, RUGGED WEAR AND MAXIMUM WEATHER PROTECTION.

IDEAL FOR — Prime Windows, Breezeways, Porch Enclosures, Sun Rooms, Bathroom and Kitchen Windows, Doors, Passageways.

STRUCTURALLY STRONG—For Schools, Hospitals, Commercial Construction.

PERFECTED WEATHERSTRIPPING — Floating stainless steel weather cushion seals tight louvers at jambs . . . Koroseal weatherstripping at head and sill.

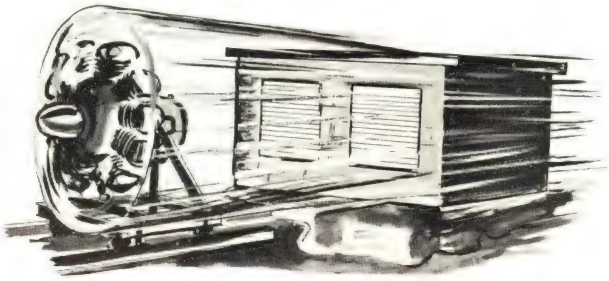
ALL WEATHER SECURITY — UNPARALLELED PERFORMANCE FOR JALOUSIE WINDOWS.

HURRICANE TEST — No water infiltration (0.00) 125 MPH — 20 gal. water per minute. (University of Miami, Housing Research Laboratory).

Static Air Pressure — Air Infiltration 0.114 CFM Wind Velocity equal 25 MPH. (Pittsburg Testing Laboratory)

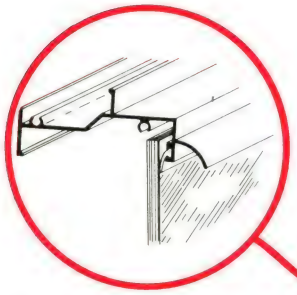
Photostatic copy of above test available on request.



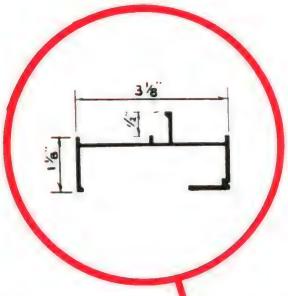




WareTite Jalousies features



HEAD WEATHERING — Built in drip — extra weather guard at head of window. Durable plastic seals tight top louver against head of frame. Prevents water and air leakage.



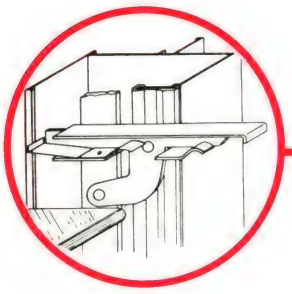
STURDY EXTRUDED FRAME — 3⅛" depth. Precision engineered.



OVER 100° OPENING
Statistics show air circulation increased when 90° opening angle exceeded. Enables easy cleaning.

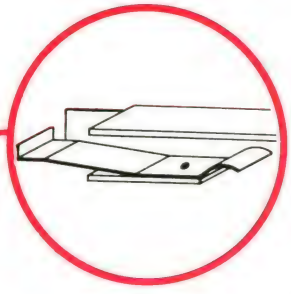


IMPROVED JAMB WEATHERING
Floating stainless steel weathering cushion seals tight louver contact at jambs.

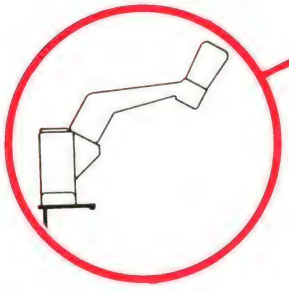


BALANCED CONTROL
Synchronized and balanced control of glass louvers insures easy operation. Louvers seal with leverage.





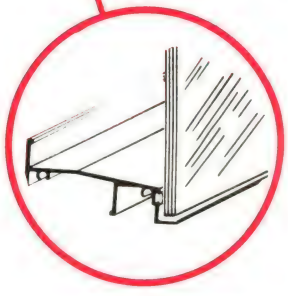
SURE-LOCK LOUVER CLIP
Stainless steel slip-on clip locks glass in place from inside, prevents rattle, chipping.



ATTRACTIVE HEAVY DUTY ROTO OPERATOR
Finger tip operation. Positive locking.



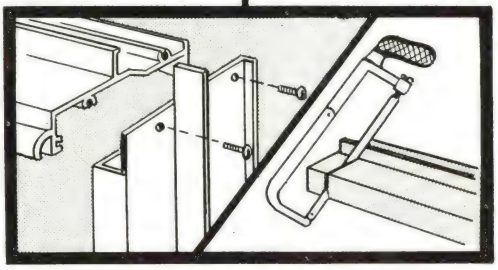
FLUSH SLOPING SILL
Prevents dirt trap. Allows easy cleaning.



SILL WEATHERSTRIPPED
Durable plastic inset in channel seals tight bottom louver at sill.



INSERTED SCREEN
Screen lip overlaps frame for perfect fit and protection. Corners reinforced by aluminum angles. Functional barrel type swivel clip.



QUICK EASY ASSEMBLY SHIPPED KD
Only 8 screws and a screwdriver required.

FLEXIBLE STOCK
Interchangeable jambs and sills

ADJUSTABLE WIDTHS — A saving in special window cost. On the job reduction of widths.

SPACE SAVER — One average size unit occupies approximately ½ cu. foot of valuable warehouse space.

LUSTROUS FINISH

Chemically cleaned, etched and lacquered per FHA specifications

SPECIFICATIONS

GENERAL: Ware Tite Glass Jalousies of types and sizes shown shall be complete with equipment and hardware as herein specified as manufactured by Ware Laboratories. Specifications hereafter to include all glass, screens and hardware.

MATERIAL: Ware Tite frame members shall be extruded structural Aluminum Alloy 63S-T5, Exceeding 3" in depth. Operating Bars to be of 62S-T6.

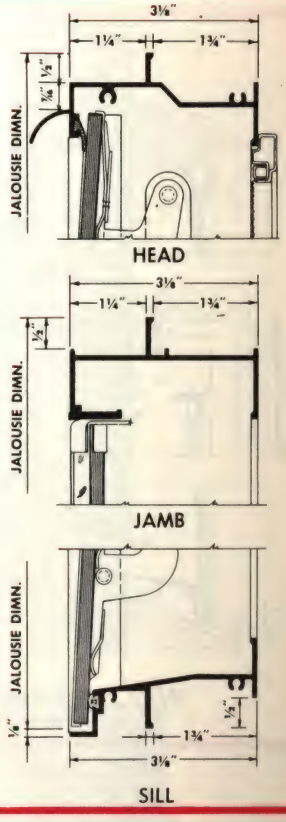
CONSTRUCTION: Ware Tite frame members shall be processed to permit accurate assembly of all fittings. Frame corners shall be assembled with Sheet Metal Screws to assure a strong mechanical joint and also to permit shipment in a knocked down condition. Glass clips shall be a strong, formed special aluminum alloy with stainless steel clip at top of glass to provide pressure, thus eliminating breakage, rattle of glass, etc. Louvers to be 4½" in width. All louvers to show 7/16" glass to glass overlap. Clips shall be attached to operator bars by means of shoulder rivets to assure positive, silent opening and closing.

HARDWARE: Operator shall be die cast aluminum with heavy-duty arm to provide ease of operation in opening and closing of glass louvers. Operator shall be accessible without removing the screen and provisions for installation shall be made at the factory in accordance with manufacturer's standard design.

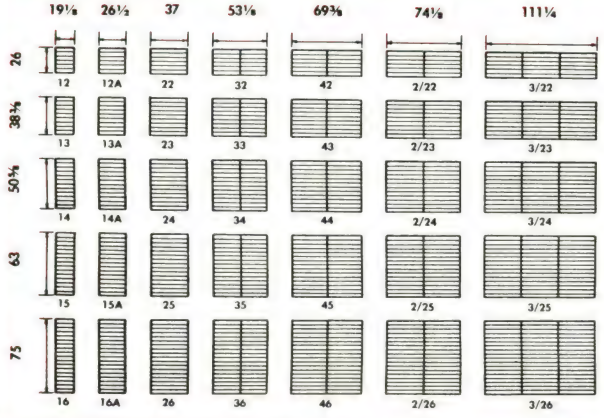
WEATHERSTRIPPING: Head and Sill shall be completely weatherstripped with Koroseal or elastomeric vinyl or equal. Rubber or rubber composition shall not be used. Metal weatherstripping will be installed the full length of the jambs, thus providing a seal around the entire perimeter of the Jalousies.

ERECTION: Erection shall be included under another contract in accordance with manufacturer's recommended details and/or approval of the supervising architect. All mastic or caulking used in erection shall be of a type suitable for use with Aluminum Ware Tite Glass Jalousies.

DIMENSIONS



SCHEDULE OF SIZES

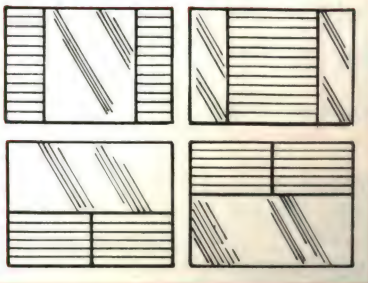


ADDITIONAL STANDARD SIZES

17	19 1/8" x 87 3/16"
18	19 1/8" x 99 3/8"
17A	26 1/2" x 87 3/16"
18A	26 1/2" x 99 3/8"
27	37" x 87 3/16"
28	37" x 99 3/8"
37	53 1/8" x 87 3/16"
38	53 1/8" x 99 3/8"
47	69 3/8" x 87 3/16"
48	69 3/8" x 99 3/8"
2/27	74 1/8" x 87 3/16"
2/28	74 1/8" x 99 3/8"
3/27	111 1/4" x 87 3/16"
3/28	111 1/4" x 99 3/8"

Above sizes are over-all. To obtain buck dimensions, deduct 1". (See above sectional drawing.) Windows over 37" wide shown above have continuous head and sill members with meeting rail. (Detail shown on back cover.)

ATTRACTIVE COMBINATIONS



STORM SASH



WARETITE JALOUSIE DOORS



SPECIFICATIONS:
1¾" thick vertical grain fir, furnished with 15 glass louvers.

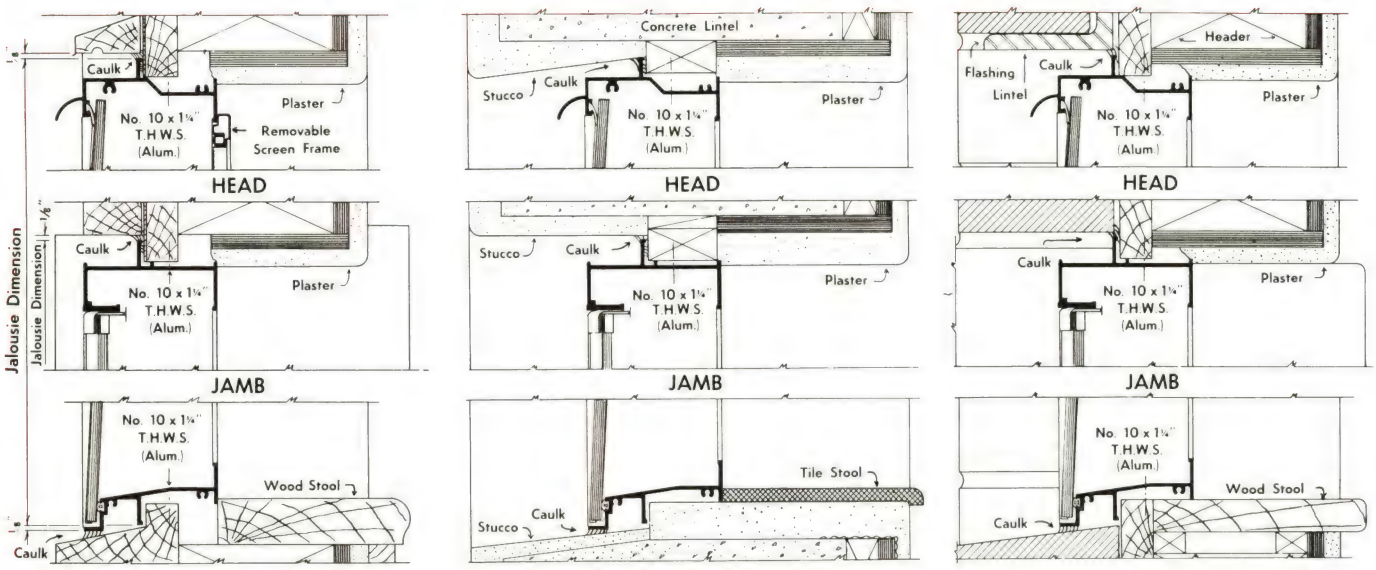
Door Size	Insert Size
2'-6" x 6'-8"	20" x 63"
2'-6" x 7'-0"	20" x 63"
2'-8" x 6'-8"	22" x 63"
2'-8" x 7'-0"	22" x 63"
3'-0" x 6'-8"	26" x 63"
3'-0" x 7'-0"	26" x 63"

NOTE: Above sizes are overall. Deduct 1" Buck Dimension.

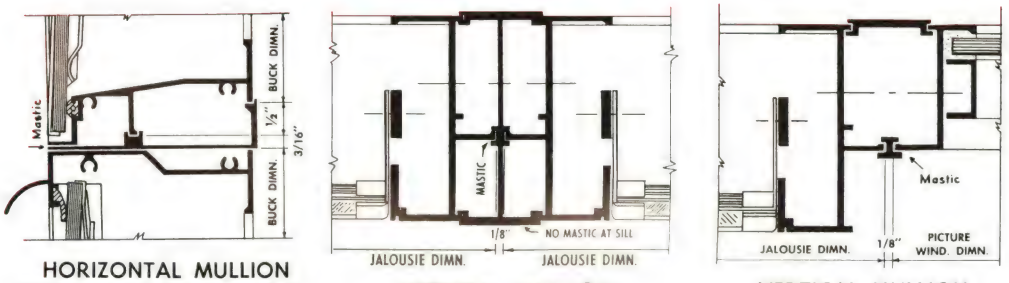
STORM SASH INTERCHANGEABLE WITH SCREENS – QUICK – EASY

WareTite Jalousies

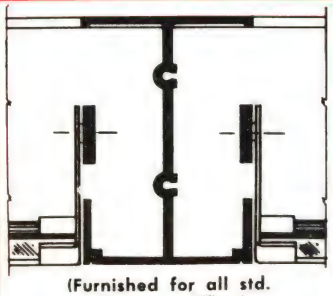
INSTALLATION DETAILS



MULLIONS



MEETING RAIL



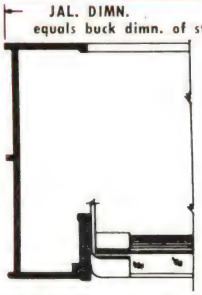
(Furnished for all std. windows over 37" unless otherwise specified)

SPECIAL FLUSH HEAD



AVAILABLE ON REQUEST
(NOT STANDARD)

SPECIAL FLUSH JAMB



Available on request
(Not Standard)



monumental awning window (weatherstripped)







Grady Memorial Hospital, Atlanta, Ga.
Robert and Company Associates, Architects and Engineers
Robert E. McKee General Contractor, Inc.

Designed and manufactured to meet the most rigid requirements of monumental construction for an aluminum awning type window. Engineering experience, architectural consultation, exhaustive tests and studies have culminated in an aluminum window manufactured to last the life of any building with maximum trouble-free performance.

monumental awning window specifications

WORK INCLUDED: Windows shall be Ware Aluminum Monumental Weatherstripped Awning type as herein specified (or with design and/or engineering changes which will provide the user with equal or superior operation, appearance and service), and shall be furnished complete with hardware and all standard erection fittings.

MATERIAL: Frame and ventilators shall be of solid extruded aluminum alloy 63S-T5, mill finish, No section of the ventilator members shall be less than 1⅝" deep. (Commercial tolerances observed.) All structural parts of window shall be a thickness of no less than ⅛". At no point shall the frame section be less than 3 5/16" deep. At the sill the minimum depth shall be 6⅝". (Commercial tolerances observed.)

CONSTRUCTION: The sill and jamb of frame will be welded. The head and intermediate frame members will be mortised and tenoned. The top and bottom members of all ventilators joined to the side rails by mortise and tenon joints and shall be air-hammer riveted in a satisfactory and workmanlike manner. The ventilator will have a minimum opening of 70°. The top ventilator and all others will drop sufficiently for easy cleaning from the inside. The vent brackets will be of solid aluminum alloy 52S-H32, 3/16" thick. All linkage pins will be of high strength aluminum alloy 7/16" diameter running in nylon bushings. The Pitman bar will be a channel or flat shaped section. It will be of solid extruded aluminum alloy 62S-T6. All linkage will be bushed with nylon bushings.

HARDWARE: All windows will be operated by a monumental compound operator. The body of the operator will be diecast in two parts of ALCOA alloy #208 with a tensile strength of 45,000 pounds. The crank will be made of white bronze with an attractive formed knob handle with turns ½", hex shaft press fit into ⅞" pitch diameter carbon steel worm. This worm will mesh with 36 tooth bronze worm gear which is part of a cluster consisting of bronze worm wheel and a 15 tooth spur gear. The 15 tooth spur gear — 3/8" space, meshes with a quadrant of a 40 tooth spur gear — 3/8" face, keyed to the transverse tube. All moving parts are bushed from the shaft or side walls of the housing by molded nylon bushings or washers. The operator has a positive stop in both directions, preventing gear strippage. The operator housing shall be grease-tight to protect worm and gears that shall be packed in grease. The operator box will be mounted in the sill by ¼ - 20 machine screws into stainless steel inserts. The operator will be housed entirely in the sill except for the worm boss which will protrude at the inside center of the window. Easy access to or removal of the operator can be made by removal of the sill cover plate which will be held in place by screws.

The transverse power tube shall have a minimum diameter of 15/16" made from round aluminum extruded and drawn tubing with ⅛" wall, alloy 63S-T832. The outer ends of the transverse tube are held in place and turn in an outboard bearing, nylon bushed, mounted on the jambs of the window. Each end of the transverse tube aluminum arms is keyed. Suitable connecting linkage of aluminum alloy (62S-T6) connect the arms on the tube to vertically movable Pitman bars, to which the head of all vents is attached by means of a bracket from the vent and attached to the Pitman by a pin 7/16" diameter. The vents are attached to the window by means of links or hinge arms, one end of which is attached to the side of the vents and the other end attached to the jamb of the window. As the head of the vents is raised or lowered by means of the vertically moving Pitman the vents rock on the hings arms swinging the lower part of the vents either away from the window or closing tight against the window frame and the mating section of the vent above and below.

Adjustment for tight closing or weathering is accomplished by means of an eccentric located at the point where the hinge arm attaches to the jamb of the window. This adjustment is simple and is easily made after the window has been installed in the building and should be made before glazing. However, although this adjustment should be permanent it can be made whenever necessary.

PROTECTIVE COATING: All windows shall be chemically cleaned to remove fabrication compounds and dirt accumulations, etc., and be given a protective coating of a clear waterwhite methacrylate lacquer. This lacquer when applied on the aluminum surface must be such as to withstand the section of lime mortar for a period of at least one month at an atmosphere of 100% relative humidity at room temperature.

ERECTION: All openings must be fully prepared to receive the aluminum windows and installation must not be started until all other work around the opening is first completed. The window shall be set plumb and true and imbedded in a water-proof mastic and thoroughly caulked.

All vents shall be adjusted before glazing for smooth operation and tight contact.

SCREENS: Shall be of extruded and/or rolled section aluminum frames mitered and joined by aluminum corner angles. Screen cloth shall be 18/14 mesh and held in place by aluminum splines or other satisfactory material.

GLAZING: All windows shall be glazed on the outside and shall be well back-puttied and then face-puttied. Aluminum sash putty or compound of No. 1 commercial grade shall be furnished and used by the glazier.

FEATURES OF DISTINCTION

- **PERFECTED WEATHERING** — Koroseal weatherstripping imbedded in extruded channel, perfect seating of ventilators with wide overlap in frame contact.
- **HEAVY EXTRUDED SECTIONS** — 1 5/8" ventilator depth. Minimum thickness of all structural members 1/8".
- **ALL MOVING PARTS** bushed in self-lubricating nylon. All linkage tested for maximum load conditions.
- **ACCESSIBILITY** — All moving parts easily accessible.
- **EASE OF OPERATION** — Perfect balance and gear ratio permits finger tip control.
- **STRIP PROOF HEAVY COMPOUND OPERATOR** concealed in sill, synchronized distribution of load, unparalleled load safety factor for aluminum awning windows.
- **RIGID FRICTION FREE VENTILATORS** — Head of ventilator operates in individual track attached to frame joint.
- **ADJUSTMENT** — Individual ventilator adjusted by an eccentric if ever necessary.
- **HARDWARE** — Solid white bronze attractively designed tilted crank for operating vents. Solid white bronze cam lock and latch for hopper vents.
- **WATER TRAP** — Functional water trap prevents any water striking jamb of window from entering sill when ventilators are in an open position.



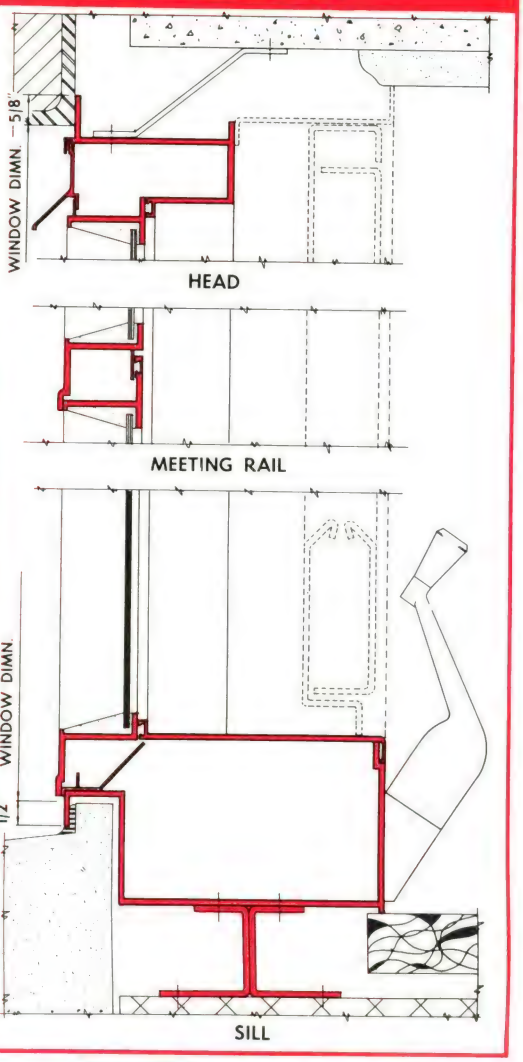
DETENTION AND INSECT SCREENS — Adaptable directly to frame of window without interfering with operator.
GLAZING — Accommodates single or 1/2" double glass.
ADAPTABILITY WITH ECONOMY—Because of the structural strength of frame and vent members and powerful compound operator, windows are adaptable to unusually large openings with efficient operation.
ALUMINUM TRIM — Attractive trim adjustable to fit special conditions.

USAGE
HOSPITALS (General and Psychiatric)
MUNICIPAL AND OFFICE BUILDINGS
INSTITUTIONS
SCHOOLS

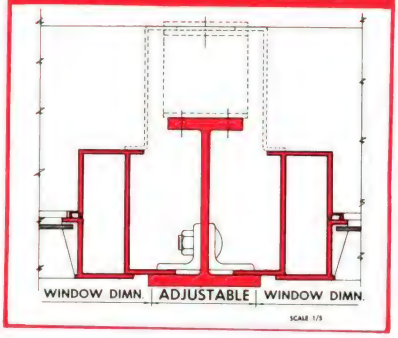
FURNISHED ON REQUEST: • FULL SIZE WORKING DETAILS • DETAILS PREPARED FOR SPECIAL CONDITIONS • STANDARD OR CUSTOM SIZES, WITH OR WITHOUT TRIM, TO MEET THE HIGHEST STANDARDS OF MONUMENTAL CONSTRUCTION.

(weatherstripped)

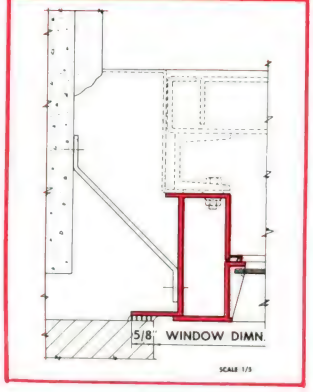
SCALE 1/4



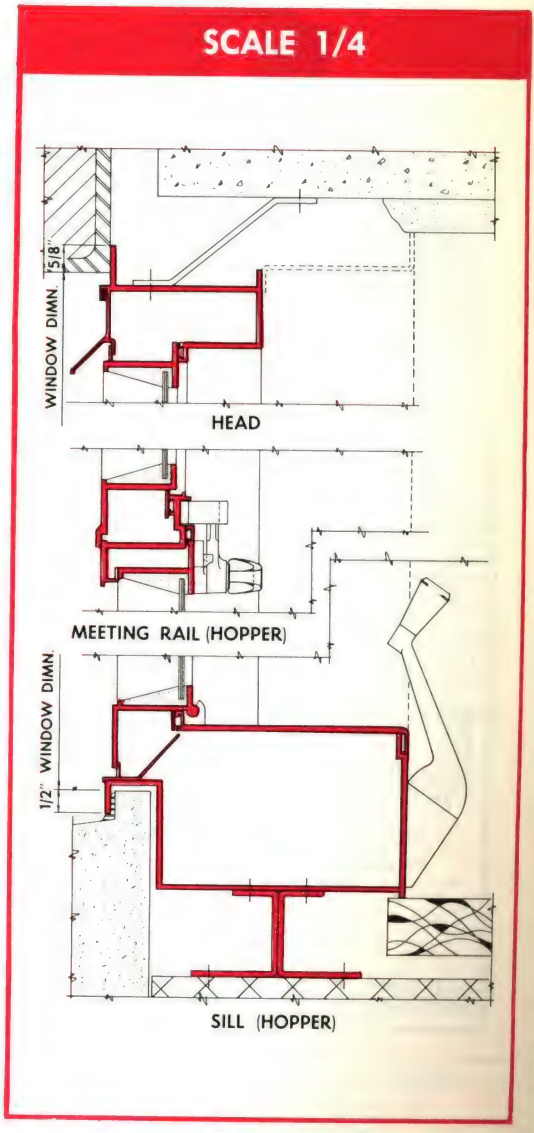
MULLION



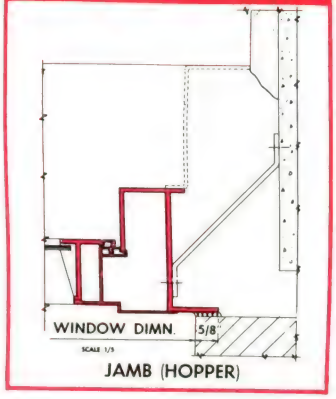
JAMB



SCALE 1/4



JAMB



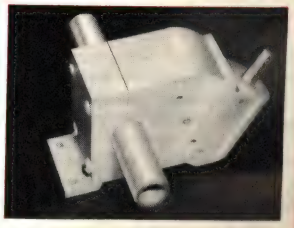
STANDARD SIZES

Special sizes on request
Fixed lights optional

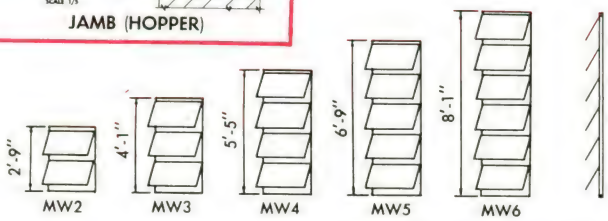
WIDTHS ALL TYPES

2'-0⅞"
2'-8⅞"
3'-4⅞"
3'-8⅞"
4'-0⅞"

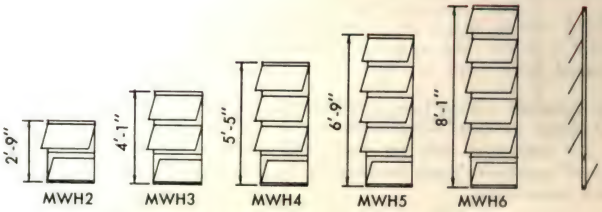
OPERATOR



Compound Operator
Enclosed in Sill



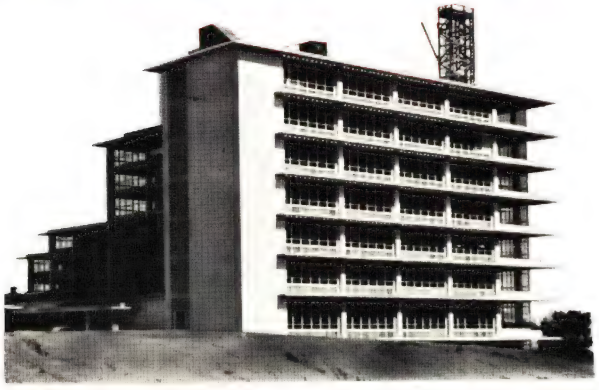
DIMENSIONS SHOWN ARE OPENING DIMENSIONS



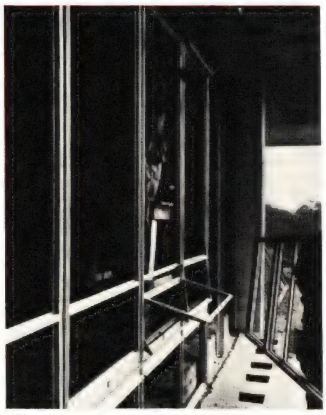
UNITS SHOWN VIEWED FROM OUTSIDE

WARE LABORATORIES, INC.

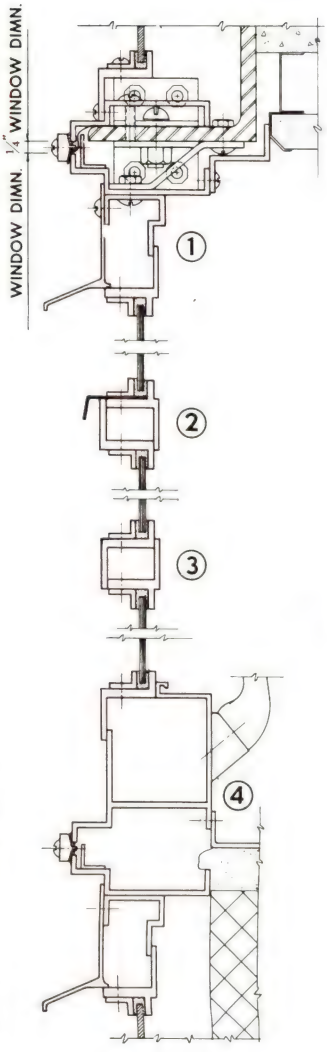
curtain wall and reversible



University of Arkansas Medical Center
Architects: Erhart, Eichenbaum & Rauch.
Edward D. Stone, Associate.
Contractor: W. R. Grimshaw



Workmen easily handle the sturdy, lightweight Ware wall sections which substantially reduces installation time.



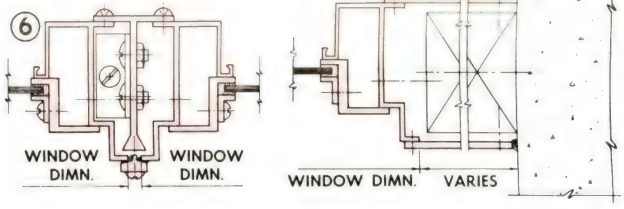
DETAILS 1/4 SCALE

These pictures clearly demonstrate how the use of floor height aluminum windows can cut installation costs, reduce maintenance, and effect many other construction savings. They show how these Ware pre-fab units of aluminum and glass actually form the walls of this monumental structure. 20'-4" bays are made from mulled 3'-3½" x 11'-5¾" Ware factory units. Two ventilators — one at the top and one immediately above the sill are controlled by a built-in center operator at sill height. The large center lite is fixed. From the sill to the base of the window an aluminum spandrel is installed in the window frame on the job.



CURTAIN WALLS DESIGNED TO MEET SPECIAL REQUIREMENTS

Suggested details available on request



ALUMINUM REVERSIBLE WINDOWS

GENERAL SPECIFICATIONS

- Strength of Sections: All members shall be of sufficient strength to perform the functions for which the window was intended. Frame and ventilator members will be of 63S-T5 aluminum. All mechanism will be of aluminum or other non-ferrous metals.
- Windows will be of sufficient strength to take either single or double glazing, and designed for use of glazing compound, neoprene, or metal glazing beads.
- Ventilators can be removed and replaced if ever necessary by simple means.
- Frame is designed to enable leakproof type of installation against metal surrounds, masonry or spandrels.
- Concealed locking device in jamb of frame is not removable when ventilator is in an open position. Visual indication that ventilator is in a locked position will be shown.
- Double neoprene friction type weatherstripping inset on inside perimeter of frame prevents water infiltration at winds of 125 miles per hour. Air infiltration will be well within allowances for "Quality Approved" weatherstripped windows of the Aluminum Window Manufacturers Association.

REVERSIBLE
For masonry openings and curtain wall construction

DOUBLE WEATHERSTRIPPED
Double neoprene friction type weatherstripping
Exlusive locking device
Heavy monumental construction

Window reverses in instant by pivoting on stainless steel pins in bronze bushings at top and bottom.

MAINTENANCE MINIMIZED

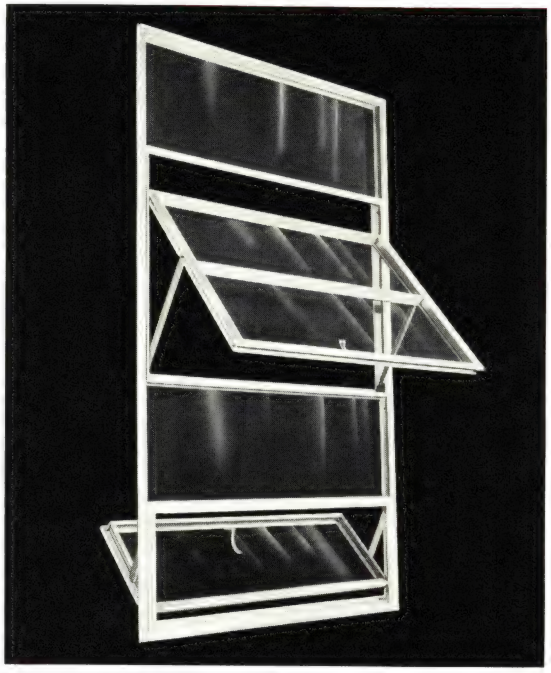
Easy cleaning — Reversing outside glass surface to inside enables fast, safe and economical cleaning and many dollars saved during life of building.

Ideal for air conditioned buildings — No loss of air.

Window locked into position can be opened only by a special key.

Closed during cleaning — Window does not remain open to disturb efficiency of air conditioning system.

ARCHITECTURAL — INTERMEDIATE

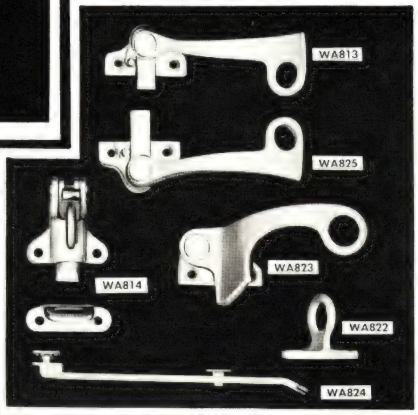


A NEW IMPROVED PROJECTED WINDOW

- **SELECTIVE WEATHERING**
  1. Three point metal to metal contact weathering qualities exceeding ordinary standards.
  2. Weatherstripped — Lifetime, built-in weathering a positive seal where the most rigid air control conditions are demanded. A money saver for heating and air conditioning systems.
- **DOUBLE GLAZING WITHOUT ADAPTERS**
- **INSIDE OR OUTSIDE GLAZING**
- **RUGGED MONUMENTAL CONSTRUCTION**
- **FRICTION SHOE WITH PRESSURE SPRING FULLY ENCLOSED**
- **REINFORCED CORNER AT PIVOT POINTS**
- **SIMPLICITY OF DESIGN INSURES TROUBLE-FREE LIFE**

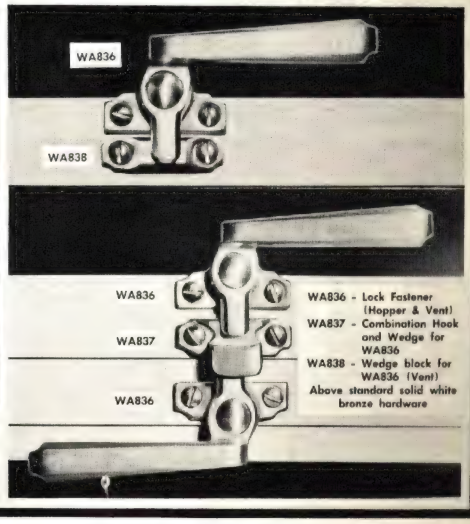
HARDWARE

SPECIAL



WA814 - Spring Catch and Keeper
WA822 - Transom Pull
WA813 - Lock Fastener with Ring (Vent)
WA825 - Lock Fastener with Ring (Hopper)
WA823 - Gravity Lock Fastener
WA824 - Push Bar Operator with Stay Clip and Housing.

STANDARD



WA836 - Lock Fastener (Hopper & Vent)
WA837 - Combination Hook and Wedge for WA836
WA838 - Wedge block for WA836 (Vent)
Above standard solid white bronze hardware

specifications

WORK INCLUDED: Windows shall be Ware Projected Windows as herein specified (or with design and/or engineering changes which will provide the user with equal or superior operation, appearance and service), and shall be furnished complete with hardware and all standard erection fittings.

MATERIAL: Frame and sash members shall be solid extruded aluminum alloy 63S-T5, mill finish, and shall not be less than ⅛" in thickness. Outside frame members shall be 1½" and 1⅝" deep horizontally. Combined frame and vent depth horizontally shall be 1¾" and vertically 2½" minimum. Sections provide for weatherstripping if desired.

CONSTRUCTION: Corners of outside frame, sill of Projected Out vent, head of Projected In vents, and muntins shall be mortised and tenoned construction, securely riveted to provide tight rigid connection. Head of Projected Out vent and sill of Projected In vents is secured to vertical members by the bracket carrying the sliding shoes and are securely riveted for strength and form a rigid square corner. Vents (Project In and Project Out) provide three point metal contact in non-weatherstripped windows. Minimum overlap at jambs and sill of (Project Out) vents, and head, sill and jamb of (Project In) vents 7/16". Vents are provided with sliding shoes, concealed spring and balance arms which positions the vents up to 50° opening.

QUALITY APPROVED
P-A2
A.W.M.A. Quality Specifications—Materials, Construction, Strength of sections and Air infiltration requirements—confirmed by Pittsburgh Testing Laboratory.
MEMBER—ALUMINUM WINDOW MANUFACTURERS ASSOCIATION

WEATHERSTRIPPED PROJECTED WINDOW

PITTSBURG TESTING LABORATORIES:
0.11 CFM UNDER STATIC AIR PRESSURE EQUAL 25 MPH WIND VELOCITY.

MULLIONS: "T" Mullion, adjustable from 2⅜" to 3⅛", available complete with inside covers at a slight extra cost. Standard plate mullions can be furnished for windows up to 5'-5" in height.

SCREENS: All windows are prepared for screens. Projected Out vents are screened on inside, either with or without wickets. (Without wicket requires under screen operation).
Projected In vents are outside screened, removable from the inside. Screen cloth is aluminum 14/18 mesh.

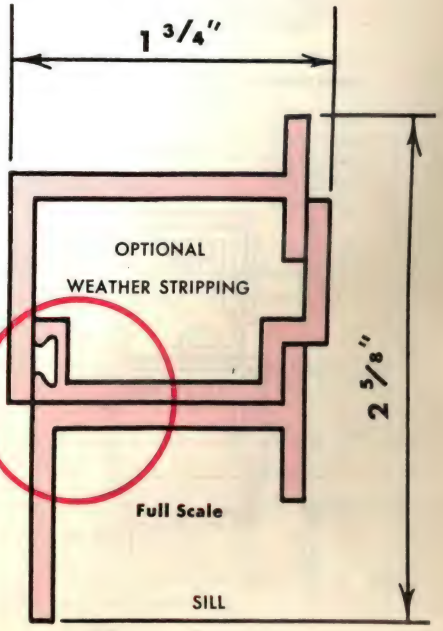
HARDWARE: Standard hardware shall consist of cam handles unless otherwise specified. Other types available on request. All hardware furnished with durable lacquer finish. Vents over 2'-8⅞" wide must have vertical muntin when windows are equipped for pole operation.
Standard anchors and clips of aluminum or plated steel.

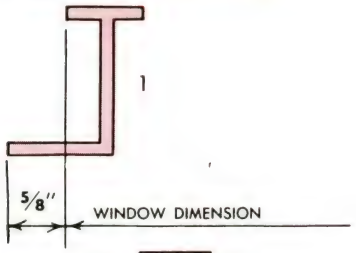
GLAZING: Either outside or inside — specify which is desired. Stock windows are outside glaze. Inside glaze will be made to order. Glazing compound and clips are not furnished.

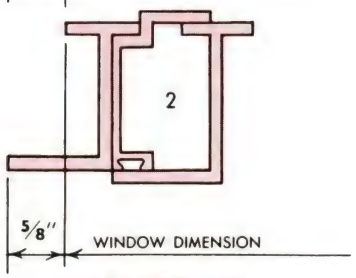
WEATHERSTRIPPING: Available for all windows at an extra cost.

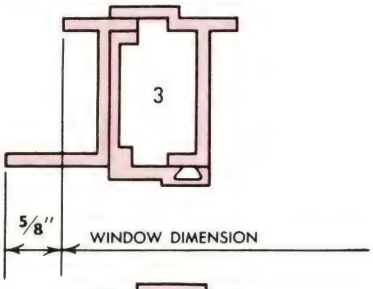
PROTECTIVE COATING: Chemically cleaned and lacquered per FHA specifications.

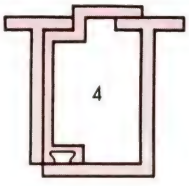
A SUPERIOR WINDOW DESIGNED AND BUILT TO MEET TODAY'S EXACTING SPECIFICATIONS

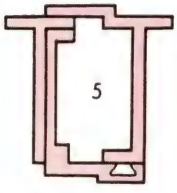




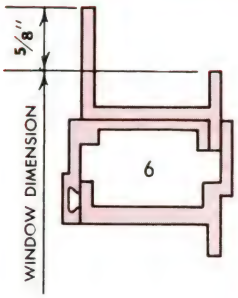


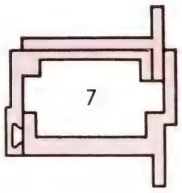


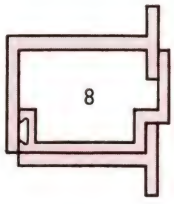


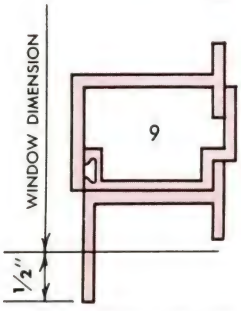


HORIZONTAL SECTION

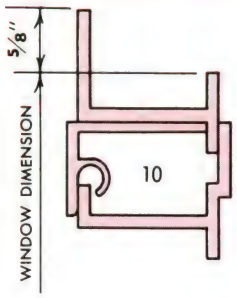


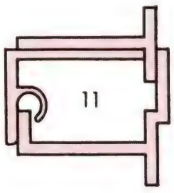


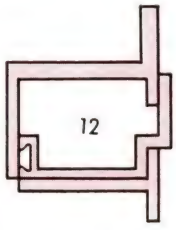


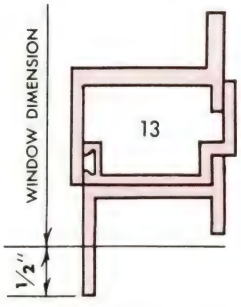


VERTICAL HOPPER SECTION

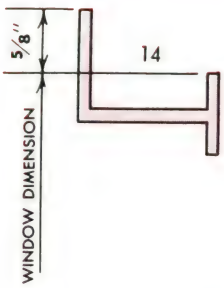


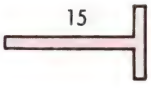


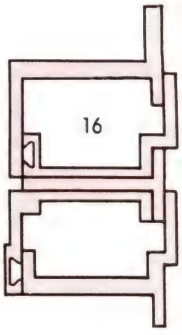


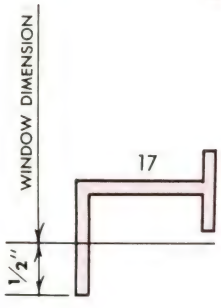


VERTICAL VENT SECTION

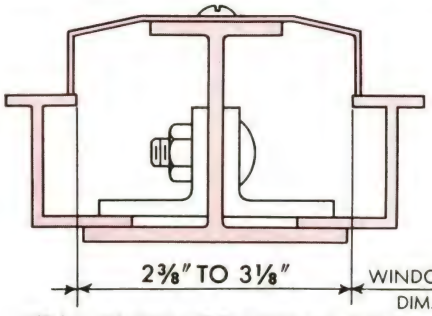




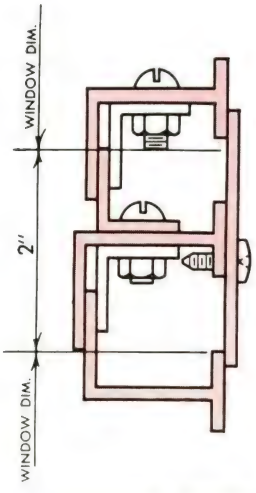




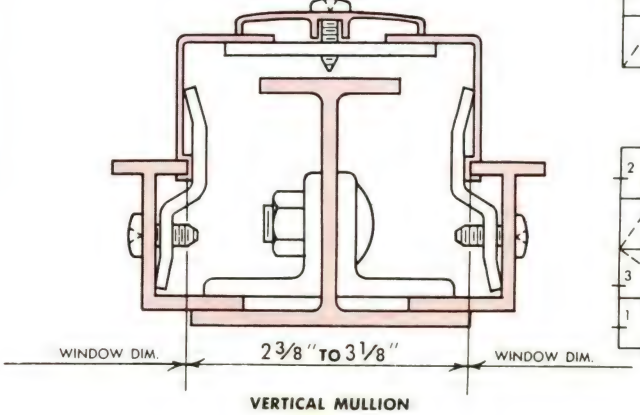
VERTICAL FIXED SECTION AND MEETING RAIL



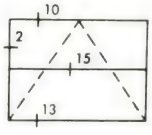
DETAIL OF ONE PIECE MULLION COVER

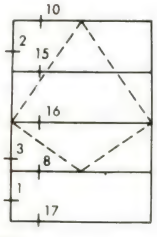


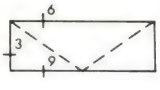
HORIZONTAL MULLION

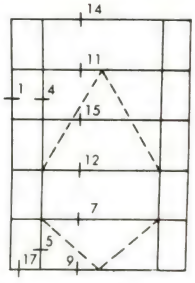


VERTICAL MULLION









with or without weatherstripping types and sizes

OPERATING

	2′ 0⅞″	2′ 8⅞″	3′ 4⅞″	3′ 8⅞″	4′ 0⅞″	5′ 0⅞″
1′ 5″	P-411	P-421	P-431	P-441	P-451	P-461
2′ 9″	P-412	P-422	P-432	P-442	P-452	P-462
4′ 1″	P-413	P-423	P-433	P-443	P-453	P-463
4′ 1″	P-413H	P-423H	P-433H	P-443H	P-453H	P-463H
5′ 5″	P-414	P-424	P-434	P-444	P-454	P-464
5′ 5″	P-414H	P-424H	P-434H	P-444H	P-454H	P-464H
6′ 9″	P-415H	P-425H	P-435-H	P-445H	P-455H	P-465H
8′ 1″	P-416H	P-426H	P-436H	P-446H	P-456H	P-466H
8′ 1″	P-416	P-426	P-436	P-446	P-456	P-466
9′ 5″	P-417H	P-427H	P-437H	P-447H	P-457H	P-467H

HORIZONTAL MUNTIN SERIES

FIXED

	2′ 0⅞″	2′ 8⅞″	3′ 4⅞″	3′ 8⅞″	4′ 0⅞″	5′ 0⅞″
1′ 5″	411F	421F	431F	441F	451F	461F
2′ 9″	412F	422F	432F	442F	452F	462F
4′ 1″	413F	423F	433F	443F	453F	463F
5′ 5″	414F	424F	434F	444F	454F	464F
6′ 9″	415F	425F	435F	445F	455F	465F
8′ 1″	416F	426F	436F	446F	456F	466F
9′ 5″	417F	427F	437F	447F	457F	467F

GLASS SIZES

A — 21½ x 13⅜	F — 9⅝ x 15⅝	N — 23⅝ x 15⅝
B — 29½ x 13⅜	G — 21¼ x 14½	O — 31⅝ x 15⅝
C — 37½ x 13⅜	H — 29¼ x 14½	P — 39⅝ x 15⅝
D — 41½ x 13⅜	J — 37¼ x 14½	R — 43⅝ x 15⅝
E — 45½ x 13⅜	K — 41¼ x 14½	S — 47⅝ x 15⅝
	L — 45¼ x 14½	

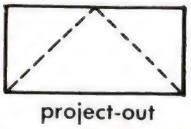
For vertical muntin series deduct ⅜″ from width of the glass sizes shown above and divide by two (2).



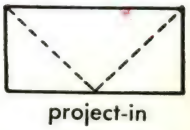
Standard Screen vertical wicket



Special Screen horizontal wicket



project-out



project-in

- Vents shown as projecting-out may be made to project-in if all other vents in window project-in.
- Vertical muntins may be added based on 20″ or 24″ bar centers on special orders.
- All units are prepared for screens. Wicket screens for project-out and fixed for project-in.
- Designate hardware desired when beyond hand reach or standard hardware will be furnished.





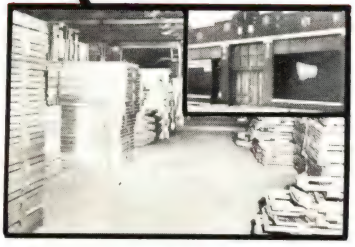
ATLANTA
629 East College Ave.
Decatur, Ga.



HOUSTON
6309 Long Drive
Houston, Texas



NEWARK
128 Emmett St.
Newark, New Jersey



CHICAGO
5815 W. North Ave.
Chicago, Illinois

SERVICE

Stock Availability — Branch Warehouses with large stocks of standard sizes are strategically located to insure the finest possible service for our customers.

QUALITY AND PERFORMANCE

The meaning of these words is partially responsible for the increasing acceptance of Ware windows by Architects and Contractors throughout the United States and Foreign Countries.

Your Local Representative

Aluminum WARE *Windows*



Jalousie | Econ-O-Wall | Econ-O-Ware Awning | Intermediate Awning | Projected | Casements

Ware Laboratories, Inc., 3700 N.W. 25th St., Miami, Florida

AIA File 1C

Windalume

aluminum double-hung windows

SERIES **DH-A1**



QUALITY APPROVED
DH-A1
A.W.M.A. Quality Specifications — Materials, Construction, Strength of sections and Air infiltration requirements — confirmed by PITTSBURGH TESTING LABORATORY.
MEMBER — ALUMINUM WINDOW MANUFACTURERS ASSOCIATION

ALUMINUM

BASEMENT WINDOWS

CATALOG 55B



WINDALUME CORPORATION

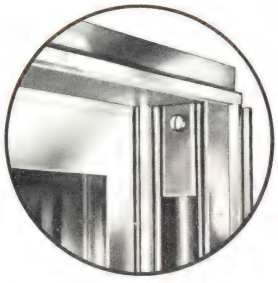
KENVIL, NEW JERSEY

AIA File 16L

Windalume aluminum double-hung and picture windows

residential series 100 — DH-A1

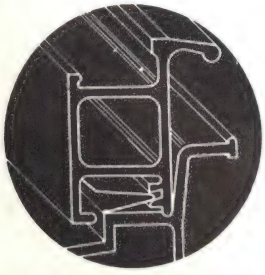




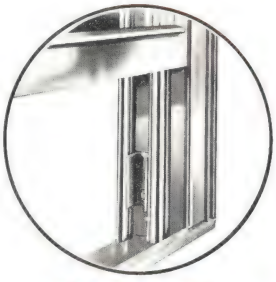
detail at head



stainless steel lock and aluminum pull



strong tubular sash "double sealed"



detail at sill bottom sash raised

WINDALUME ALUMINUM WINDOWS combine the ultimate in engineering design with the finest corrosion-resistant materials to produce a life-time product of permanent beauty and use.

Adaptable to any design style or type of construction. Windalume windows are quickly and easily installed, and require no care or maintenance.

Double weatherstripping of stainless steel and extra heavy tubular construction assure maximum utility and enduring value.

advantages

extruded sections
Extra heavy extruded architectural aluminum alloy construction heat treated for strength and precision.

tubular sash section
Tubular construction maintains rigid, airtight closure and easy operation.

wide choice of muntin divisions
Wide range of division styles (see Page 3) in stock. Special designs also available.

low air infiltration
Heat loss and air leakage minimized by double contact members and weatherstripping.

double weatherstripped
Double stainless steel weatherstrip on the jamb. Thirty feet more than on ordinary windows.

double contact members
Two points of contact (see cut at left), assure weathertightness on sash perimeter. See detail — Page 5

protective lacquer finish
All surfaces coated with clear lacquer to protect them during erection from the action of mortar and plaster, and to enhance their appearance.

spiral balances
Nationally known, durable spiral balances (two to each sash) assure easy, well-balanced operation of sash at all times. They conserve space and are easy to adjust.

stainless steel sash lock
Safe and durable stainless steel locks secure WINDALUME windows.

continuous sash lift
Easy-to-grip lift bar is part of lower sash. Aluminum pull is attached to bottom of upper sash.

QUALITY APPROVED

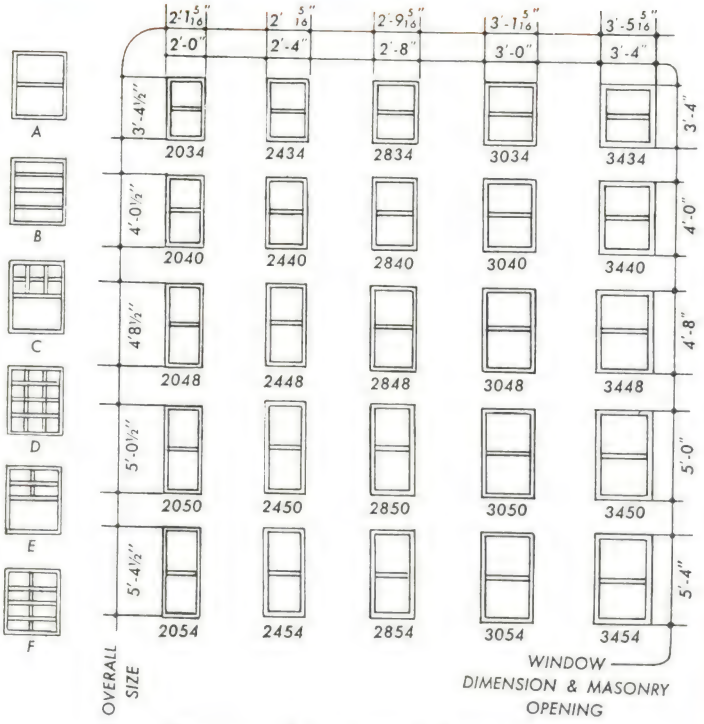
AWMA Quality Specifications — Materials, Construction, Strength of sections and Air infiltration requirements — confirmed by PITTSBURGH TESTING LABORATORY

MEMBER — ALUMINUM WINDOW MANUFACTURERS ASSOCIATION

APPROVED by New York Board of Standards and Appeals

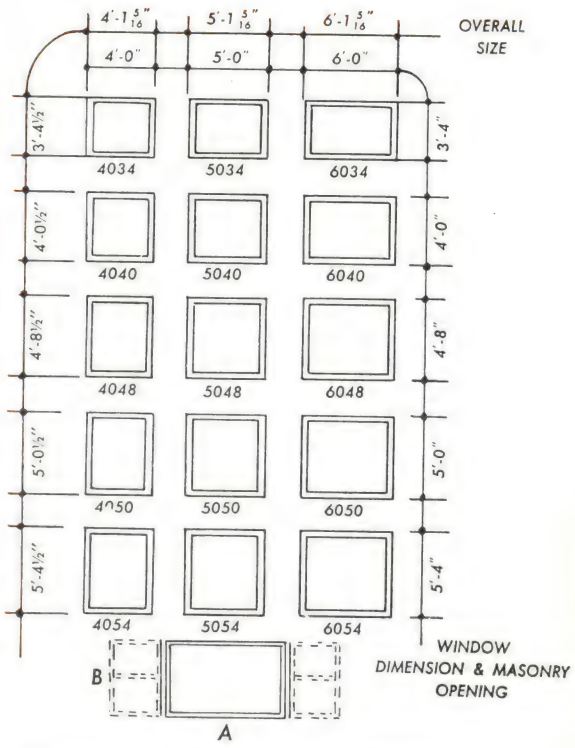
DH-A1 – series 100

types standard double-hung*



*Available—1'-8" widths, 2'-4" & 3'-0" heights as semi-standards. Special sizes also available.

standard picture**



**Available as semi-standards—3'-0" widths.

specifications — series 100 — DH-A1

The double-hung windows shall be those manufactured by Windalume Corporation of Kenvil, New Jersey. They are to be furnished completely fitted and assembled with weatherstripping and hardware, and ready for installation as hereinafter specified.

MATERIALS: Window frames and sash shall be manufactured of extruded 63S-T5 aluminum alloy of not less than 22,000 lbs. per square inch tensile strength to the manufacturer's standard shapes. Thickness of material in all members shall be .064" minimum (#14 B & S Ga.) except that the sill which shall be not less than .080" (#12 B & S Ga.). The design of the members shall conform to the strength requirements of the Aluminum Window Manufacturers Association.

CONSTRUCTION: Joints of frame and sash members are to be neatly fitted to a hairline and secured in a manner which will develop the full strength of the members connected and be absolutely weathertight. Muntin bars when required, shall be firmly secured at cross joints and to abutting sash members. Sash are to be designed for outside putty glazing. Glazing clips are to be furnished by the window manufacturer. Mullions are to be furnished as required.

HARDWARE: The window is to be equipped with 4 sash balances; bumpers as required for upper and lower sash; continuous lift on lower sash; aluminum pull down handle on meeting rail; a stainless steel lock and anchors as required by construction. Lower sash shall be equipped with two nylon guides to center the sash and provide self adjusting floating action at all times.

WEATHERSTRIPPING: The window is to be equipped with stainless steel resilient weatherstripping on the jambs. It shall contact both the inside and outside of the sash and run the entire length of the jamb. Stainless steel weatherstripping is also to be provided at all horizontal members.

AIR INFILTRATION: The infiltration of air through the window shall not exceed ¾ cubic foot per minute per linear foot of sash perimeter during a wind of 25 miles per hour velocity.

FINISH: The windows are to be finished in the natural aluminum color. A protective transparent coating shall be applied before shipment from the factory.

FULL LENGTH SCREENS: Screen frames are to be of tubular sections with the corners securely joined and reinforced, with horizontal rail in the frame at the meeting rails of the sash. Screen of 14 x 18 gauge aluminum alloy wire cloth, secured to the frame with an aluminum alloy spline. Each screen to have two top hangers to hang on hooks secured to the head of the window frame. Fingertip control turn latches are to be provided at each side of the screen at the bottom to engage the jambs of the window frame and secure the screen in a closed position. The screens are to be finished in the natural aluminum color.

HALF LENGTH SCREENS: Screen frames to be of tubular sections with the corners securely joined and reinforced. The frame is to be fitted with 14 x 18 gauge aluminum alloy wire cloth, secured to the frame with alloy spline. When used independently screen to have two fixed clips on one side and two movable clips on the other side to permit the screen to slide freely up and down. When used with storm sash hanging hardware shall be provided. The screens to be finished in the natural aluminum color.

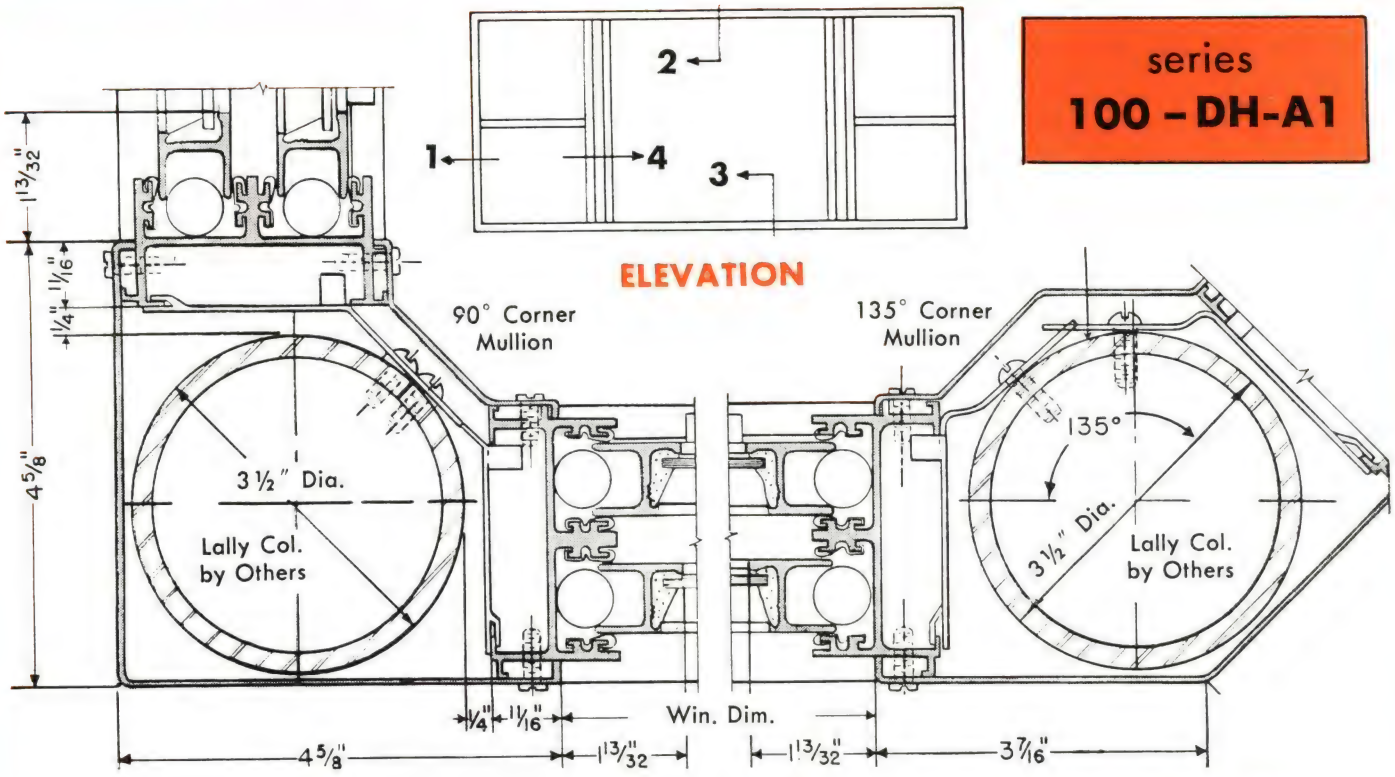
TWO PIECE STORM SASH: Storm sash shall be in two sections with tubular aluminum alloy frames with glass set in vinyl plastic channel. Non-metallic insulating material shall be applied to face of storm sash to prevent metal to metal contact with window frame. Ventilating stays shall be provided and finger tip control turn latches at each side of the bottom to engage the jambs of the window frame and secure sash in closed position.

COMBINATION WINDOWS: Self-storing two-piece storm sash and half screen shall be provided for use on primary aluminum double hung windows. Inserts shall operate in extruded aluminum frame members securely attached to primary window. A spring push button shall be provided to permit various degrees of ventilation with lower sash.

GLAZING: Windows are designed and balanced for double strength window glass. They will not accommodate ¼" plate or double glazing of the "Twindow" or "Thermopane" type. The glazing troughs should be cleaned of all dirt and grease before glazing and then back puttied. The glass should next be set in place and held by glazing clips supplied with windows. Finally, the face putty should be applied in the customary fashion. Only a glazing compound specifically designed for aluminum windows should be used.

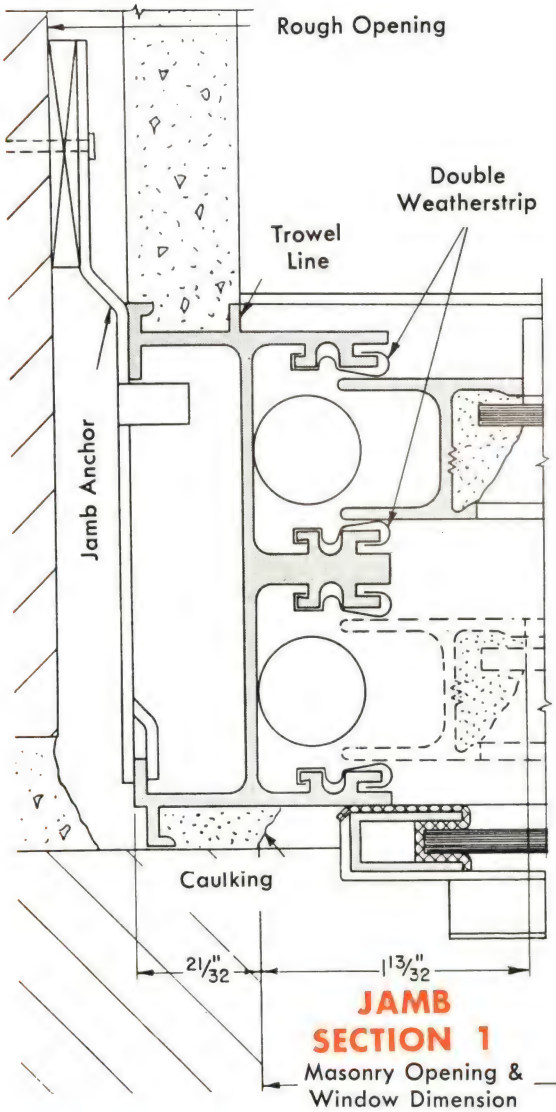


series
100 – DH-A1



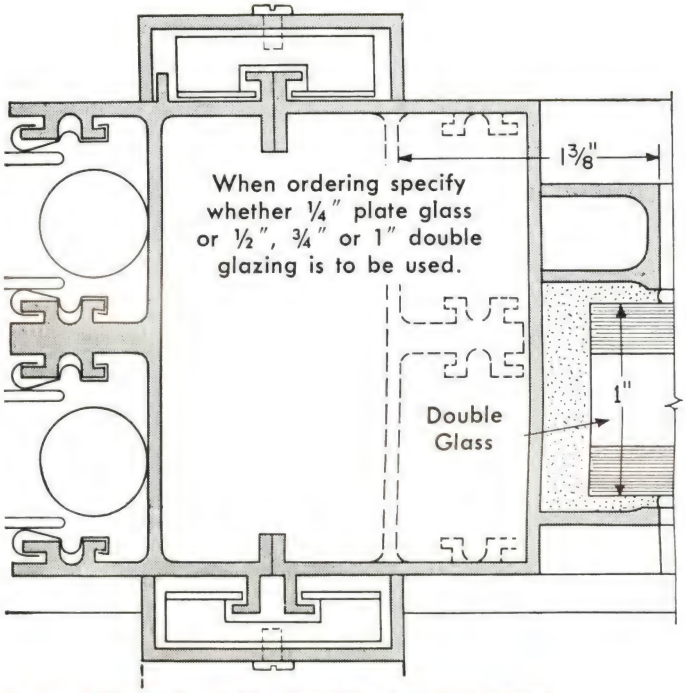
ELEVATION

1/2 FULL SIZE ANGLE MULLIONS



JAMB SECTION 1

Masonry Opening & Window Dimension



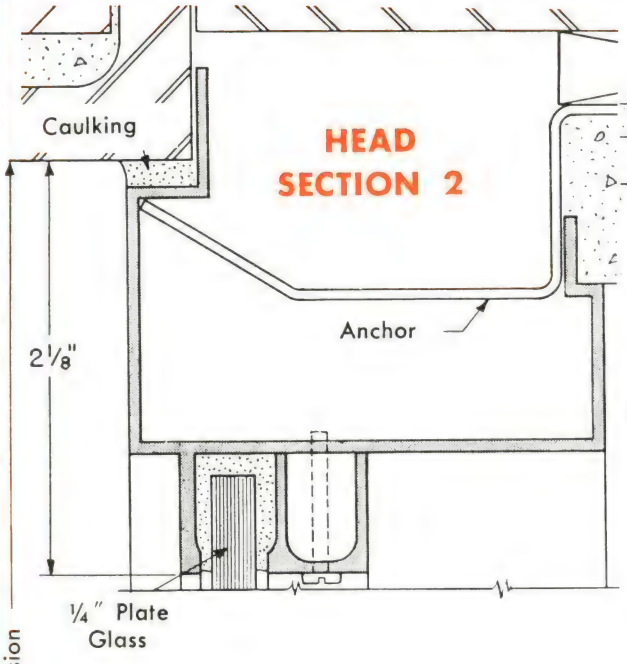
F. S. STANDARD 180° MULLION

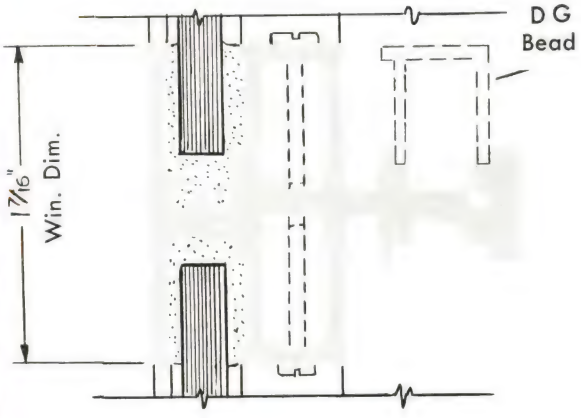
SECTION 4

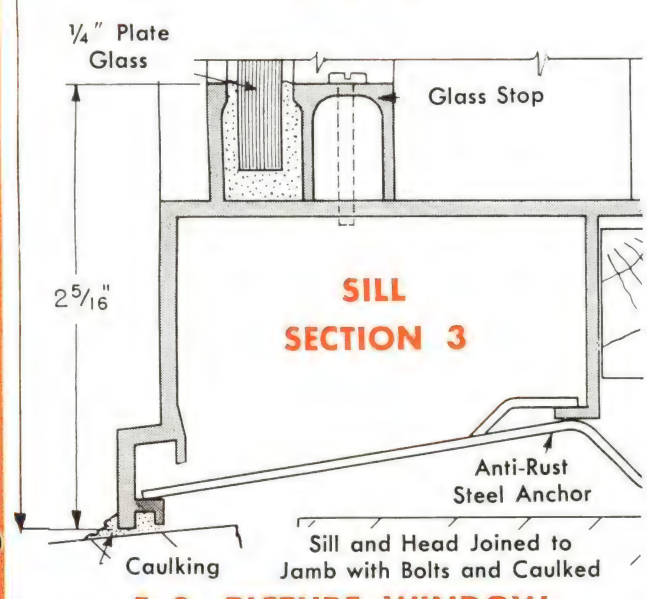
1 5/16"

Masonry Opening & Window Dimension

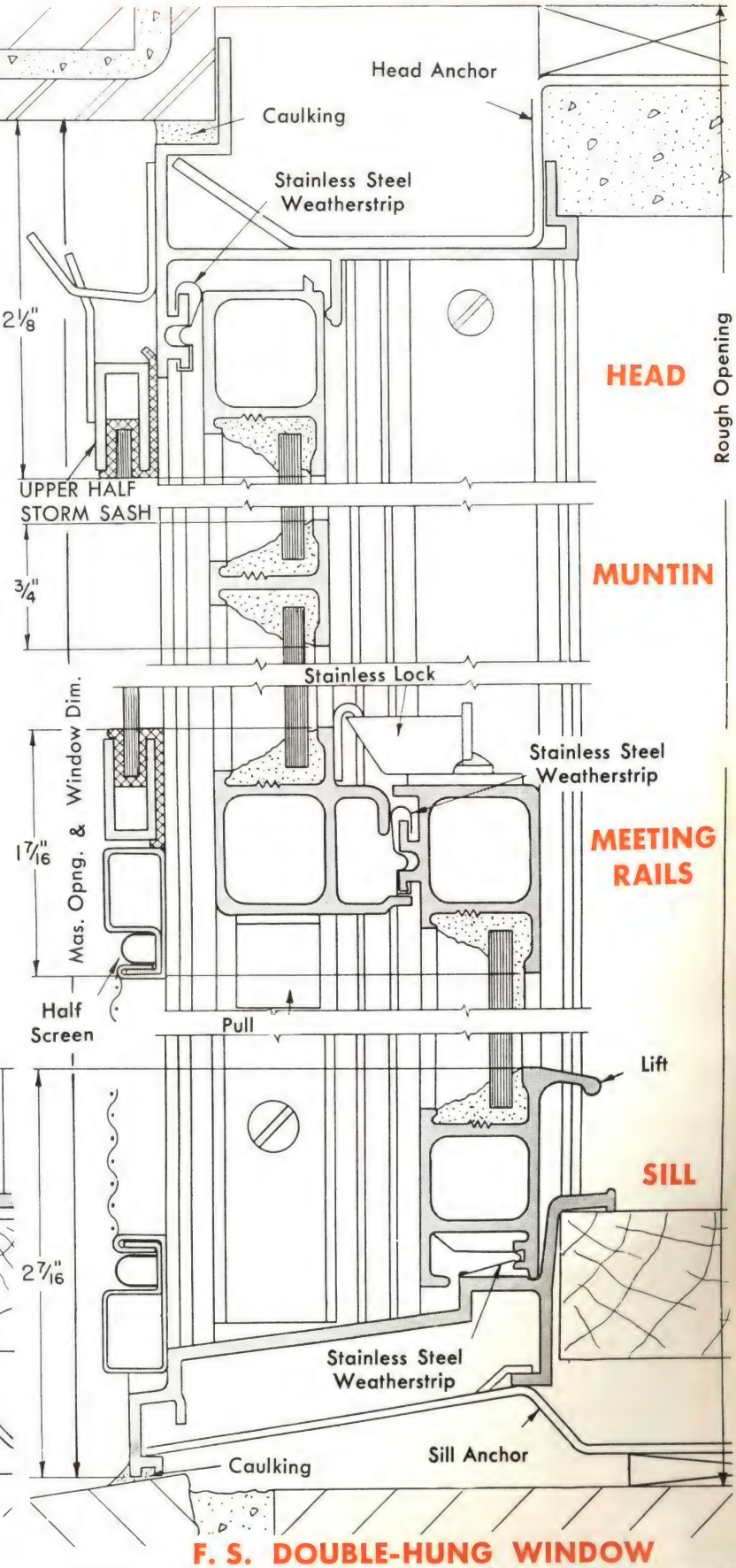
series
100 – DH-A1





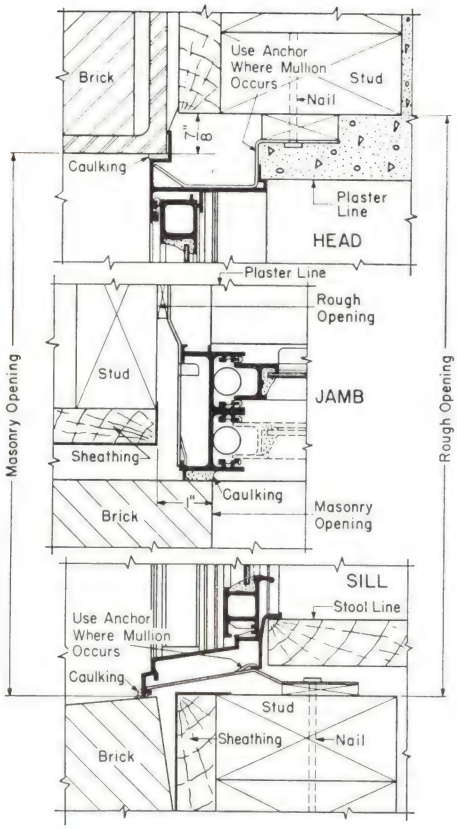


F. S. PICTURE WINDOW

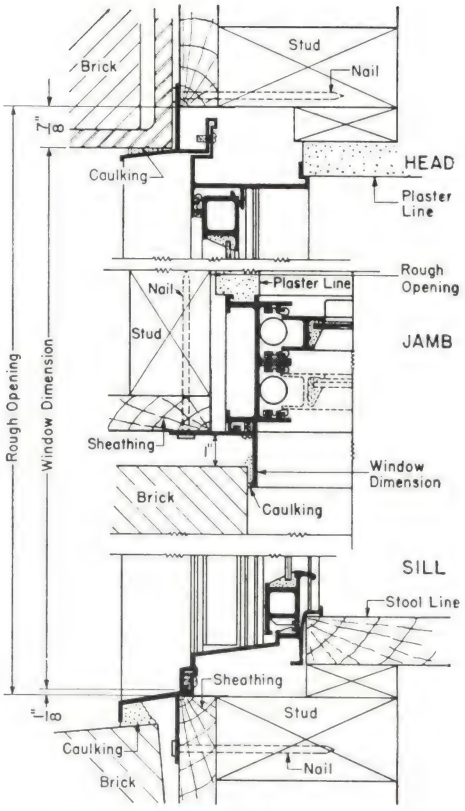


F. S. DOUBLE-HUNG WINDOW

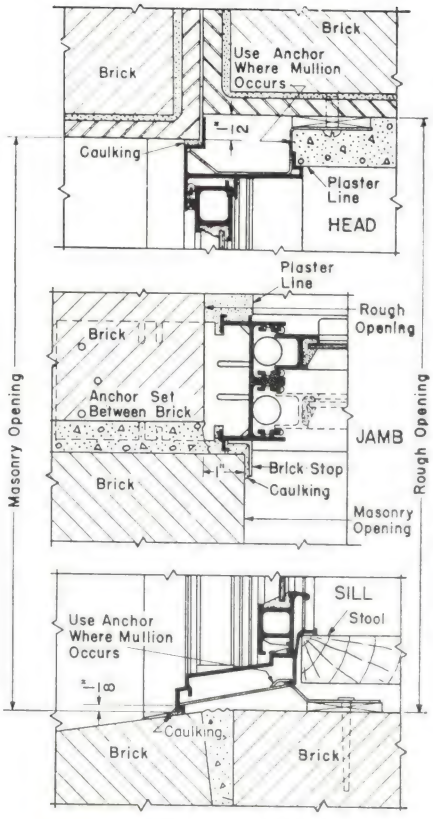
typical installation details



BRICK VENEER
in prepared opening



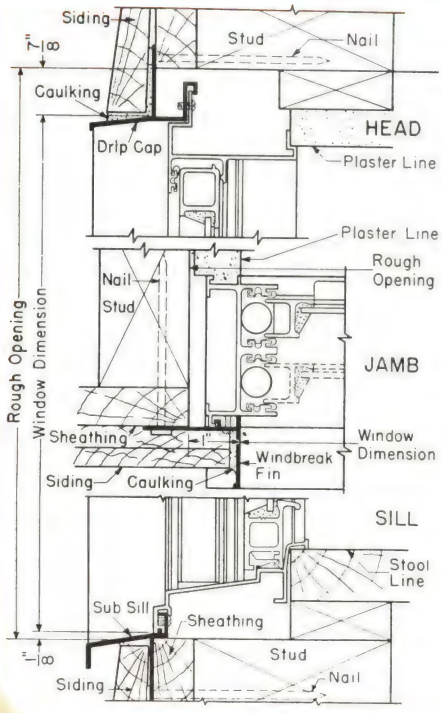
BRICK VENEER
with aluminum exterior trim

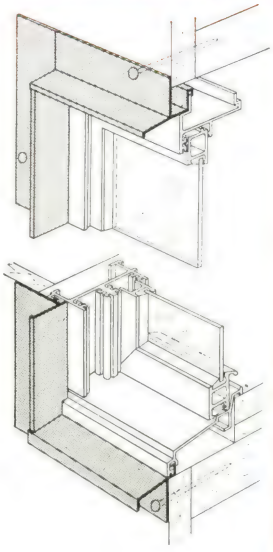


BRICK
built-in

aluminum exterior trim—frame construction

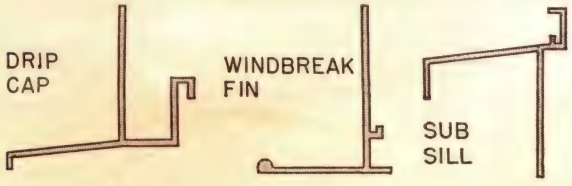
scale: 3"-1'0"



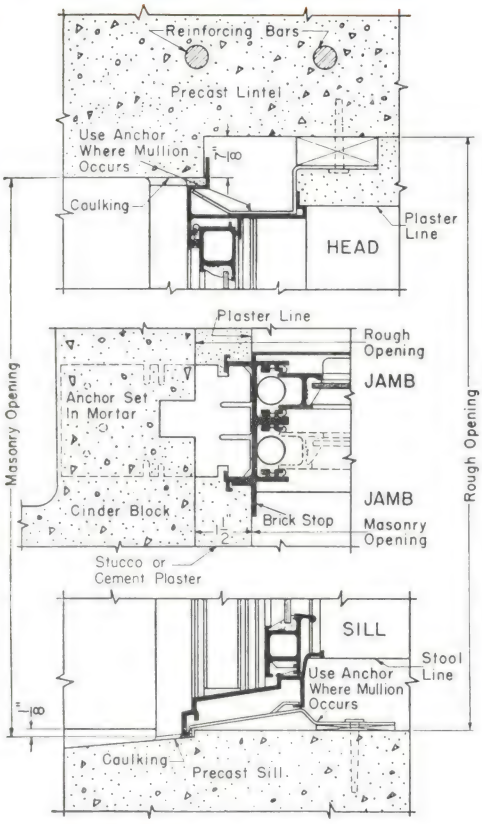


In order to simplify installation and cut costs, Windalume Aluminum Exterior Trim has been developed for use with standard Windalume Double-Hung windows. With the trim attached, it is possible to nail the window in place from outside in a few seconds. There is no need for special sills, wood trim or casing, or for any painting around the outside of the windows. Windalume Exterior Trim contains built-in flashing to insure weathertightness. It is ideal for frame or brick veneer construction.

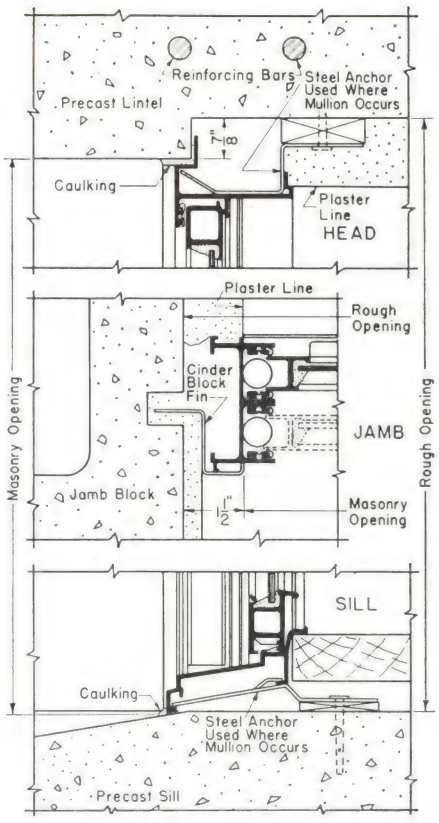
DETAIL OF ALUMINUM EXTERIOR TRIM



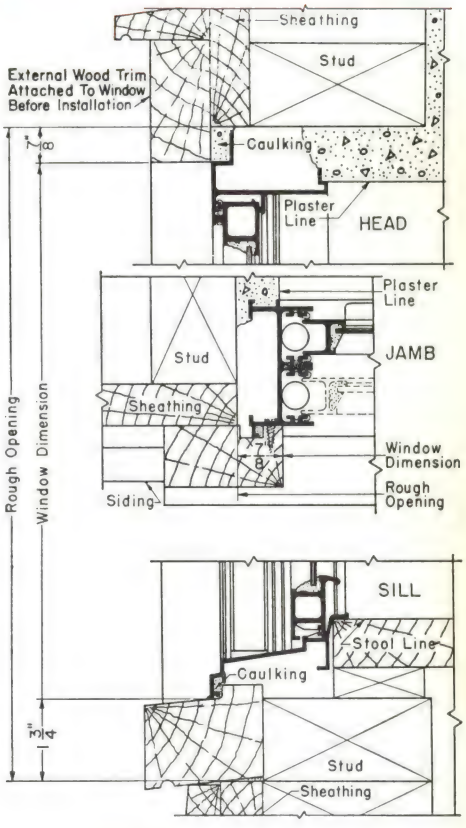
DH-A1 – series 100



CINDER BLOCK
with brick stop

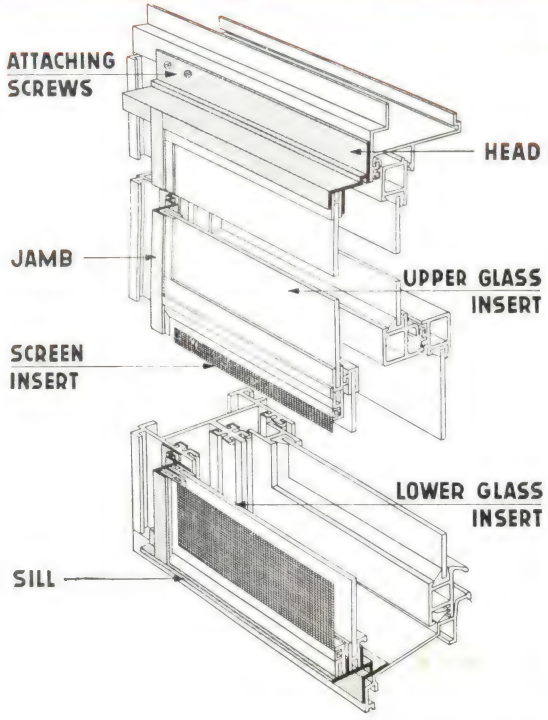


CINDER BLOCK
built-in



FRAME
exterior wood trim attached

aluminum combination windows



The Windalume self-storing screen—storm sash combination has been developed for use with Windalume double hung windows.

Because it was specifically designed to fit the standard size double hung windows without the necessity of cutting or fitting, this unit can be readily installed by anyone without difficulty. The frame consists of four extruded members which are held in place with screws to the prime window. A special inter-locking corner insures a faultless installation, while a wide contact face area provides for the maximum weather tightness.

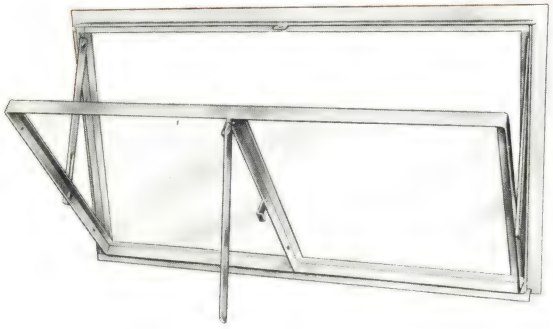
The standard arrangement of inserts is shown in the drawing. The screen stays in place beneath the upper glass panel, while the lower glass insert is free to be moved to any one of four lock points ranging from fully closed to fully open. A spring push button holds the lower insert rigidly in the desired position.

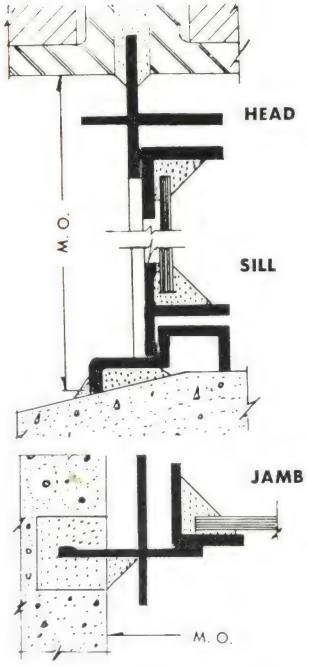
The glass inserts are framed in extruded aluminum. The glass itself is set in the aluminum frame by a shock-absorbing extruded vinyl plastic channel. Glass panels can be taken apart readily for reglazing in case of breakage.

Screen inserts have an extruded frame, 14 x 18 aluminum mesh, and a re-usable spline. For those that desire them, extra top screens are also available.

Windalume combination windows are made in all of the same standard sizes as the Windalume aluminum double hung windows.

aluminum basement windows





HALF SIZE DETAIL

Windalume HEAVY GAUGE extruded aluminum basement windows are unharmed by foundation dampness and require no painting or maintenance. They are built to stand up during construction and for years afterward.

features:

- Heavy extruded aluminum sections. Sash .125" thick.
- Frame members, 1-9/16" deep.
- Long handle cam lock, easy to reach, holds sash tightly closed.
- Wide integral fins at jambs for easy setting in masonry, nothing to attach.
- Stepped sill provides extra stiffness, assures weather tightness.
- Vent, bottom hinged, opens in. Easily removed for inside mastic glazing or access.
- Built-in recess assures easy installation of flush mounted screens.

Available in 3 standard sizes:

Glass Size	Masonry Opening	Overall Size
2 lt. 15" x 12"	32¼" x 14"	33½" x 14 11/16"
2 lt. 15" x 16"	32¼" x 18"	33½" x 18 11/16"
2 lt. 15" x 20"	32¼" x 22"	33½" x 22 11/16"

a few Windalume installations

name	address	architect
Kingston Savings Bank	Kingston, N. Y.	George W. Clark, New York, N. Y.
Public School No. 154	Queens, N. Y.	Michael L. Radoslovich, New York, N. Y.
Public School No. 205	Queens, N. Y.	Starrett & VanVleck, New York, N. Y.
St. Philomena's Convent	Livingston, N. J.	Neil J. Convery, Newark, N. J.
Dixmont Hospital	Dixmont, Pa.	M. M. Fertig, Pittsburgh, Pa.
The Variety Club's Boy's Ranch	Bedford, Texas	Jack Corgan, Dallas, Texas
St. Cecilia's Convent	Algona, Iowa	Smith & Voorhees, Des Moines, Iowa
Cozad Community Hospital	Cozad, Nebraska	Frank N. McNett & Co., Grand Island, Neb.
Lencshire House	Washington, D. C.	George T. Santmyers, Washington, D. C.
Claremont Community, Incorporated	Arlington, Va.	Allen F. Kamstra, Arlington, Va.
Mount Alvernia Seminary	Wappingers Falls, N. Y.	Vincent S. Todaro, Brooklyn, N. Y.
Rye Colony	Rye, N. Y.	William P. Katz, Yonkers, N. Y.
New Castle Motor Court	New Castle, Del.	Wolf & Glucksman, Newark, N. J.
New England Village Apts.	Summit, N. J.	Isadore Naftali, Newark, N. J.
Grandview Apartments	Pitman, N. J.	Edwards & Green, Camden, N. J.
Rockledge Manor Garden Apts.	Yonkers, N. Y.	J. T. Sibley, Yonkers, N. Y.
Riverside Memorial Chapel	Brooklyn, N. Y.	Ralph Leff, New York, N. Y.
Hilton Village Methodist Church	Norfolk, Va.	Rudolph, Cooke & Van Leeuwen, Norfolk, Va.
Seashore State Park Development	Cape Henry, Va.	Mattern & Mattern, Roanoke, Va.
Duncan Electric Mfg. Co.	Lafayette, Indiana	The Austin Co., Chicago, Ill.
Powers Regulator Co.	Skokie, Indiana	Sessions Engineering Co., Chicago, Ill.
Rita Gardens	Elizabeth, N. J.	Edwin Gerber, Newark, N. J.
Children's Center, Boulevard Houses	Brooklyn, N. Y.	Kelly & Gruzen, New York, N. Y.
Halifax Apartments	Daytona Beach, Fla.	LeRoy Sheftall, Jacksonville, Fla.
Linn Cord Developments	Affton, Missouri	Arthur B. Rathert, St. Louis, Mo.
Norfolk Housing Project VA 6-5	Norfolk, Va.	Vernon A. Moore, Norfolk, Va.
Immaculate Conception Seminary	Darlington, N. J.	Kruger & Fava, Newark, N. J.
Psychiatric Institute	Baltimore, Maryland	James R. Edmunds, Jr., Baltimore, Md.
St. Hedwigs Convent	Elizabeth, N. J.	George Vuinovich, Alpine, N. J.
Montclair Public Library	Montclair, N. J.	Voorhees, Walker, Foley & Smith, New York
Central Avenue School	Plainfield, N. J.	Frederick Elsasser, Union, N. J.
General Precision Laboratory	Pleasantville, N. Y.	Gibbons & Heidtman, New York N. Y.
Northside Junior High School	Norfolk, Va.	Rudolph, Cooke & Van Leeuwen, Norfolk, Va.
New Jersey State Teachers College, Library & Gym	N. Haledon, N. J.	Lawrence C. Licht, Englewood, N. J.
New York University's Dorm.	New York City	Eggers & Higgins, New York, N. Y.
Junior High School No. 198	Queens, New York	Francis Keally & Howard S. Patterson, New York, N. Y.

Windalume CORPORATION

FACTORY — GENERAL OFFICES
ROUTE NO. 46 • KENVIL, N. J.
DOVER 6-4100

SHOWROOM — NEW YORK OFFICE
ROUTE NO. 3 • SECAUCUS, N. J.
LONGACRE 4-6638

5a
Win

WindowMaster

aluminum AWNING WINDOWS





University of Miami
Julian S. Eaton Residence Hall
Coral Gables, Florida
Robert M. Little, Architect
C. F. Wheeler, Builders
Miami, Florida

South Miami Elementary School
Watson & Deutschman, Architects
Bradford Builders Inc.
Miami, Florida



WindowMaster Corp.

3771 N. W. 51st Street • Miami 42, Florida

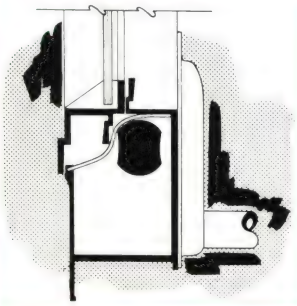
The window that always works!

WindowMaster *aluminum* awning windows

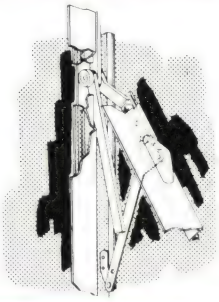
features

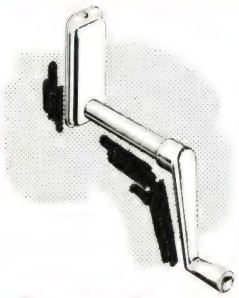
1. Operator unconditionally guaranteed.
2. Concealed weatherstripping, contact vent and screen.
3. Equal size vents for easy glazing.
4. Direct power torque bar operation.
5. Operator concealed within frame.
6. Window opens or closes with ONLY 8 turns.
7. Fully recessed screens.
8. Integral drip cap.
9. Vent contact to frame by friction-free roller bearings.

Powerful Torque Bar

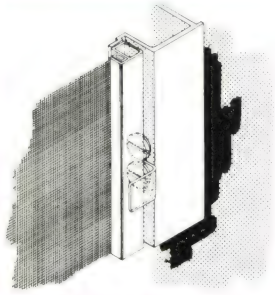


Friction-free Hardware





Concealed Operator



Pressure Screen Clip

specifications

SPECIFY: Aluminum Awning Type Windows as manufactured by WINDOW-MASTER CORPORATION, of Miami, Florida, according to the following:

CONSTRUCTION: Aluminum awning type window shall operate simultaneously all vents with one operator, no auxiliary latches permitted.
Window shall have integral drip cap in frame head.
The inside face of window shall be free of screws or projections.
Double sealing between vent and storm sash shall be maintained by weatherstrips.
Vinyl weatherstrip sealing between screen and frame insuring maximum protection against insects shall be maintained.
Screen shall be mounted so that it is recessed within the back surface of the window frame.

MATERIALS: Window shall be constructed of aluminum and/or stainless steel, no other metals permitted. The alloy shall be of 63 ST 6 of not less than 3/32 guage, having an ultimate tensile strength of 35 M P.S.I. and a minimum Brinell hardness of 73.
Torque bar and torque bar arms shall be of solid 61 ST 6 aluminum alloy and shall be fitted together by means of press fit. No anchor pins or welding shall be used.

OPERATOR: Operator shall be housed within window frame.
The design of the operator shall be such as to provide a maximum of eight turns from closed to full open position.
Operator spacertube and cover plates shall be of the same material as the window.
Operator sector gear shall be of 24 ST 4 aluminum alloy having a tensile strength of 68 M P.S.I. comparable to mild steel but highly resistant to corrosion.
Operator worm gear and shaft shall be of type 303 stainless steel.

HARDWARE: Roller contact shall be maintained between vent and frame to reduce friction and galling of aluminum. There shall be no other contact. Hinge pivot points shall project beyond front surface of vents to increase locking power of window.

MULLIONS: Mullions shall be of aluminum, shall be weather tight and have rigidity.

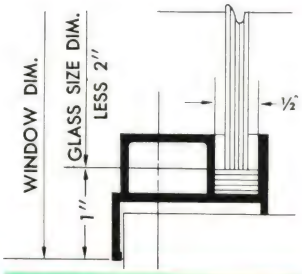
ERECTION: Window shall be set plumb in opening. Installation screws shall not be tightened excessively.

GLAZING: Glazing shall be done from exterior with aluminum putty, holes provided in sash, to receive glazing clips.

CAULKING: Window erector shall properly caulk all adjacent surfaces of window and opening to insure maximum weather tightness.

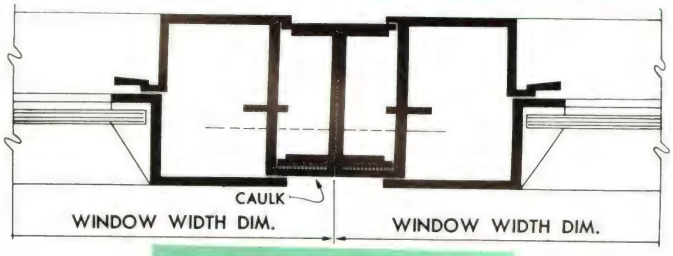
accessories

Picture Window available for Thermopane at no extra cost. Mullions, other than those shown, as well as special trim, also available. Cost given upon request.

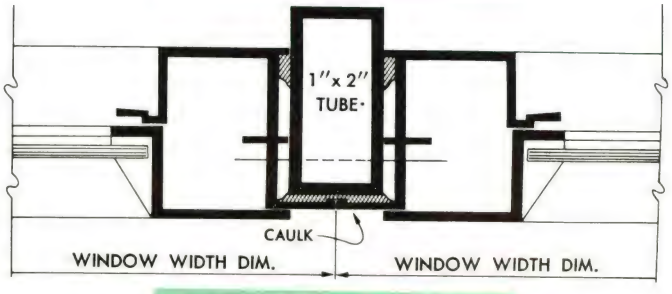


PICTURE WINDOW
FOR ¼" PLATE GLASS

• ½ SCALE



STANDARD MULLION

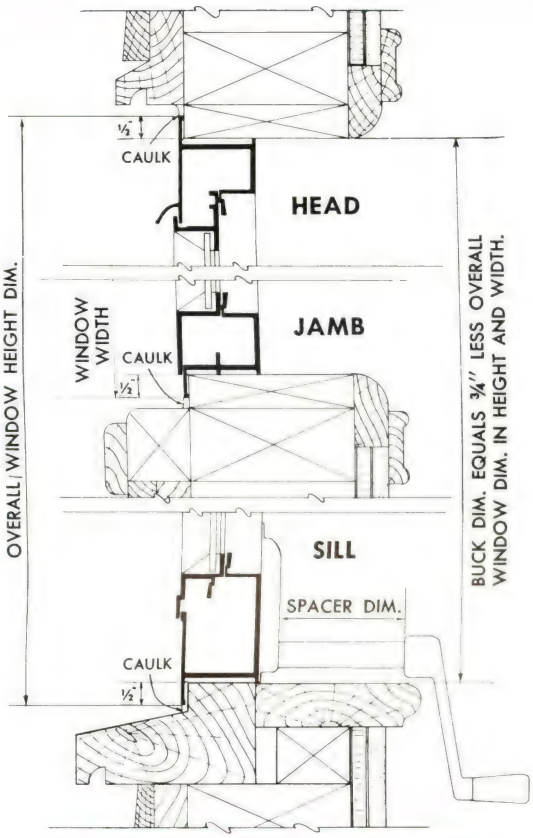


STD. HEAVY MULLION

INQUIRE... New *Torque-Lock* push-out

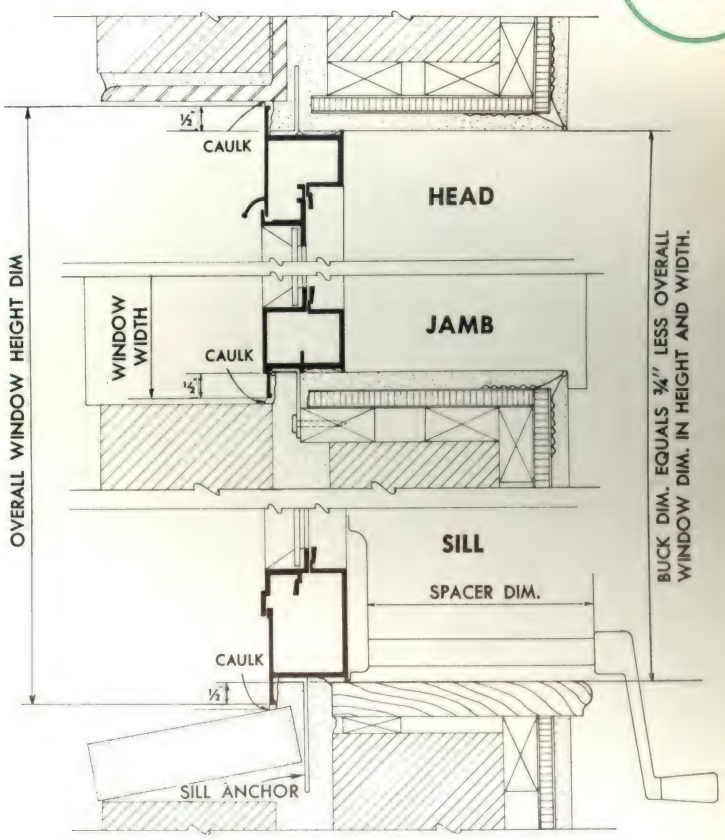
INSTALLATION DETAILS

5a
Win

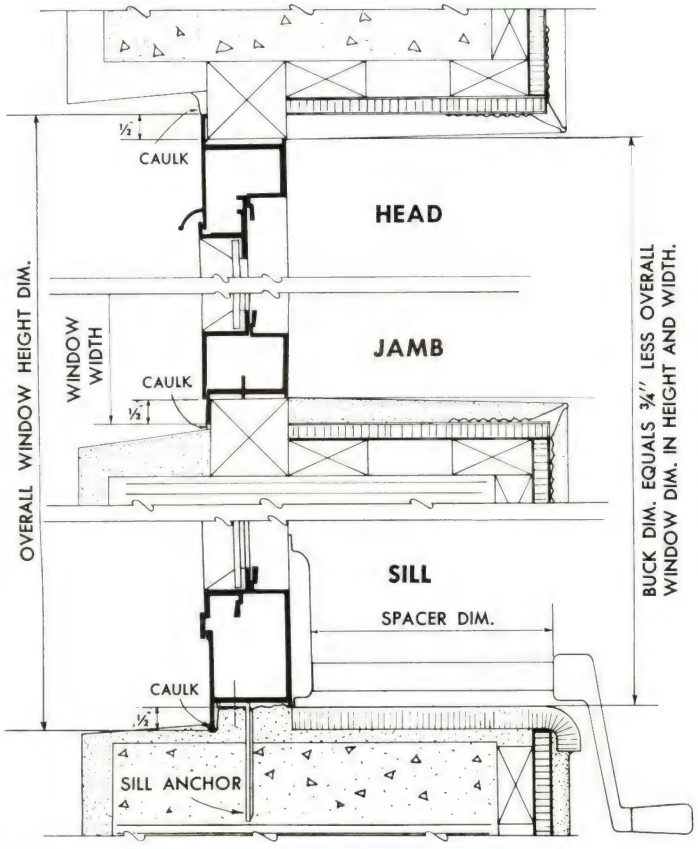


FRAME CONSTRUCTION

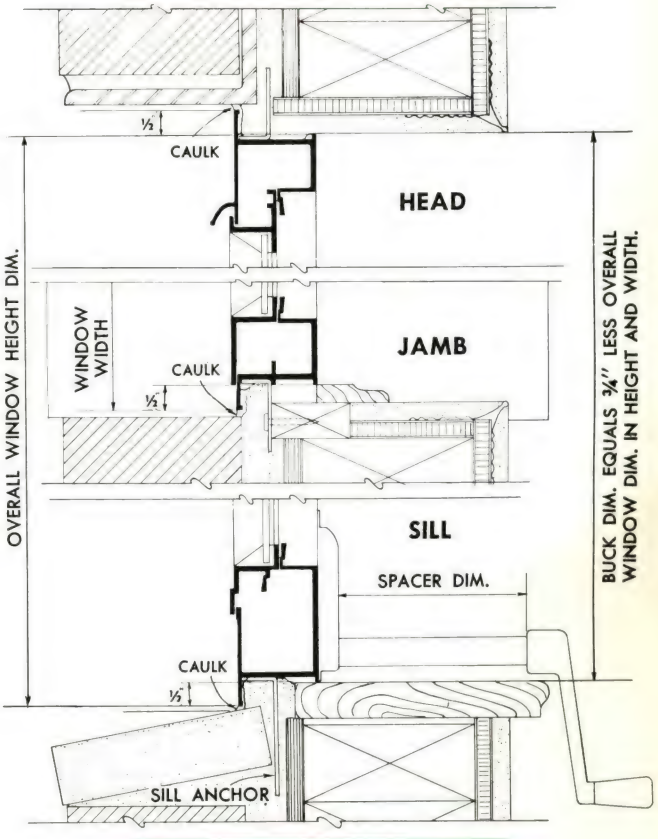
• ¼ SCALE



SOLID BRICK



CONCRETE BLOCK

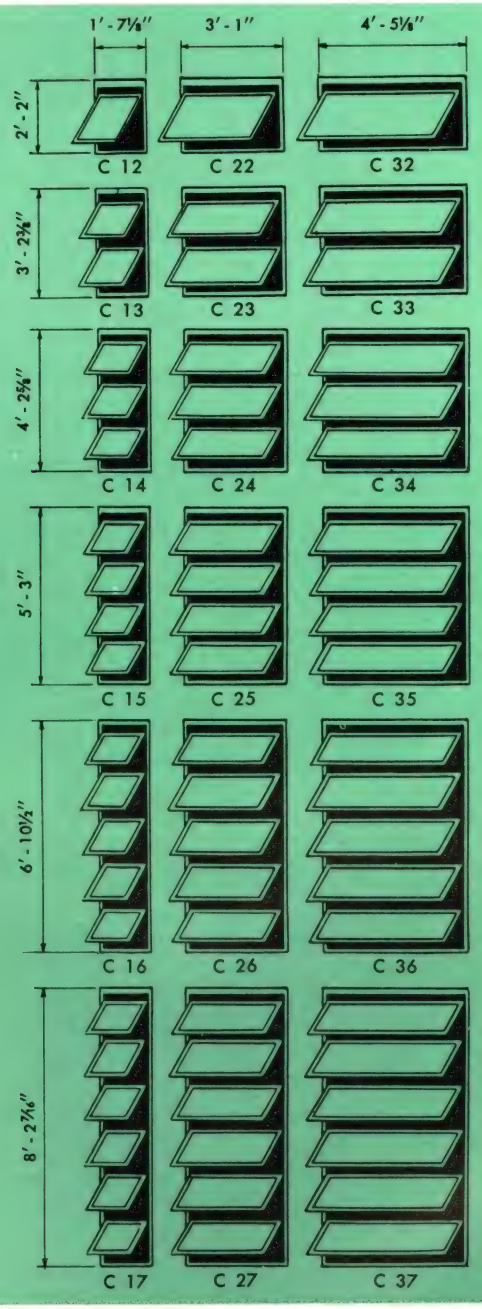


BRICK VENEER

window now available ... INQUIRE

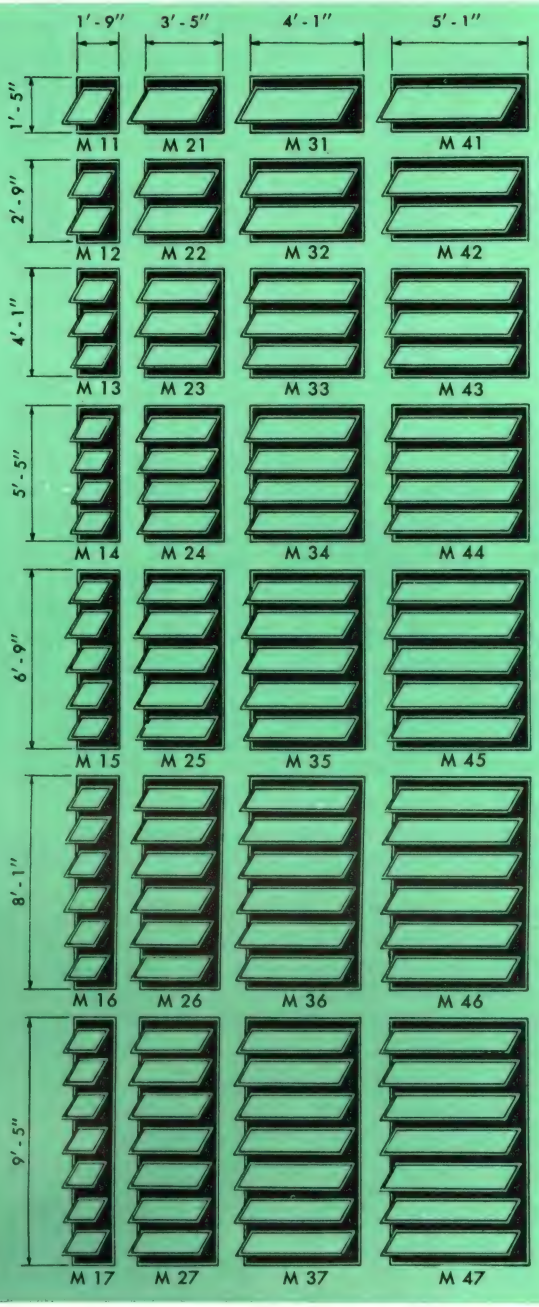
sizes

commodity windows—series 101



code	window size	glass size
C 12	1'7 1/8" x 2'2"	15 1/16" x 20 3/8"
C 13	1'7 1/8" x 3'2 3/8"	15 1/16" x15 13/16"
C 14	1'7 1/8" x 4'2 5/8"	15 1/16" x 14 1/4"
C 15	1'7 1/8" x 5'3"	15 1/16" x 13 1/2"
C 16	1'7 1/8" x 6'10 1/2"	15 1/16" x 14 1/2"
C 17	1'7 1/8" x 8'2 7/16"	15 1/16" x 14 1/2"
C 22	3'1" x 2'2"	32 15/16" x 20 3/8"
C 23	3'1" x 3'2 3/8"	32 15/16" x 15 13/16"
C 24	3'1" x 4'2 5/8"	32 15/16" x 14 1/4"
C 25	3'1" x 5'3"	32 15/16" x 13 1/2"
C 26	3'1" x 6'10 1/2"	32 15/16" x 14 1/2"
C 27	3'1" x 8'2 7/16"	32 15/16" x 14 1/2"
C 32	4'5 1/8" x 2'2"	49 1/16" x 20 3/8"
C 33	4'5 1/8" x 3'2 3/8"	49 1/16" x 15 13/16"
C 34	4'5 1/8" x 4'2 5/8"	49 1/16" x 14 1/4"
C 35	4'5 1/8" x 5'3"	49 1/16" x 13 1/2"
C 36	4'5 1/8" x 6'10 1/2"	49 1/16" x 14 1/2"
C 37	4'5 1/8" x 8'2 7/16"	49 1/16" x 14 1/2"

modular windows—series 101



code	window size	glass size
M 11	1'9" x 1'5"	16 15/16" x 11 3/8"
M 12	1'9" x 2'9"	16 15/16" x 13 1/8"
M 13	1'9" x 4'1"	16 15/16" x 13 23/32"
M 14	1'9" x 5'5"	16 15/16" x 14
M 15	1'9" x 6'9"	16 15/16" x 14 3/16"
M 16	1'9" x 8'1"	16 15/16" x 14 9/32"
M 17	1'9" x 9'5"	16 15/16" x 14 3/8"
M 21	3'5" x 1'5"	36 15/16" x 11 3/8"
M 22	3'5" x 2'9"	36 15/16" x 13 1/8"
M 23	3'5" x 4'1"	36 15/16" x 13 23/32"
M 24	3'5" x 5'5"	36 15/16" x 14"
M 25	3'5" x 6'9"	36 15/16" x 14 3/16"
M 26	3'5" x 8'1"	36 15/16" x 14 9/32"
M 27	3'5" x 9'5"	36 15/16" x 14 3/8"

code	window size	glass size
M 31	4'1" x 1'5"	44 15/16" x 11 3/8"
M 32	4'1" x 2'9"	44 15/16" x 13 1/8"
M 33	4'1" x 4'1"	44 15/16" x 13 23/32"
M 34	4'1" x 5'5"	44 15/16" x 14"
M 35	4'1" x 6'9"	44 15/16" x 14 3/16"
M 36	4'1" x 8'1"	44 15/16" x 14 9/32"
M 37	4'1" x 9'5"	44 15/16" x 14 3/8"
M 41	5'1" x 1'5"	56 15/16" x 11 3/8"
M 42	5'1" x 2'9"	56 15/16" x 13 1/8"
M 43	5'1" x 4'1"	56 15/16" x 13 23/32"
M 44	5'1" x 5'5"	56 15/16" x 14"
M 45	5'1" x 6'9"	56 15/16" x 14 3/16"
M 46	5'1" x 8'1"	56 15/16" x 14 9/32"
M 47	5'1" x 9'5"	56 15/16" x 14 3/8"

WindowMaster Corp.

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5b
Ce

CECO

steel
and
aluminum
windows



CONTENTS

Steel Casements

Basement and Utility Windows

1¼" Intermediate Projected Windows

Architectural Projected Windows

Commercial Projected Windows

Security Windows

Aluminum Projected Windows

Aluminum Residential Double-Hung Windows

Aluminum Casements

CECO STEEL PRODUCTS CORPORATION

1955

Steel Residence Casements

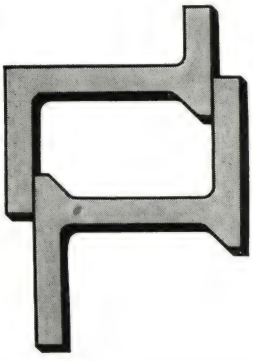


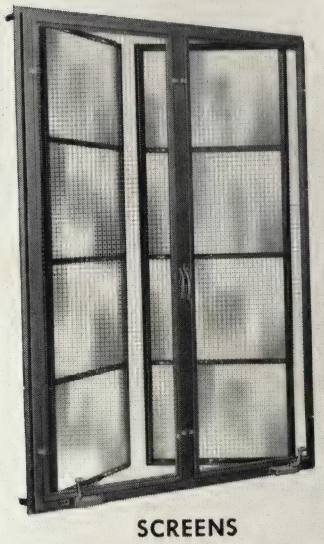
uses

Residence Casements are used by leading designers in all types of homes—large, small, traditional, modern. They are also used in apartments and small commercial buildings. Owner advantages of casements: Side-hinged ventilators control ventilation; full-vented types open to provide 100% ventilation; slender frames provide 10% to 30% more light; easy to open; easy to wash from inside the home; easy to screen and storm proof from inside; hardware included, no extras to buy. Builder advantages: Easy to install. Carried in stock.

full-size section

The Ceco Steel Residence Casement section is a full 1 1/16" deep in both frame and ventilator, providing extra strength where it is needed to assure a continued good weathering condition.





SCREENS
(on casement)



STORM WINDOWS
(on casement)

screens and storm sash

Ceco Screens for casements are made in steel or aluminum frame. They are supplied with bronze, aluminum or brown lacquer special cloth, 18 x 14 mesh. Steel frame sections with baked-on finish are standard. Screens are easily attached to the inside of the windows with inconspicuous clips. Windows can easily be opened and closed with the Roto or Lever type hardware without touching the screen. There is no interference with shades or draperies. Frames are furnished with removable spline for rewiring.

Ceco Storm Windows are manufactured of specially designed extruded aluminum sections, assembled and glazed with double strength glass at the factory. Rubber weathering seal is also furnished. Storm window units are provided for fixed side lights, transoms and operated ventilators to give complete coverage of glass and steel. Ventilators are available as illustrated on the left side of the photograph. If wanted, they must be ordered with the windows.

specifications

GENERAL—All windows shall be Residence Steel Casements as manufactured by Ceco Steel Products Corporation, of sizes and types shown on general plans.

MATERIAL—All sections shall be especially designed, hot rolled, new billet steel. All frame and ventilator members shall be special Z shaped sections and shall be of 1 1/16" depth from front to back and not less than 1/8" in thickness.

Frame shall be 1 1/16" x 7/8" x 7/8" Z shaped section. Ventilator member shall be 1 1/16" x 3/4" x 9/16" Z shaped section. Frame and ventilator sections shall be rolled with a baffle providing a continuous double full contact weathering throughout the entire perimeter of the ventilator without the aid of loose or applied linings. All muntins shall be special rolled T's with 5/8" face and a depth of 7/8".

CONSTRUCTION—Corners of frame and ventilator members shall be mitered and electrically butt welded, with exposed surfaces at welds dressed to smooth finish. Muntins shall be attached to frame or ventilator members by means of mortise and tenon joints and air hammer riveted. Muntins shall be continuous between rails and stiles, with intersections of interlocking design and with flush interior surfaces. Side hinged ventilators to open out shall be hung on extension cleaning hinges. Hinge leaves are to be securely welded to frame and ventilator. Hinges shall have bronze-to-steel contact between movable parts. Hinge pins are to be of bronze. All casements shall be prepared for standard application of screens. All Roto casements are prepared for storm windows.

HARDWARE—All unattached hardware shall be packed and shipped separately to prevent damage and shall be applied after erection. Operator shall be Roto, die cast (or Lever, pressed steel) with bronze lacquer finish. Hardware shall control ventilator independently of screen. Roto (or Lever) operator shall securely hold ventilator in open position. Operator arm shall be cadmium plated steel. Locking handle keeper and channel guide for operator shall be attached in shop. For side-hinged ventilators, die-cast bronze lacquer finish cam action locking handles shall be furnished. All hardware shall be attractively and accurately designed for operation required.

For butterfly locking handles add the following: All locking handles are to be of the butterfly cam action type.

GLAZING—Windows shall be designed for glazing from outside, with spring wire glazing clips and steel window putty. (Glass, putty, glazing clips and glazing by others.)

SCREENS—All screens shall be especially designed for use with Residence Casements as manufactured by Ceco. Screens for Roto or Lever type casements shall be the flat fixed type. All screens shall be easily attached and removed from the inside.

RELATED ITEMS

BONDERIZING AND PAINTING—All windows shall be treated with Bonderite and receive one coat of gray primer paint baked on at 300° F. for not less than one-half hour.

FIELD PAINTING—Immediately upon delivery to job site and before installation, windows shall be painted by painting contractor with one coat of color selected by owner, and second coat applied after glazing is completed and putty is set.

ERECTION—All windows shall be erected by Ceco in openings prepared by others. Mastic, provided by window erector, shall be used in sufficient quantity to provide weather-tight seal wherever steel-to-steel contact occurs. Mastic shall be non-staining and specifically adapted for such use. (Caulking shall be by other trades). All windows shall be set plumb and true, properly aligned and securely anchored before glazing.

ADJUSTMENT—After windows are erected in place and before glazing, all ventilators shall be adjusted by erection contractor to operate smoothly and be weathertight when closed.

hardware

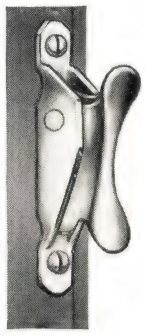
• locking handles

STANDARD TYPE



1-8-13241
for either left or right hand
(use two for double adjacent ventilators)

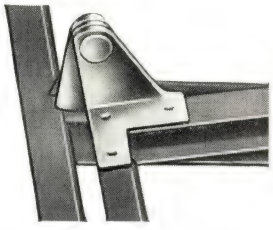
BUTTERFLY TYPE



1-8-12041
for either left or right hand
(use two for double adjacent ventilators)

Standard Locking Handles are die cast and have a bronze lacquer finish. One handle is used for single ventilators and two handles side-by-side for adjacent ventilators. Solid bronze handles with polished finish may be obtained when specified. **Butterfly Locking Handles,** also die cast with bronze lacquer finish, may be substituted for regular locking handles where clearance is limited by blinds or drapes.

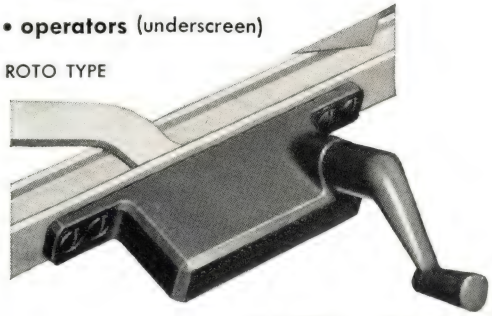
• hinge



Hinges are the extension cleaning type, securely welded to the frame and ventilator.

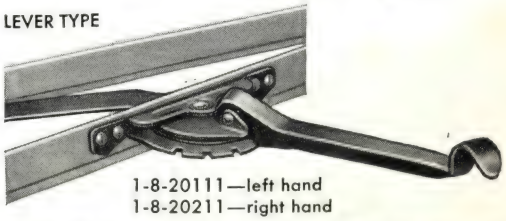
• operators (underscreen)

ROTO TYPE



1-8-20941—left hand
1-8-21041—right hand

LEVER TYPE



1-8-20111—left hand
1-8-20211—right hand

Operators are available in two types—Roto or Lever. The desired type should be specified. The Roto operator is die cast; the Lever type is pressed steel. Both have a bronze lacquer finish. Solid bronze Roto operators with polished finish are available. Operator arm is cadmium plated steel.

Residence Casements • types and sizes

All ventilators swing out and are furnished with either Lever or Roto type underscreen hardware, permitting the opening of the screened window without touching the screen. • Sizes shown are window dimensions. For opening dimensions of single units add ¼". For multiple window opening dimensions add actual unit dimensions plus ¼". • For casements with one ventilator, indicate by suffix L or R whether ventilator is left or right hand. All casements are viewed from outside. Handing is determined by location of hinges. A left-hand casement will have hinges on left when viewed from outside.

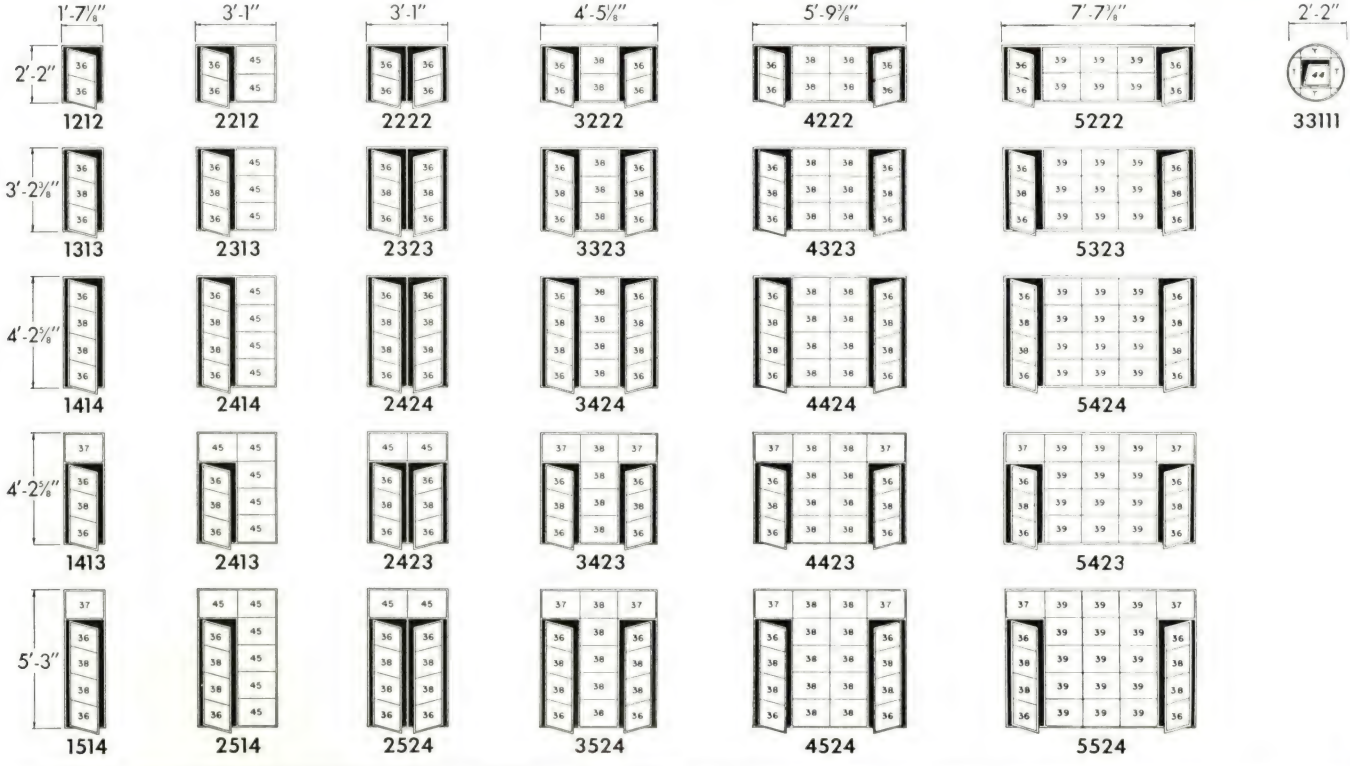
NOTE: All types shown are also available as fixed types.

Units shown, fixed or ventilated, are standard warehouse types. Muntin variations, as shown on facing page, may be obtained when specified, but as factory shipment only.

GLASS SCHEDULE

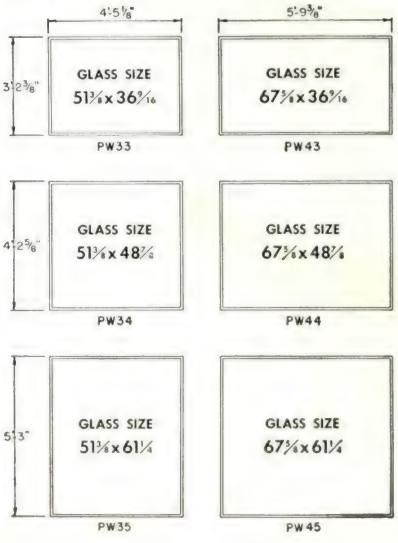
Mark	W	H	Mark	W	H
36	16	11 5/16	44	14 3/4	14 3/4
37	17 1/4	12	45	17 1/2	12
38	16	12	95	16 1/2	10 1/4
39	17 3/4	12	T	TEMPLATE	

Glass sizes are for guidance and should be verified on the job.



picture windows • *types and sizes*

for standard glazing



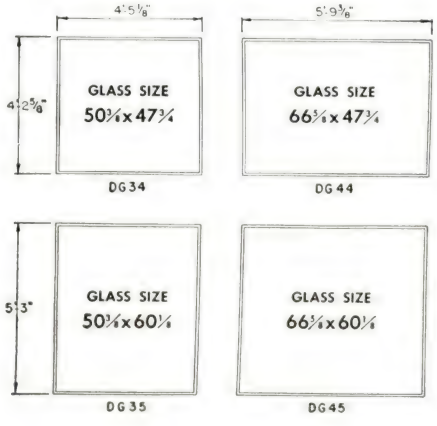
Ceco Picture Windows are available in six sizes for glass up to ¼" in thickness, and in four sizes for double insulating glass, as shown here. Both types are widely used by designers when maximum view is desired. • Sizes shown are window dimensions. For opening dimensions of single units add ¼". For multiple window opening dimensions add actual unit dimensions plus ¼". (It is not necessary to add anything for mullions.)

•

For Standard Glazing—The six stock sizes illustrated at the left, for standard glazing, are designed to receive up to ¼" plate glass.

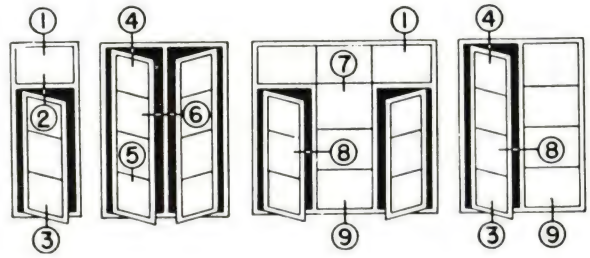
for insulating glazing

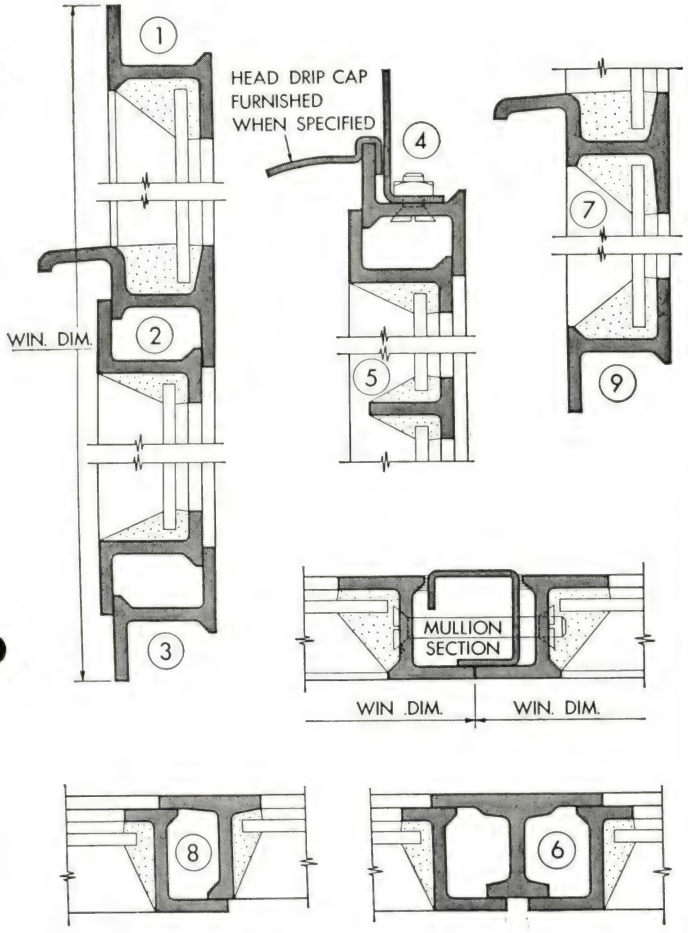
Designed for stock sizes of 1" insulating glass. Supplied with continuous inside glazing strips. Glass setting plates attached to top and bottom of windows for convenient installation.



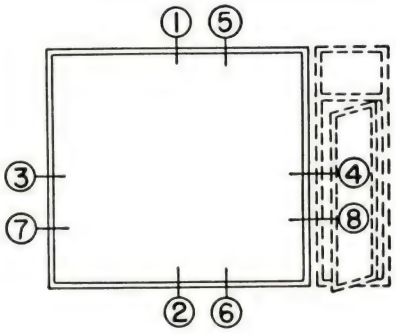
casement windows • *half-size sections*

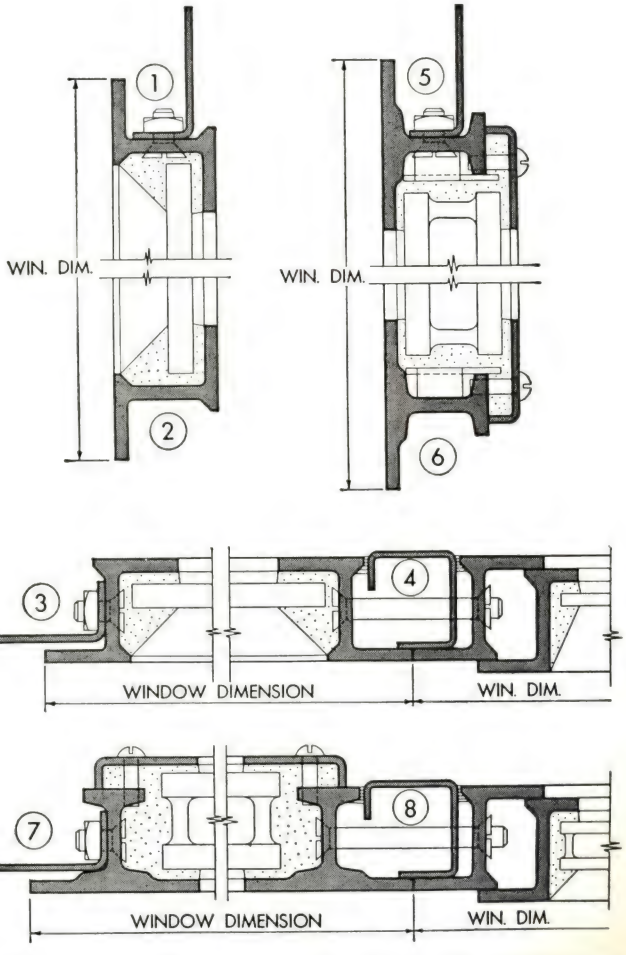
key elevations





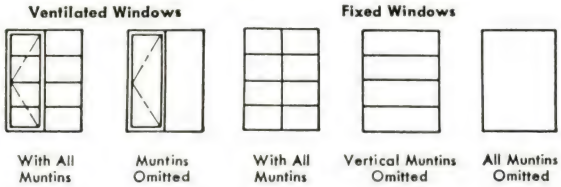
picture windows • *half-size sections*



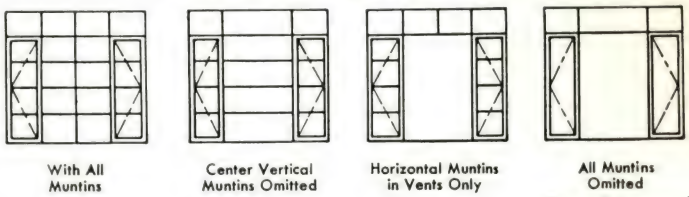


Muntin Variations—Additional architectural treatments may be obtained by omitting muntins from the casements shown on the opposite page. Below are illustrated several variations possible with only two sizes of residence casements.

SMALL WINDOW VARIATIONS



LARGE WINDOW VARIATIONS

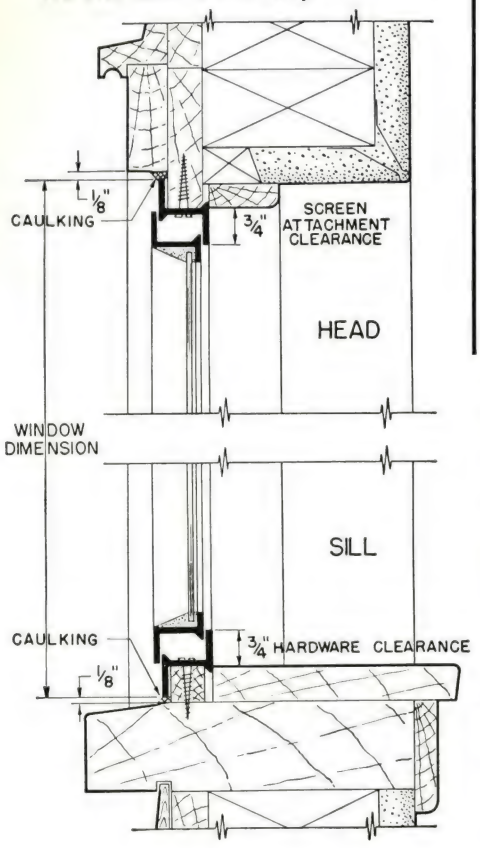


Residence Casements

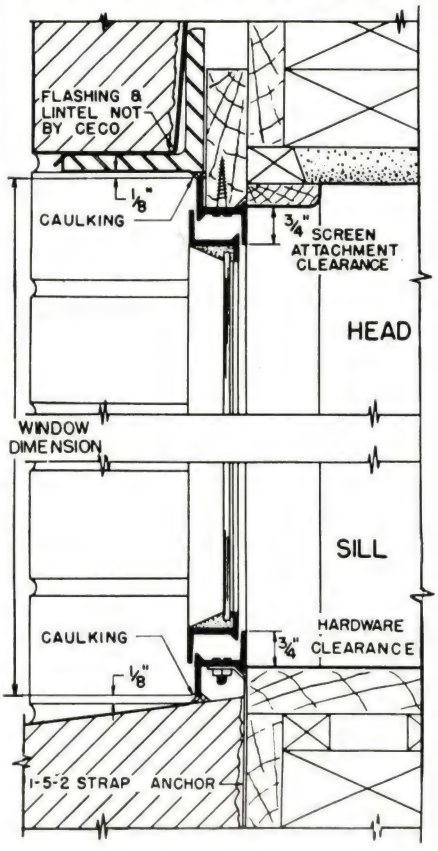
installation details • *scale 3″ = 1′-0″*

The architect has considerable freedom in detailing casement installations beyond the few suggested drawings shown here. Stone sills may be used instead of brick. Structural glass or stone stools may replace wood. • Note that the finished exterior openings are ¼″ higher and ¼″ wider than the window dimensions, to allow clearance for installing. In detailing the interior finish, observe the ¾″ clearances, needed for application of hardware, screens and storms. • Hardware is shipped in packages. The window erector installs the hardware after erection, final painting and adjustment of the ventilators. Mastic is provided by the window

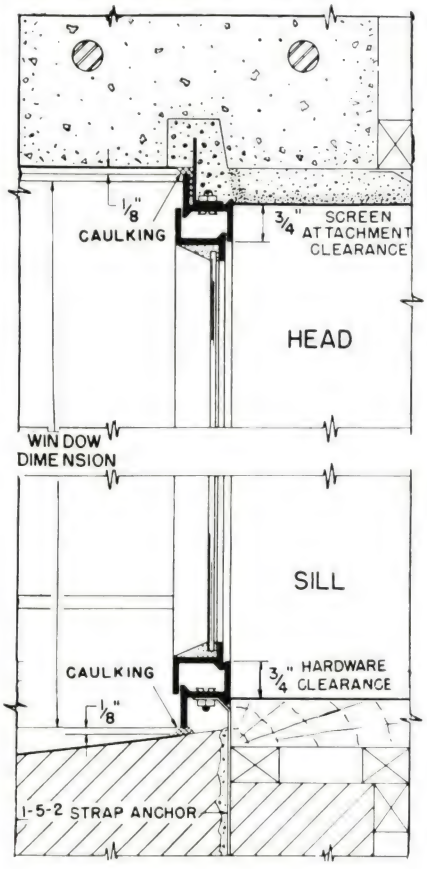
FRAME with wood strip



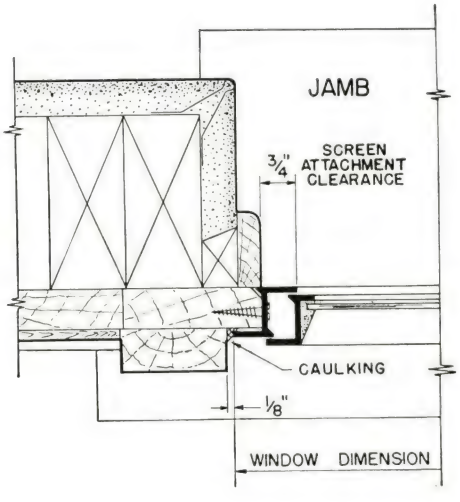
BRICK VENEER with wood strip

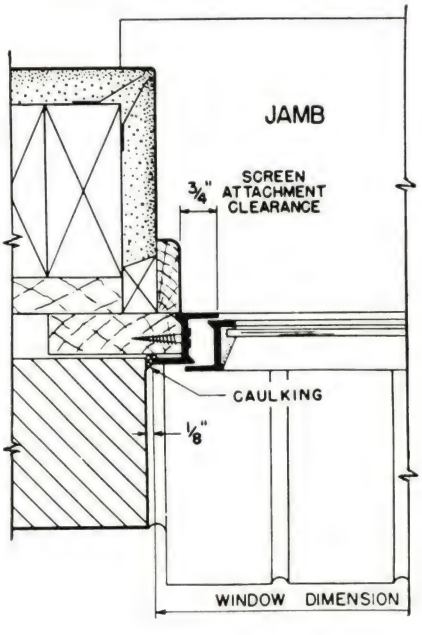


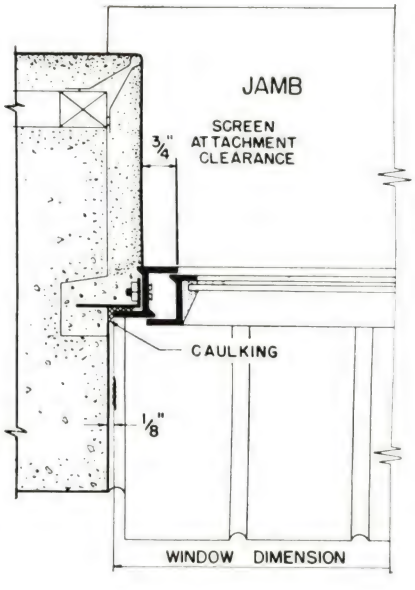
CONCRETE BLOCK with fins



CAULKING TO BE FURNISHED BY OTHERS

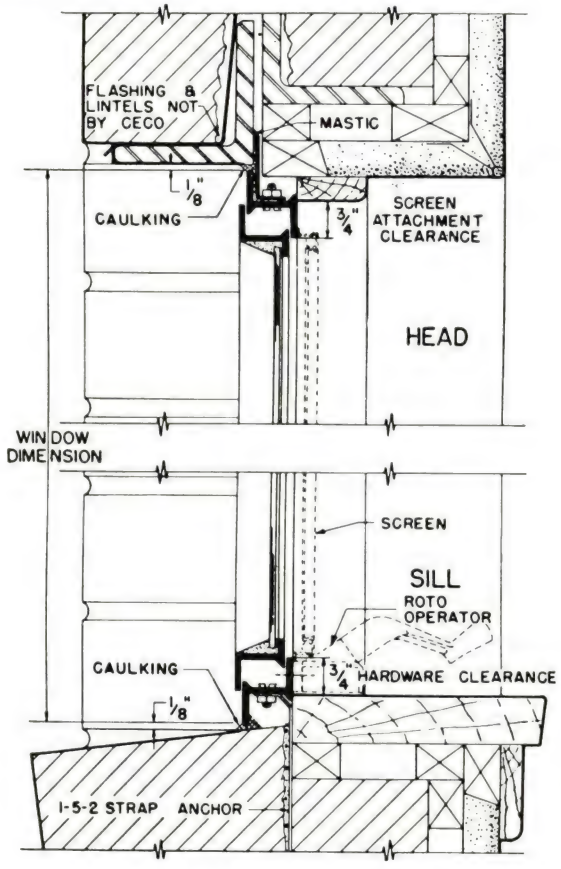




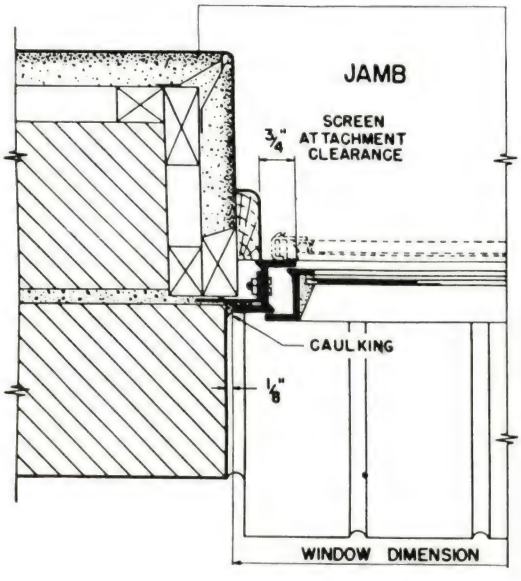


erector but caulking is by other trades. • Fins are shipped loose. Strap anchors are shipped flat so they may be formed by the erector around any sill profile. The bolts and nuts necessary for the attachment of fins and strap anchors are furnished with the windows. Other data available on request.

SOLID BRICK with fins

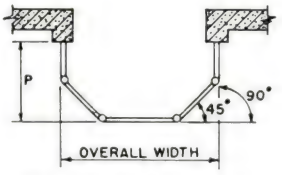


CAULKING TO BE FURNISHED BY OTHERS

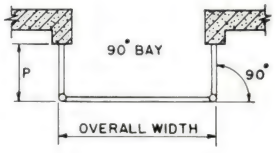


bay and corner mullions

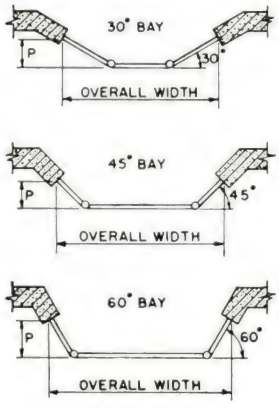
Standard Pipe Mullions furnished by Ceco are not to be used as support members. Load-bearing mullions, furnished by others, are to be of proper size to carry the load. Top and bottom plates should be used with load-bearing mullions. • Pipe mullions are to be drilled in the field by the window erector to match anchor holes in the windows. • Mastic where indicated is to be furnished by the window erector, but caulking is by other trades.



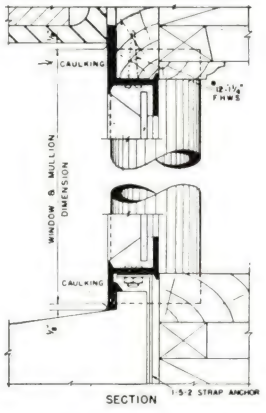
SQUARE SPLAYED BAY

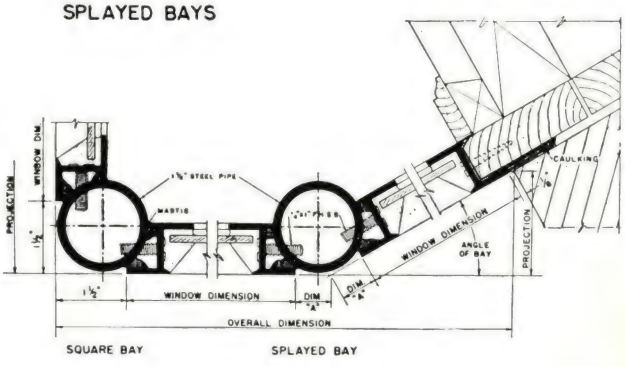


SQUARE BAY



SPLAYED BAYS



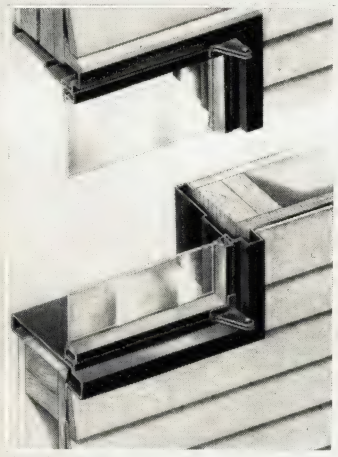


ANGLE OF BAY	LIGHTS IN RETURN	OVERALL WIDTH — LIGHTS IN FRONT SECTION 2	3	4	PROJECTION	DIM. "A"
30°	1	6'-1⅛"	7'-5¼"	8'-9½"	10"	¾"
	2	8'-8⅛"	10'-0¼"	11'-4½"	1'-6⅞"	
45°	1	5'-7¼"	6'-11⅜"	8'-3⅜"	1'-2¼"	⅞"
	2	7'-8½"	9'-0⅝"	10'-4⅞"	2'-2⅞"	
60°	1	4'-11¼"	6'-3⅜"	7'-7⅜"	1'-5½"	1"
	2	6'-5⅛"	7'-9¼"	9'-1½"	2'-9"	
90°	1	3'-4"	4'-8⅛"	6'-0⅜"	1'-8¾"	1½"
	2	3'-4"	4'-8⅛"	6'-0⅜"	3'-2⅝"	
SQUARE SPLAYED	1	5'-8¼"	7'-0⅜"	8'-4⅝"	2'-10⅞"	⅞"
	2	7'-9½"	9'-1⅝"	10'-5⅞"	5'-5⅜"	

Casing and Trim



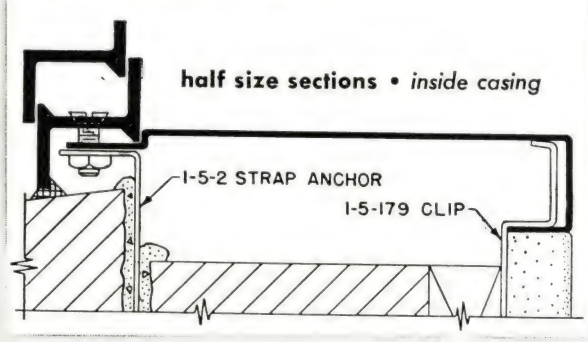
Inside Steel Casing



Inside-Outside Steel Trim

Ceco Inside Steel Casings and Inside-Outside Trim provide economical and neat finishes for metal casements. They are both available in 4½″ and 5¼″ depths for use with all standard residence casements and in popular multiple openings. They are adaptable to all kinds of wall construction, in small homes and large housing projects.

half size sections • *inside casing*



inside-outside trim

types available

LIGHTS HIGH	LIGHTS WIDE						
	Single Unit Openings					Two Mullion Openings	
	1-Lt.	2-Lts.	3-Lts.	4-Lts.	5-Lts.	5-Lts.	6-Lts.
2	**12**	**22**	**32**	**42**	**52**	**131-2**	**141-2**
3	**13**	**23**	**33**	**43**	**53**	**131-3**	**141-3**
4	**14**	**24**	**34**	**44**	**54**	**131-4**	**141-4**
5	**15**	**25**	**35**	**45**	**55**	**131-5**	**141-5**

Units in bold face figures are warehouse stock types for 5¼" depth only. Nomenclature for Inside-Outside Trim shown above corresponds to the casement units with which they are to be used.
Examples: 23 Inside-Outside Trim is used with a 2313 or 2323 casement. 131-3 Inside-Outside Trim is used with 1313-L casement, 33 fixed window and 1313-R casement.

specifications

GENERAL—All inside-outside trim units shall be manufactured, complete with all necessary anchors, by Ceco Steel Products Corporation.

MATERIAL—Head and Jamb members of inside-outside trim shall be fabricated from 18 gauge steel. Sill members shall be made from 16 gauge steel.

CONSTRUCTION—Inside-outside trim shall be formed to depths of 4½″ and 5¼″ measured from inside face of window to inside plaster line at the head and jambs. The stool extends ⅜″ inside. Inside flange of inside-outside trim to be 1″ wide. Clip anchors shall be furnished to secure the trim to the wall construction. Inside-outside trim shall provide for mortise and tenon assembly of all four corners.

BONDERIZING AND PAINTING—All inside-outside trim units shall be treated with Bonderite and receive one coat of gray primer paint baked on at 300° F. for not less than one-half hour.

FIELD PAINTING—Immediately upon delivery, and before attachment to windows, inside-outside trim shall be painted by painting contractor with one coat of color selected by the owner and a second coat applied after installation.

ASSEMBLY—Inside-outside trim members shall be accurately fitted and tenons clinched over by erection contractor. The inside-outside trim unit is then to be secured directly to casement by means of sheet metal screws.

NOTE—*Shade bracket holes are not provided on standard trim, but can be punched if specified at a slight extra charge.*

casings

types available

LIGHTS HIGH	LIGHTS WIDE										
	Single Unit Openings					One Mullion Openings		Two Mullion Openings			
	1-Lt.	2-Lts.	3-Lts.	4-Lts.	5-Lts.	4-Lts.	6-Lts.	4-Lts.	5-Lts.	6-Lts.	6-Lts.
2	**12**	**22**	**32**	**42**	**52**	22-2	33-2	**121-2**	**131-2**	**141-2**	222-2
3	**13**	**23**	**33**	**43**	**53**	22-3	33-3	**121-3**	**131-3**	**141-3**	222-3
4	**14**	**24**	**34**	**44**	**54**	22-4	33-4	**121-4**	**131-4**	**141-4**	222-4
5	**15**	**25**	**35**	**45**	**55**	22-5	33-5	**121-5**	**131-5**	**141-5**	222-5

Units in bold face figures are warehouse stock types for 5¼" depth only.
Casing nomenclature shown above corresponds to the casement units with which they are to be used. Examples: 23 casing is used with a 2313 or 2323 casement.
131-3 casing is used with 1313-L casement, 33 fixed window & 1313-R casement.

specifications

GENERAL—All inside steel casings shall be manufactured, complete with all necessary anchors, by Ceco Steel Products Corporation.

MATERIAL—Head, Jamb and Sill members of casings shall be fabricated from 18 gauge steel.

CONSTRUCTION—Casings shall be J shaped with depths of 4½″ and 5¼″ measured from inside face of casement to inside face of casing. Inside face of casing to be 1″ wide and finish flush with plaster. Clip anchors shall be furnished to secure the casing to the wall construction. Casings shall provide for mortise and tenon assembly of all four corners.

BONDERIZING AND PAINTING—All casings shall be treated with Bonderite and receive one coat of gray primer paint baked on at 300° F. for not less than one-half hour.

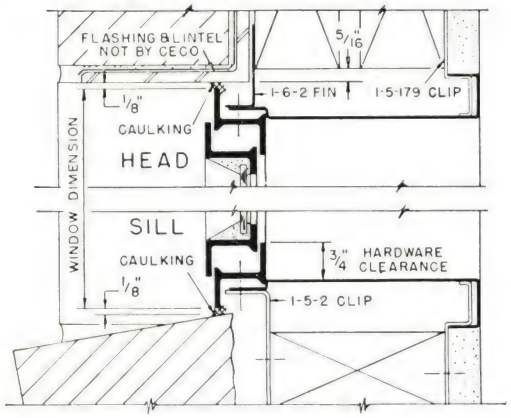
FIELD PAINTING—Immediately upon delivery, and before attachment to windows, casings shall be painted by painting contractor with one coat of color selected by the owner and a second coat applied after installation.

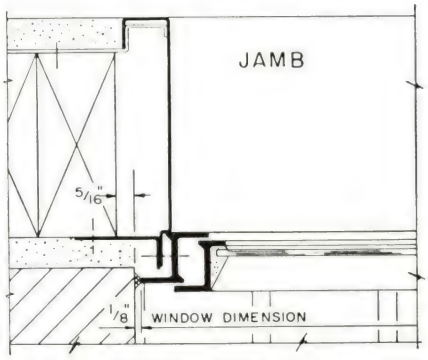
ASSEMBLY—Casing members shall be accurately fitted and tenons clinched over by erection contractor. The casing unit is then to be secured directly to casement by means of bolts and nuts.

NOTE—*Shade bracket holes are not provided on standard casings, but can be punched if specified at a slight extra charge.*

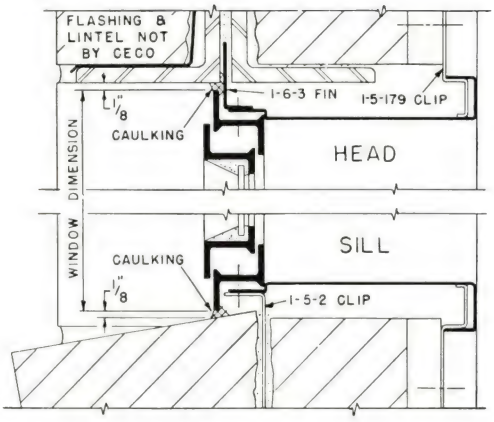
installation details • *scale 3" = 1'-0"*

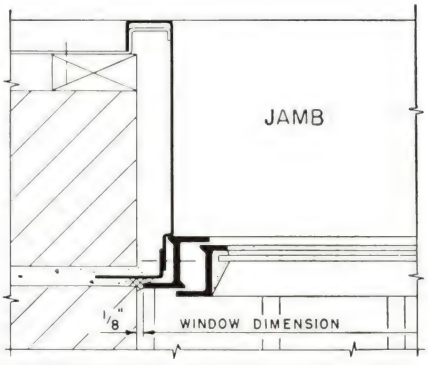
CASING—brick veneer



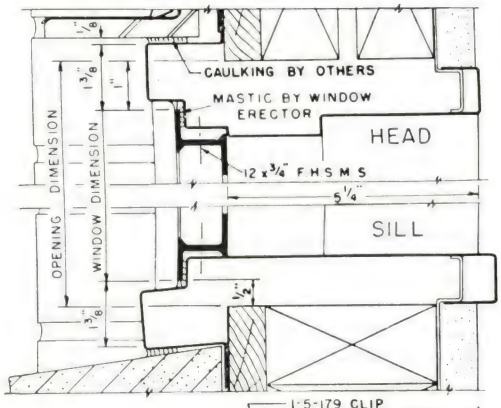


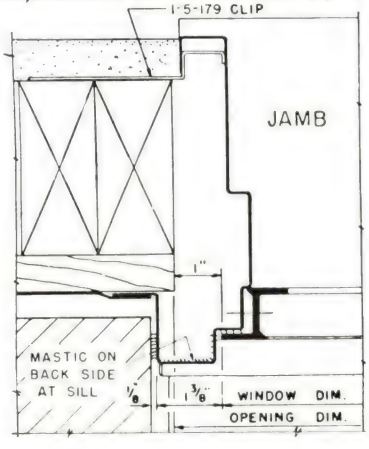
CASING—solid brick



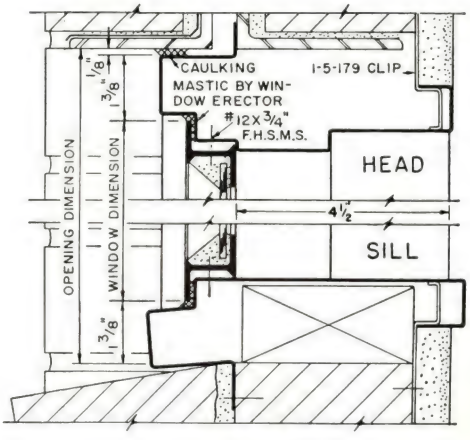


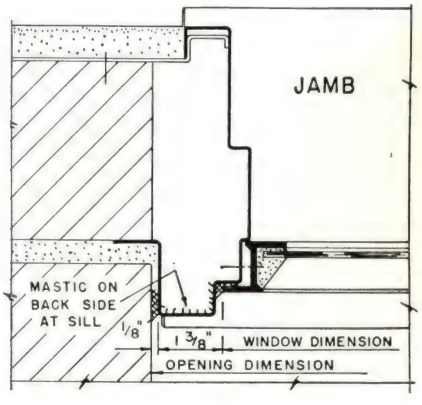
TRIM—brick veneer





TRIM—solid brick





Ceconomy Basement Windows



Outside View

Close-up of Locking Handle, Inside View

The Ceconomy Basement Window is fabricated from hot rolled steel sections to provide double-contact weathering around the perimeter of the ventilator. Head and jamb bars are T sections. Z-shaped sections are used at the sill.

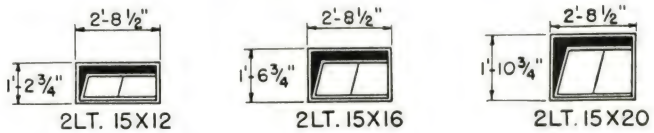
A combination fin and masonry guide, built into the jamb, assures adequate anchorage and prevents the masonry units from crowding the ventilator.

A locking handle at the head locks the ventilator securely. The ventilator is easily removed, without tools, to provide full clearance for passing bulky objects through the window, or in the case of a broken glass—for reglazing. The frame can be erected in place while the ventilator is being glazed.

The ventilator is adjustable—to partial or full ventilating positions. In partial open position, sash deflects air upward, keeps drafts from blowing directly on occupants. In full open position, sash projects into the room at nearly a right angle.

All windows are prepared for screens and storm sash.

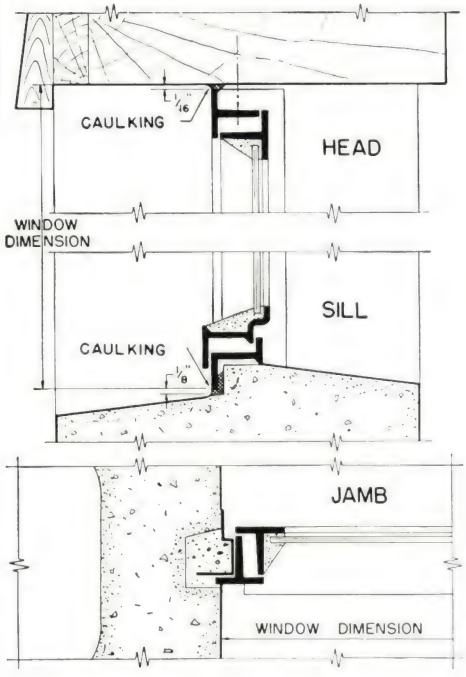
types and sizes for CECONOMY windows



All Ceconomy basement windows are designed for putty glazing with spring wire clips and steel window putty. Glass, putty, glazing clips and glazing by others.

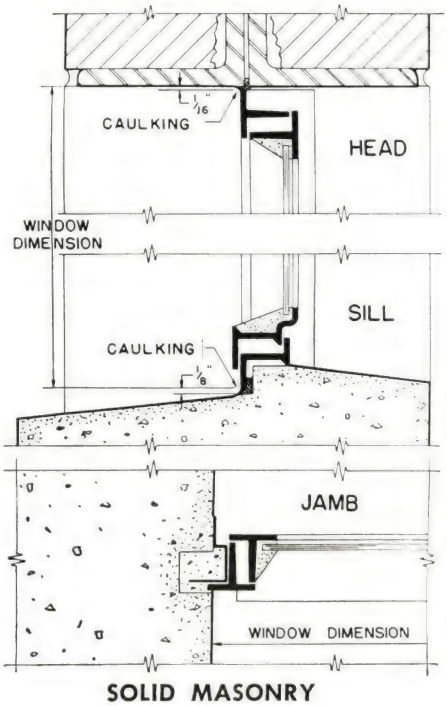
installation details • *quarter size*

Clearances at the head and jamb must be allowed as detailed. The head clearance is needed to assure easy operation of the ventilator. • Basement windows usually are installed as the foundation is being built, or are slipped into reglets from above.



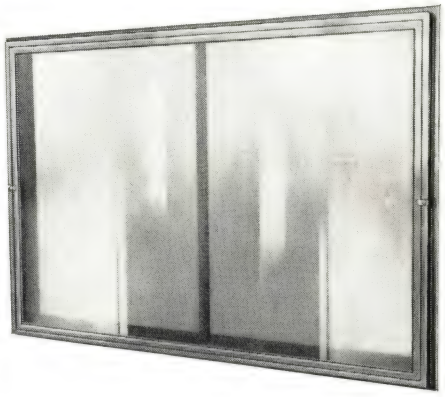
CONCRETE BLOCK

Caulking by others.



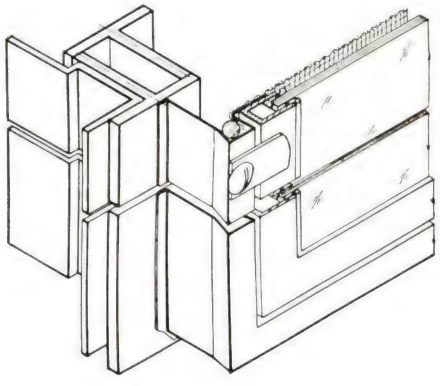
SOLID MASONRY

combination screen and storm window for basement windows

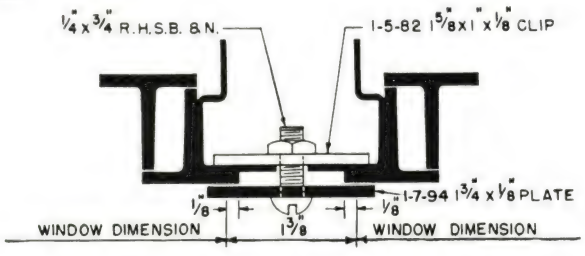


Ceco Combination Screen and Storm Window Units are available for Ceco Basement Windows. The screen is designed to accommodate a glass panel insert, which is quickly installed while the screen is in place. Thus storm window protection can be provided within a few moments—no screen storage problem. The metal frame screen is wired with 18 x 14 mesh bronze screen cloth. The storm panel insert comes complete with glass, glazing-seal, aluminum binder-edge frame and attaching clips and screws.

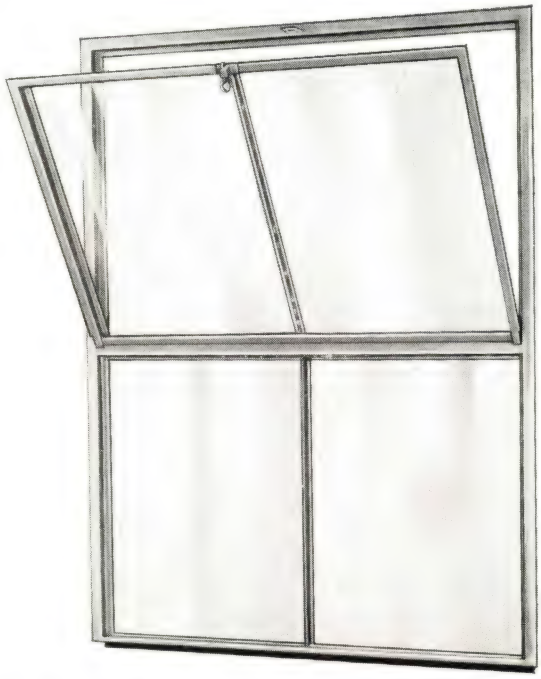
The screen is used also with the Utility window.



vertical mullion • *half size*



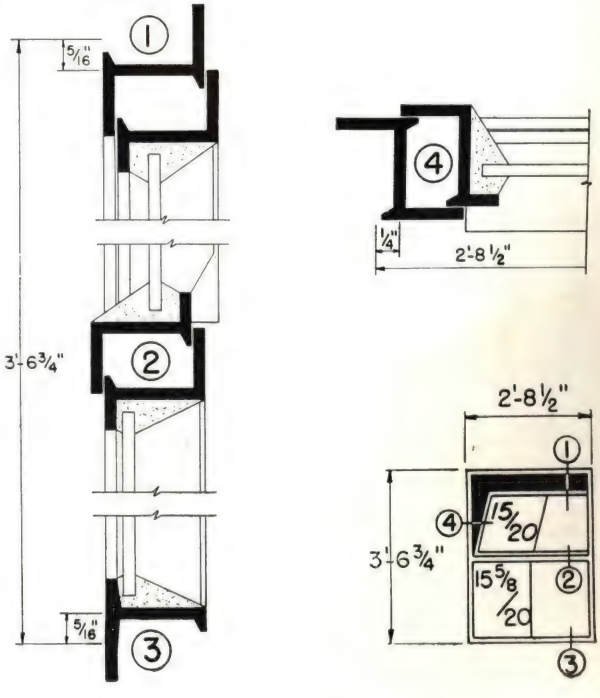
Steel Utility Window



The Ceco Utility Window is especially adapted for use in basement areaways, private and public garages and shops.

It is engineered from the same sections as used for Ceco casements. Two-point weathering provides tight weather-seal. The 15 x 20 basement screen also fits this window. As in the Ceconomy basement window, the ventilator is easy to remove for cleaning or replacing glass by simply lifting one side and sliding out.

half-size sections

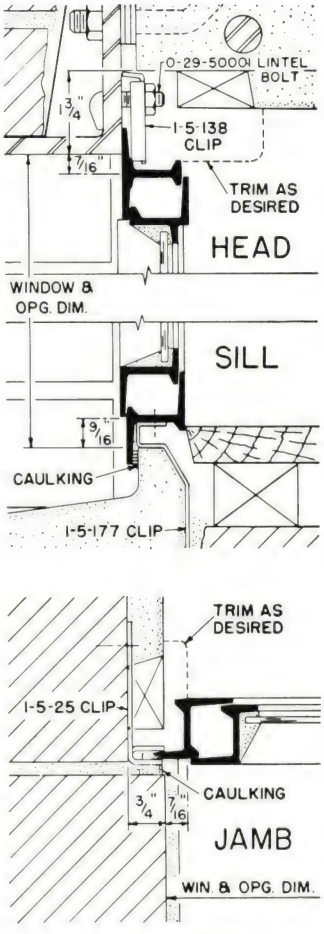


1¼″ Steel Intermediate Projected Windows



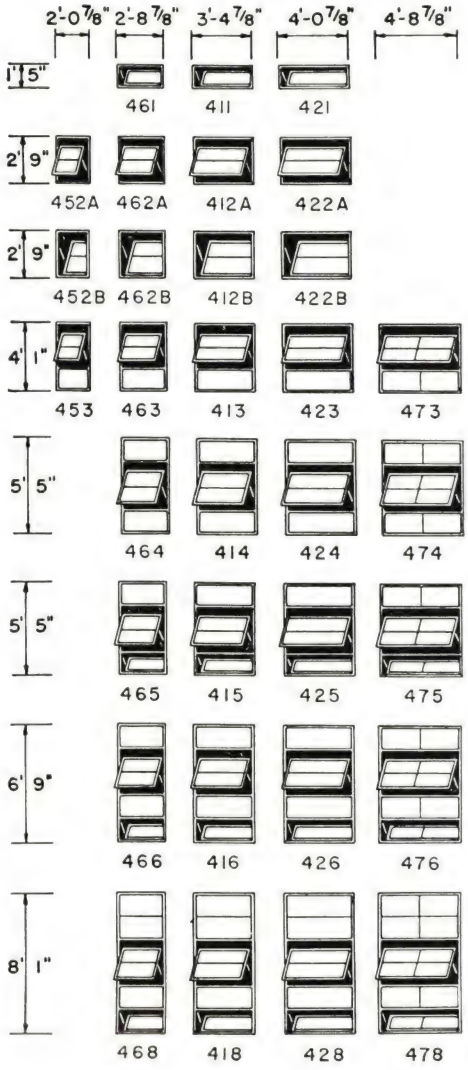
TYPE 424

Ceco 1¼″ Projected Windows are suitable for schools, hospitals, churches, public buildings, institutions and other architecturally monumental buildings. Simplicity is the keynote in the design of the rigid steel framing members and the attractive modern hardware. • All 1¼″ Intermediate Windows are prepared for screens. Wicket type screens are standard for project-out ventilators.



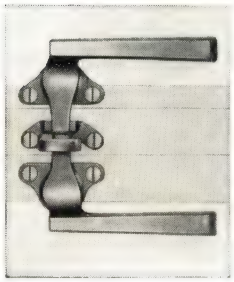
SOLID BRICK
with concrete spandrel

type sand sizes (outside views)

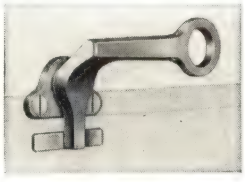


All windows shown are warehouse stock types for vented units (outside putty glazed only). Other standard types and sizes are available but not from warehouse stock. Sizes shown are window and masonry opening dimensions.

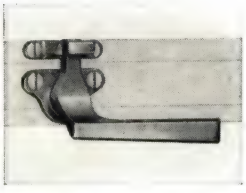
hardware



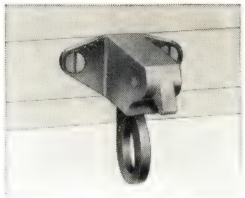
LOCKING HANDLES
Top 1-8-12941
(for project-out ventilator)
Bottom 1-8-13041
(for project-in ventilator)
Keeper 1-8-51441



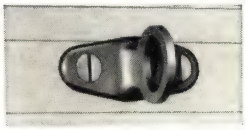
LOCKING HANDLE
1-8-13141
(for operation with pole)



LOCKING HANDLE
1-8-13041
(for project-in ventilator)
Hook Strike
1-8-51141

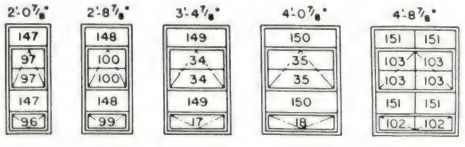


SPRING LATCH 1-8-41241
(for project-in ventilator)



POLE RING 1-8-90641
(for project-out ventilator)

glass schedule



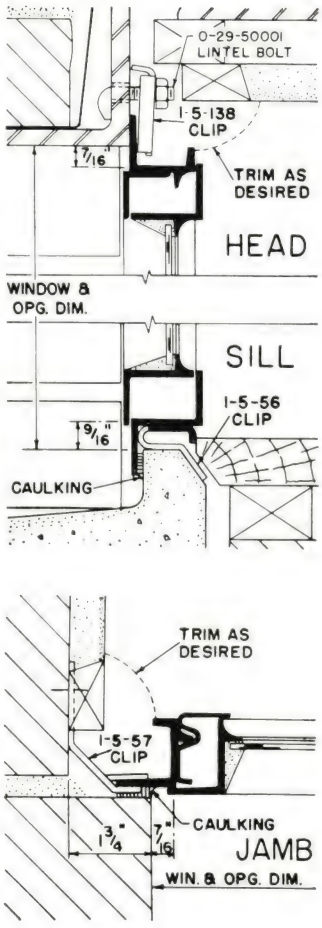
MARK	W	H	MARK	W	H
96	21 5/8	13 5/8	149	39 3/8	15 1/2
97	21 5/8	14 5/8	18	45 5/8	13 5/8
147	23 3/8	15 1/2	35	45 5/8	14 5/8
99	29 5/8	13 5/8	150	47 3/8	15 1/2
100	29 5/8	14 5/8	102	26 5/8	13 5/8
148	31 3/8	15 1/2	103	26 5/8	14 5/8
17	37 5/8	13 5/8	151	27 1/2	15 1/2
34	37 5/8	14 5/8			

Steel Architectural Projected Windows



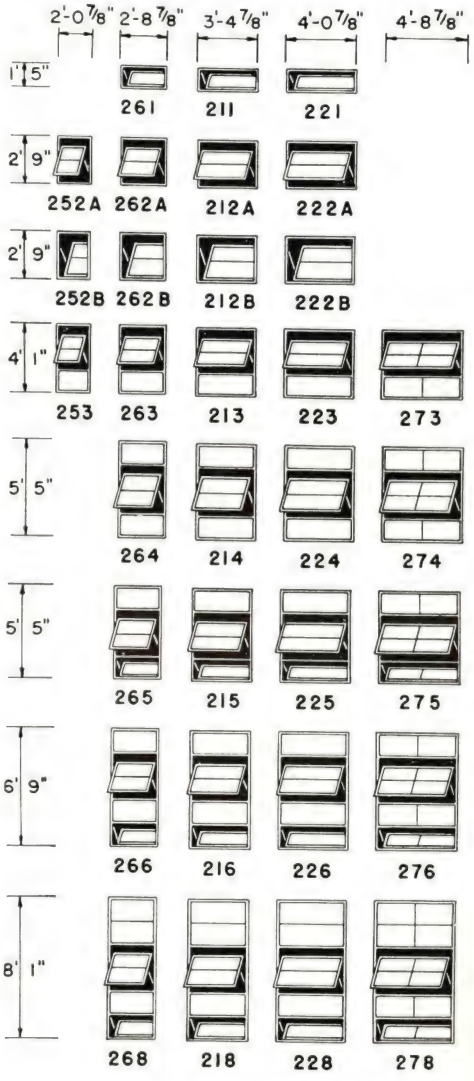
TYPE 225

Ceco Architectural windows are recommended for schools, public and monumental buildings, and industrial structures where the interior is to be finished. They are fabricated with a rigid channel-shaped frame section. The interior flange of the channel provides a convenient stop on which the trim may be lapped. Weathering members present a flush surface on the inside. • All Architectural windows are prepared for screens. Wicket type screens are standard for project-out ventilators.



BRICK
prepared opening

types and sizes (outside views)

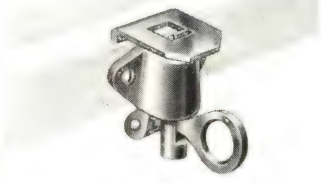


All windows are warehouse stock types for vented units (outside putty glazed only). (Other standard types and sizes also are available but not from warehouse stock.) • Sizes shown are window and masonry opening dimensions.

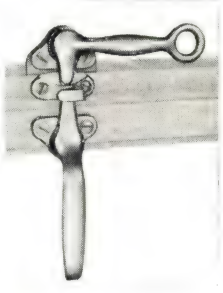
hardware



CAM LOCKING HANDLE
for project-out ventilators
1-8-11621



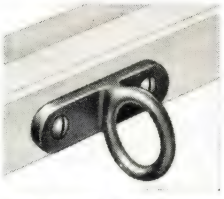
SPRING LOCK 1-8-40521
(for pole operated project-in ventilators)



TOP HANDLE
for project-out ventilators
1-8-11721

BOTTOM HANDLE
for project-in ventilators
1-8-11221

KEEPER
1-8-50421

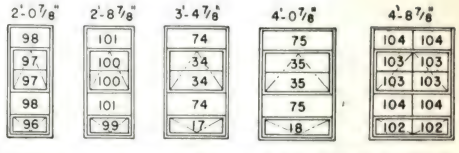


POLE RING 1-8-90221



CAM LOCKING HANDLE
for project-in ventilators
1-8-11221

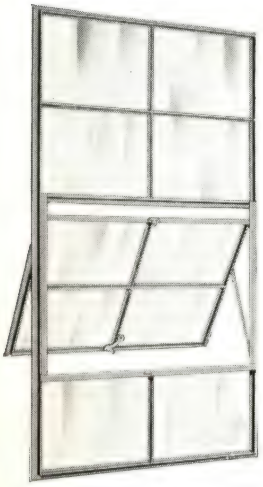
glass schedule



MARK	W	H	MARK	W	H
17	37 5/8	13 5/8	98	23 5/8	15 5/8
18	45 5/8	13 5/8	99	29 5/8	13 5/8
34	37 5/8	14 5/8	100	29 5/8	14 5/8
35	45 5/8	14 5/8	101	31 5/8	15 5/8
74	39 5/8	15 5/8	102	26 5/8	13 5/8
75	47 5/8	15 5/8	103	26 5/8	14 5/8
96	21 5/8	13 5/8	104	27 5/8	15 5/8
97	21 5/8	14 5/8			

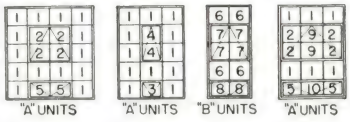
Steel Commercial Projected Windows

Ceco Commercial Projected Steel Windows are constructed of strong, hot-rolled sections which provide two point weathering contact at all ventilator perimeters. Corners of frame and ventilators are riveted mortise and tenon construction. After riveting, all corners of Commercial Projected units are welded for added rigidity. Muntin bar intersections are mechanically interlocked aligning each bar in its exact location. Commercial Projected windows are equipped with hardware of types suitable to meet normal operating conditions and to provide secure locking of vents.



COMMERCIAL PROJECTED WINDOW
type B25141

glass schedule

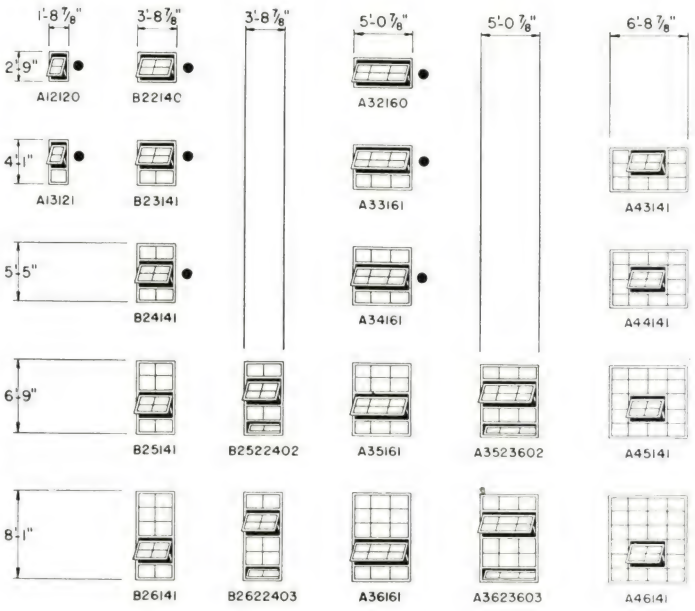


Prefix "A" denotes 20" x 16" Bar Centers.
Prefix "B" denotes 22" x 16" Bar Centers.

Mark	W	H	Mark	W	H
1	19 5/8	15 5/8	6	21 5/8	15 5/8
2	18 5/8	14 5/8	7	20 5/8	14 5/8
3	17 5/8	13 5/8	8	20 5/8	13 5/8
4	17 5/8	14 5/8	9	19 5/8	14 5/8
5	18 5/8	13 5/8	10	19 5/8	13 5/8

Glass sizes are for guidance only and should be verified on the job.

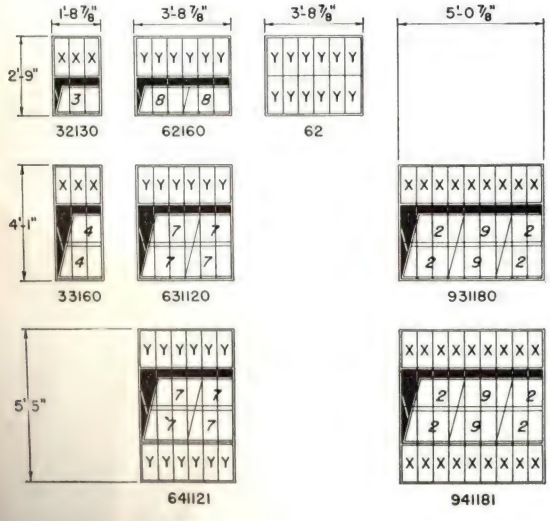
types and sizes



All Commercial Projected windows shown above are warehouse stock types for vented units. Types B22, B23, B24, B25, B26, A32, A33, A34, A35, and A36 are warehouse stock types for fixed units. Single vented Commercial Projected windows marked thus (•) shown to project out are also made as warehouse stock types with vent to project in. Sizes shown are window and masonry opening dimensions. (Other standard types and sizes of projected windows are available but not from warehouse stock.) Screens are available for all Ceco Windows. Screens for projected ventilators of the same size are interchangeable and thus require no identification tags or marks.

Steel Security Windows

types and sizes



glass schedule

MARK	W	H
2	18 5/8	14 5/8
3	17 5/8	13 5/8
4	17 5/8	14 5/8
7	20 5/8	14 5/8
8	20 5/8	13 5/8
9	19 5/8	14 5/8
X	6 1/4	15 5/8
Y	7	15 5/8



TYPE 631120

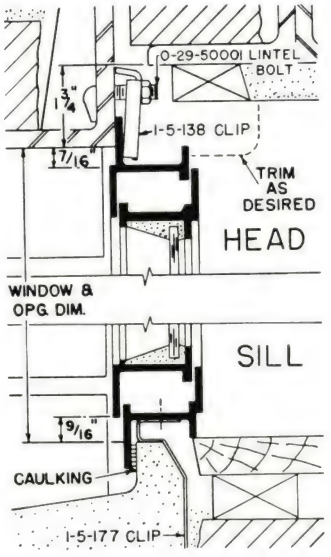
Security Windows are used in store buildings, warehouses and other buildings where ventilation is required and burglary protection is important. Grille openings in front of ventilators are left unglazed. Windows are prepared for the installation of screens.

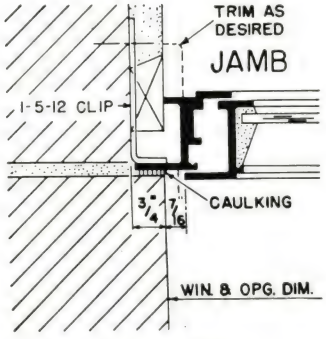
All sizes are warehouse stock types for prompt shipment.

Aluminum Projected Windows



TYPE A464

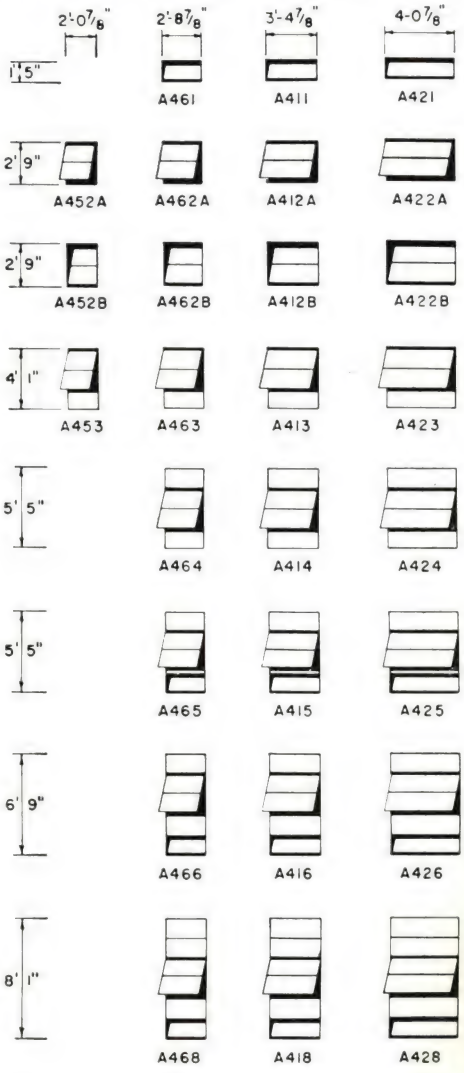




SOLID BRICK
prepared opening

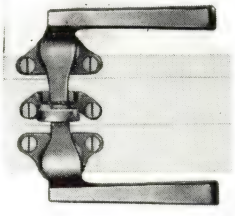
Here is another new group of Ceco windows, in a full range of warehouse sizes, which broaden the line of quality window products available from Ceco. These carefully engineered windows are suitable for schools, hospitals, public buildings, churches and other institutional and monumental buildings. The handsome hardware has been designed in keeping with modern functional thinking. • All Aluminum Projected Windows are prepared for screens. Wicket type screens are standard for project-out ventilators.

types and sizes (outside views)

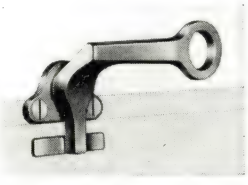


These windows, with ventilators as shown, are all warehouse stock types, and are for outside mastic glazing. Other standard types and sizes are available but not from warehouse stock. Sizes are window and opening dimensions.

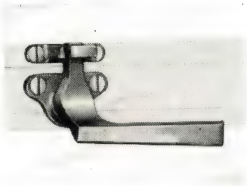
hardware



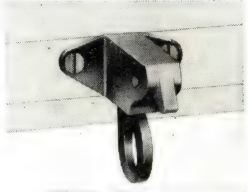
LOCKING HANDLES
Top 2-8-10135
(for project-out vent.)
Bottom 2-8-10235
(for project-in vent.)
Keeper 2-8-50135



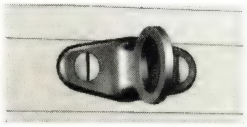
LOCKING HANDLE
2-8-10335
(for project-out vent, not located above another vent.)



LOCKING HANDLE
2-8-10235
(for project-in vent.)
Hook Strike
2-8-50235

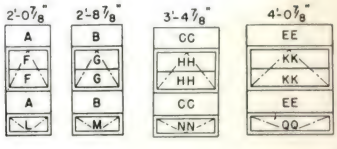


SPRING LATCH 2-8-40135
(for project-in vent.)



POLE RING 2-8-90135
(for project-out vent.)

glass schedule



Mark	W	H	Mark	W	H
A	23 3/8	15 5/8	CC	39 3/8	15 5/8
B	31 3/8	15 5/8	EE	47 3/8	15 5/8
F	21 5/8	14 5/8	HH	37 5/8	14 5/8
G	29 5/8	14 5/8	KK	45 5/8	14 5/8
L	21 5/8	13 5/8	NN	37 5/8	13 5/8
M	29 5/8	13 5/8	QQ	45 5/8	13 5/8

Aluminum Residential Windows · series 50-B



Outside view of Ceco-Sterling 50-B Aluminum Double-Hung Window, Type H

Standard types and sizes of Ceco-Sterling 50-B Residential windows offer a great variety of choice to the designer. These standard types and sizes should be specified to take advantage of economical manufacture. In addition, glazing costs are reduced because standard glass lights are carried in dealer stocks. The designer should know that these residential windows can be incorporated in 4" modular planning as developed by ASA Project A62 sponsored by American Institute of Architects and the Producers' Council.

features

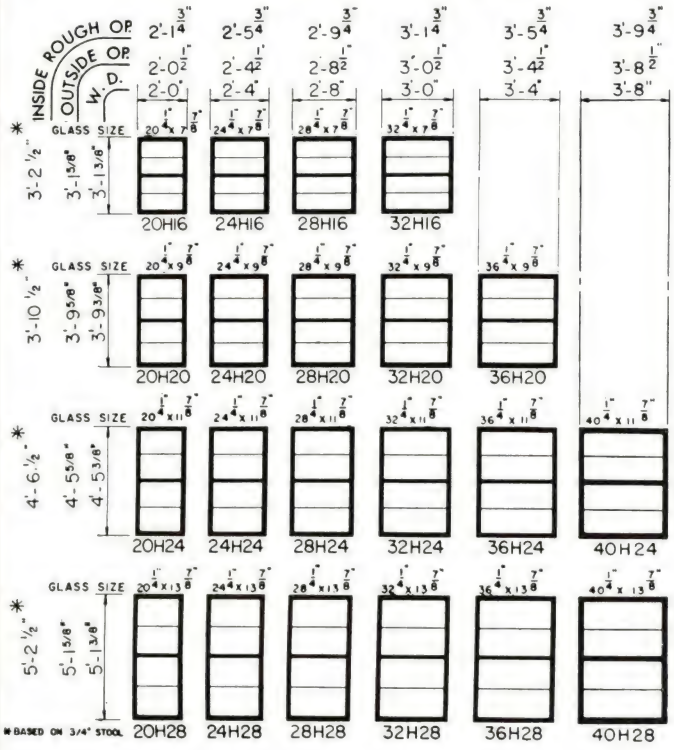
- Corners of frame and sash are welded.
- Built-in invisible balances permit sash to be operated smoothly.
- Unique design—in multiple openings, these windows are readily assembled because the frames interlock, eliminating the need for additional and costly mullions. Interlocking jambs reduce the mullion sight lines, affording more light area in the window opening. Special extruded corner mullions are available for 45° and 90° corner installations.
- Flush muntin construction on interior makes windows easy to clean.
- Ceco-Sterling residential windows are prepared for screens and storm windows.

CECO-STERLING WINDOWS MEET ALL FHA REQUIREMENTS. *In many regions Ceco-Sterling Screens and Storm Sash may also be included under FHA financing.*

types and sizes

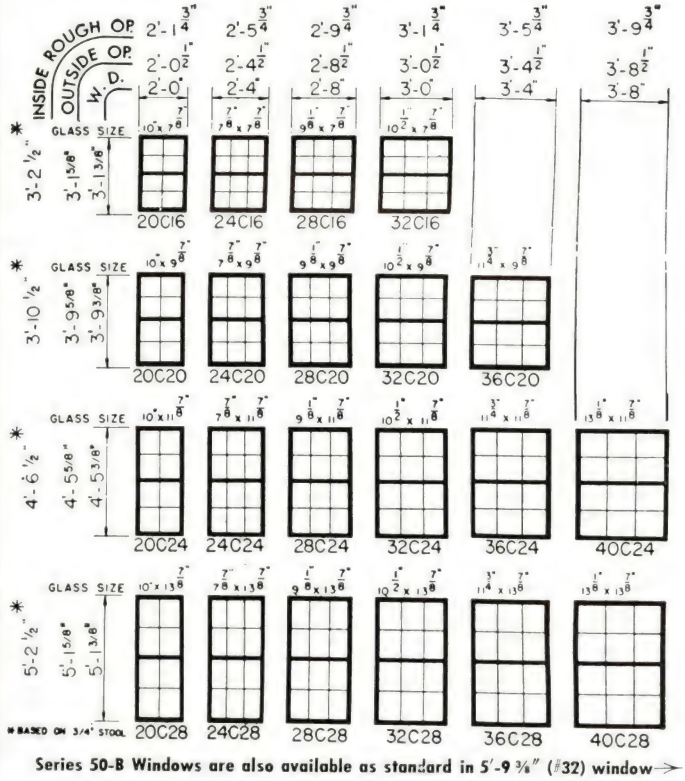
• type H

Type H windows contain horizontal muntins in top and bottom sash.



• type C

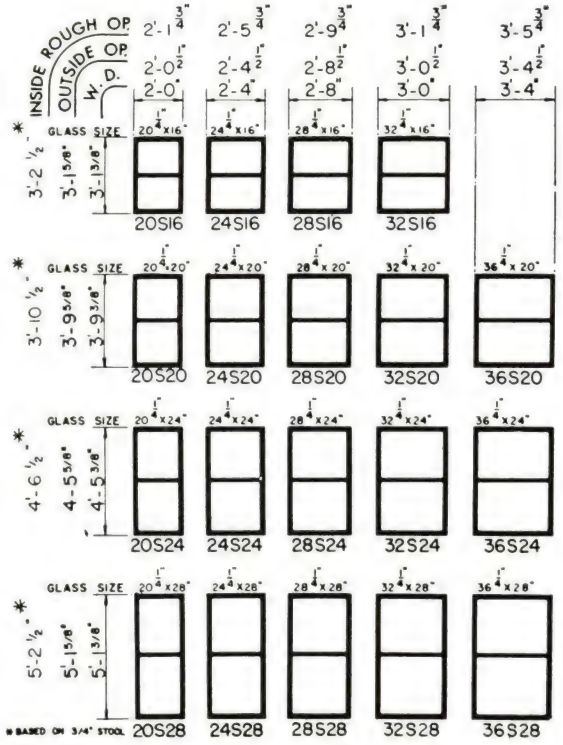
Type C have horizontal and vertical muntins in top and bottom sash.



Series 50-B Windows are also available as standard in 5'-9 ⅜" (#32) window →

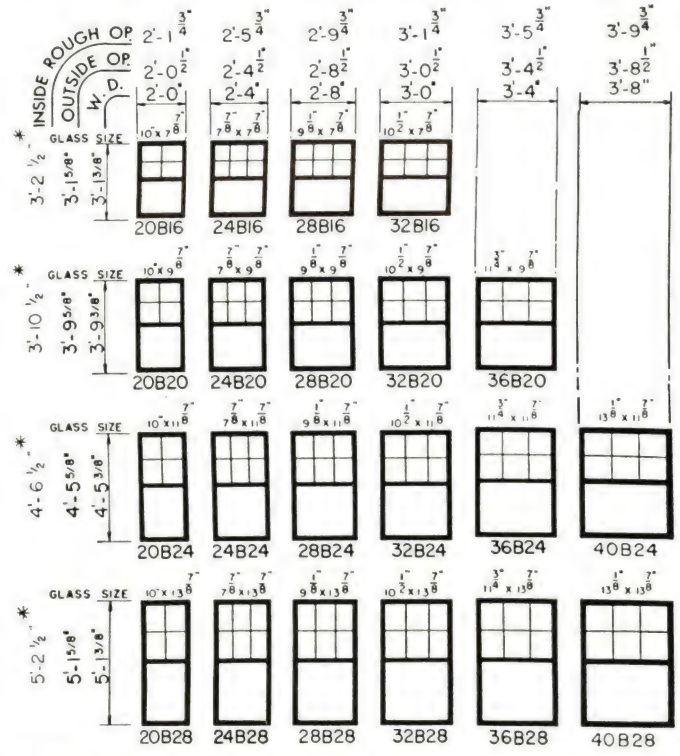
• type S

Type S windows have no muntins in either upper or lower sash.



• type B

Type B have horizontal and vertical muntins in upper sash only.



height dimension, in all types and widths shown above. Example: 20H32.

specifications

CECO-STERLING ALUMINUM DOUBLE-HUNG WINDOWS SERIES No. 50-B shall be furnished in standard types and sizes completely assembled with weather-stripping and hardware attached. Sash shall be hung and adjusted for single or double strength glass. Glazing clips, anchors and mullion screws shall be supplied by manufacturer. All windows shall be drilled for shade brackets. Frame head bar of window shall be drilled for storm sash brackets when specified.

MATERIALS—Window frames and sash members shall be extruded 6063-T5 alloy sections not less than .062" thick. Performance shall comply with requirements of DH-A1 Specifications of the Aluminum Window Manufacturers Association as published in "Sweet's File, Architectural," latest edition.

CONSTRUCTION—Joints of both frame and sash members shall be welded and muntin bars firmly secured at cross joints and to abutting sash sections. Connections between sill and side frame members shall be watertight. Sash shall be designed for outside glazing.

WEATHERSTRIPPING—Stainless steel weatherstripping designed for attaching to jamb bars of sash, and to head, sill, and meeting rail members, shall be provided.

AIR INFILTRATION—The amount of air infiltration shall not exceed ½ cubic foot per minute per foot of sash perimeter when subjected to a wind velocity of 25 miles per hour.

HARDWARE—Windows shall be equipped with sash lock, keeper, and pulldown with balances concealed in jamb rails of sash. Balancing mechanisms shall be easily accessible and permit sash to operate freely.

FINISH—Exposed surfaces of aluminum frames and sash shall be mill finished, cleaned to make them reasonably uniform in color, free from scratches and other serious surface blemishes.

PROTECTIVE COATING—Before shipment from factory, windows shall be given a coating of clear water-white methacrylate-type lacquer on exposed surfaces in accordance with the Aluminum Window Manufacturers Association Specification DH-A1. Lacquer shall withstand the action of lime mortar for a period of at least one month in an atmosphere of 100% relative humidity at room temperature and shall be a type to which glazing compound will adhere.

SCREENS—Extruded or rolled frame sections, mill finish, and wired with aluminum wire cloth shall be furnished in standard sizes with necessary hardware attached to apply screen to windows. Screens shall consist of full or half panels to allow half or full-length screening as specified.

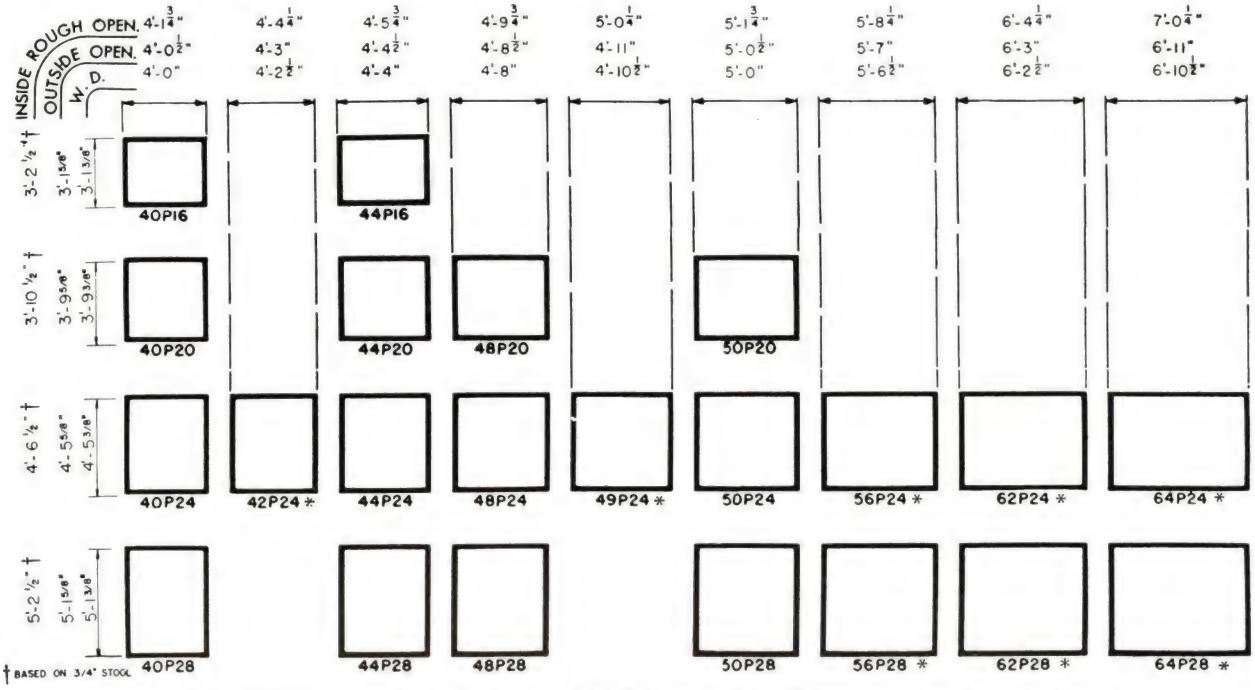
STORM SASH—Extruded frame sections, mill finish, and glazed shall be furnished in standard sizes to fit windows. Glass shall be set in plastic seal. All points of contact with window frame shall have insulation. Frame shall be mechanically joined for easy reglazing. Storm sash shall be of two-panel design with arms for bottom panel ventilation. Upper panel shall be designed for use with lower screen panel. All installation hardware shall be furnished.

PICTURE WINDOWS—Shall be furnished in standard types and sizes unglazed and shipped knocked-down. Frame sections shall be prepared for inside glazing bead for single or double glazing as specified. Necessary assembly accessories and installation hardware shall be provided by manufacturer. Materials shall be of the same quality and finish as specified for double-hung windows.

ERECTION—CAULKING—GLAZING (BY OTHERS)—Windows shall be set straight, plumb, level and securely anchored in accordance with standard installation details supplied by manufacturer. Windows shall be caulked and glazed by others with an approved glazing compound.

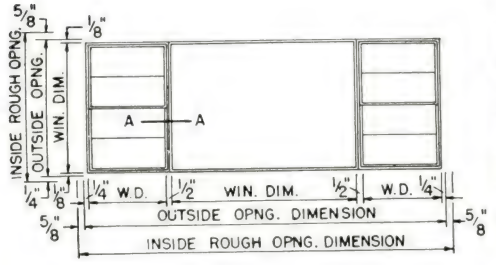
Aluminum Residential Windows • series 50-B

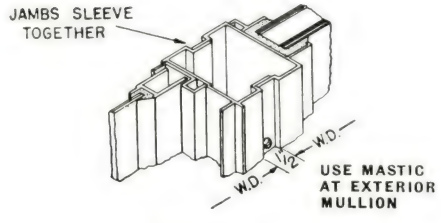
picture windows • *types and sizes*



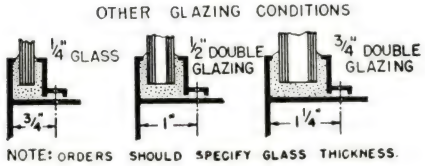
Picture Windows are also available as standard in 5'9⅜" #32 window height dimension, in same standard widths as #28 height. Example: 40P32. Other sizes than those shown may be specially ordered.

• combining picture and DH windows



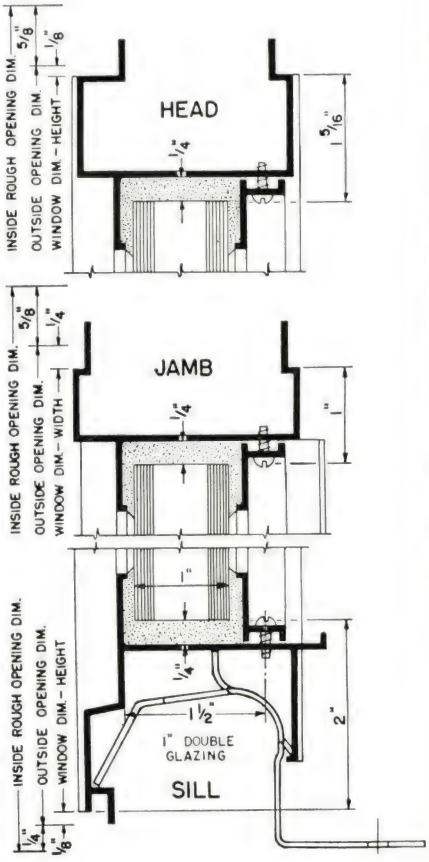


SECTION A-A



NOTE: ORDERS SHOULD SPECIFY GLASS THICKNESS.

• half-size details



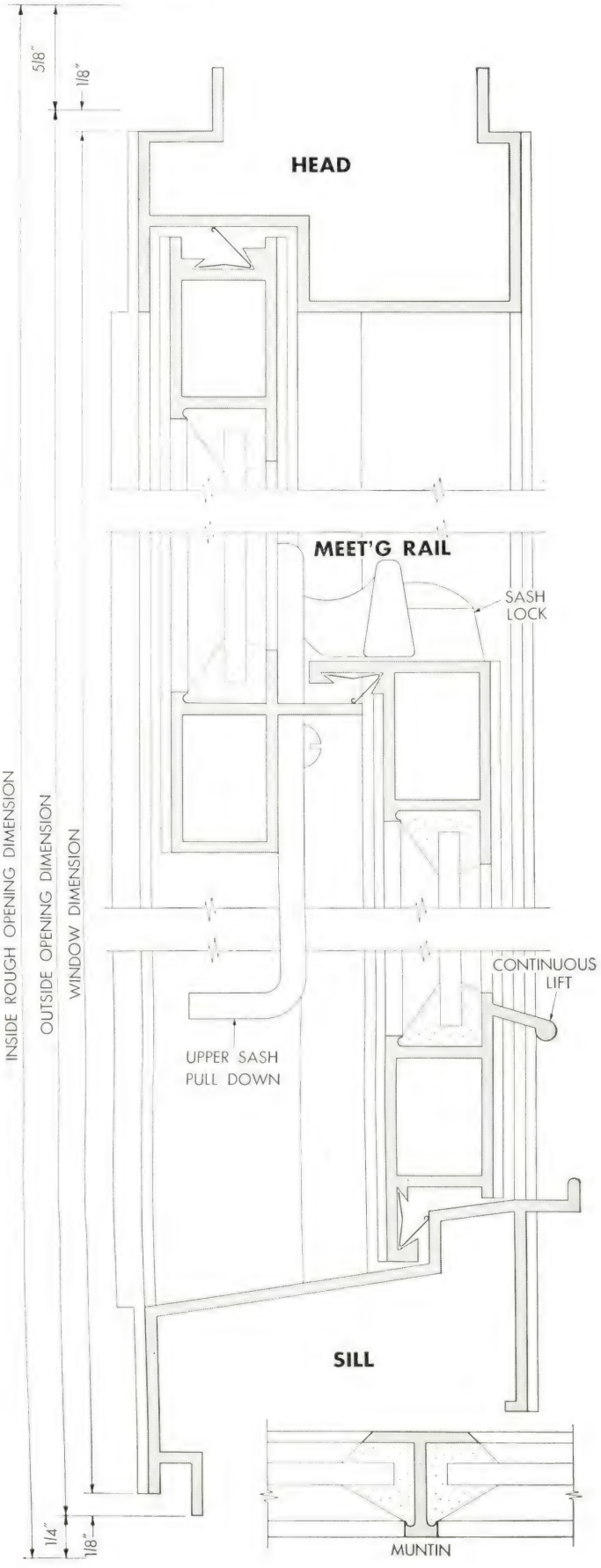
• glass sizes

Type	Single glass	Double glass
40P16	46¼x34¼	46x34
44P16	50¼x34¼	50x34
40P20	46¼x42¼	46x42
44P20	50¼x42¼	50x42
48P20	54¼x42¼	54x42
50P20	58¼x42¼	58x42
40P24	46¼x50¼	46x50
*42P24	48¾x50¼	48½x50
44P24	50¼x50¼	50x50
48P24	54¼x50¼	54x50
*49P24	56¾x50¼	56½x50
50P24	58¼x50¼	58x50
*56P24	64¾x50¼	64½x50
*62P24	72¾x50¼	72½x50
*64P24	80¾x50¼	80½x50
40P28	46¼x58¼	46x58
44P28	50¼x58¼	50x58
48P28	54¼x58¼	54x58
50P28	58¼x58¼	58x58
*56P28	64¾x58¼	64½x58
*62P28	72¾x58¼	72½x58
*64P28	80¾x58¼	80½x58
40P32	46¼x66¼	46x66
44P32	50¼x66¼	50x66
48P32	54¼x66¼	54x66
50P32	58¼x66¼	58x66
*56P32	64¾x66¼	64½x66
*62P32	72¾x66¼	72½x66
*64P32	80¾x66¼	80½x66

Picture Windows are engineered to receive ¼" single glass or ½", ¾" or 1" insulating glass. Always specify glass thickness.

**These sizes accommodate standard Thermopane and Twindow glass sizes.*

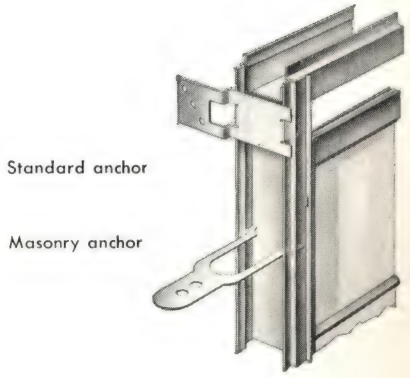
full-size sections



features

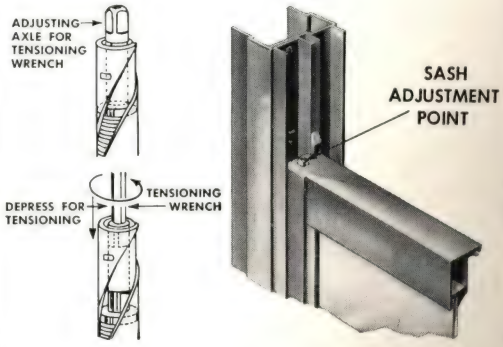
• anchors

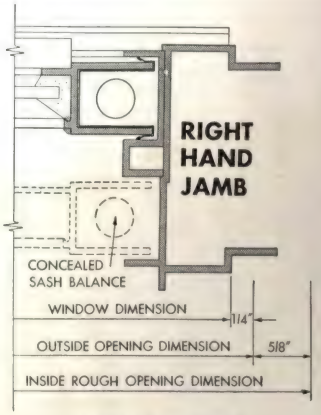
Alternate jamb anchors are available for Ceco-Sterling Aluminum Residential Windows, Series 50-B. The Standard Anchor is ordinarily furnished, but the special Masonry Anchor is furnished when specified. Head and sill anchors are furnished as shown on the installation details.



• balances

Sash balances are concealed in the sash jambs. All balance adjustment points are easily accessible at the top of the sash, as shown in the illustration below.





JAMB *(half-size)*

Aluminum Residential Windows • series 50-B

installation details • *scale 3″ = 1′-0″*

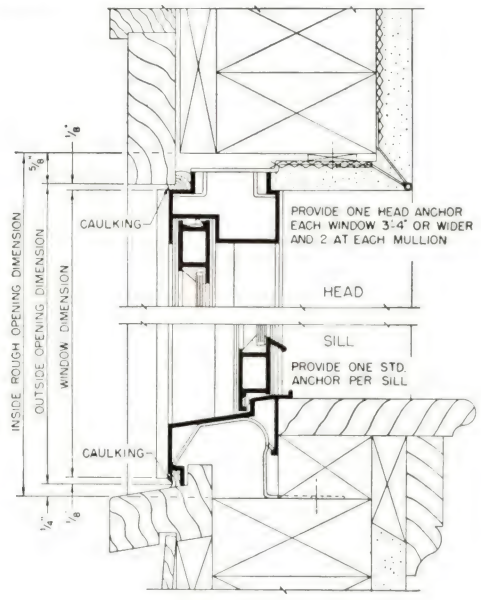
Note the finished exterior openings are ¼″ higher and ½″ wider than the window dimensions to allow clearance for installing. • The architect has freedom in detailing double-hung installations beyond the few suggested in the drawings shown here. Stone sills can be used instead of brick. Structural glass or stone stools may replace wood. • Note that caulking is by other trades. • All necessary anchors, glazing clips and mullion screws are shipped with the windows. • On all masonry construction special masonry jamb anchors are supplied as dotted in on the details for Concrete Block Construction on page 21. • Exterior Fin and Trim and Brick Molds are shipped separately from the windows (see p. 22).

* * *

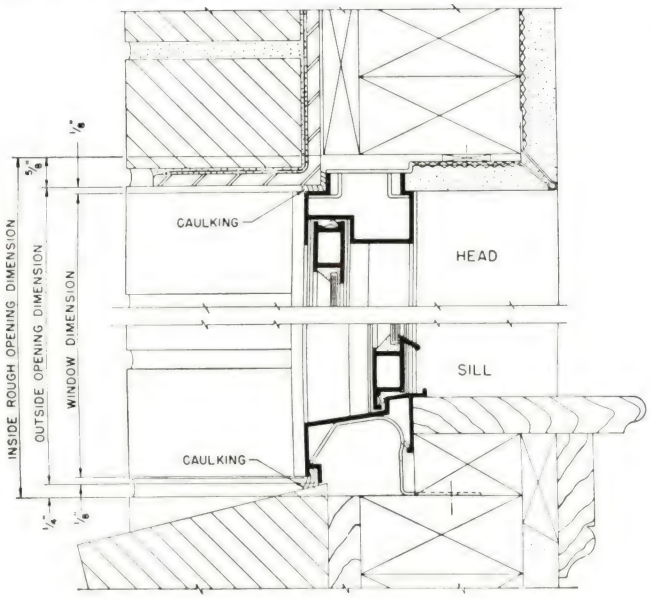
For single units, the inside rough opening width dimension is the window dimension, as shown on pages 16 and 17, plus 1¼″. (The added 1¼″ is the sum of the ⅝″ clearances needed at each of the two jambs.)

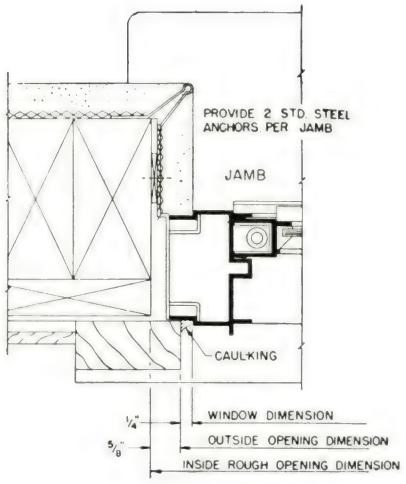
For multiple units, the inside rough opening width dimension is the sum of the window dimensions, as shown on pages 16 and 17, plus ½″ for each mullion, plus 1¼″. (Inside Steel Casing details available on request.)

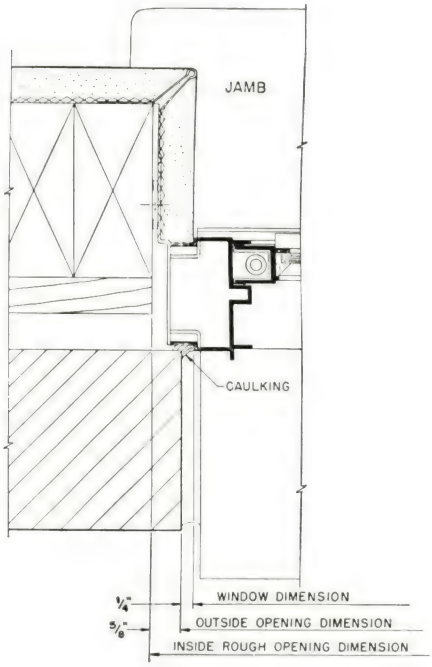
FRAME



BRICK VENEER

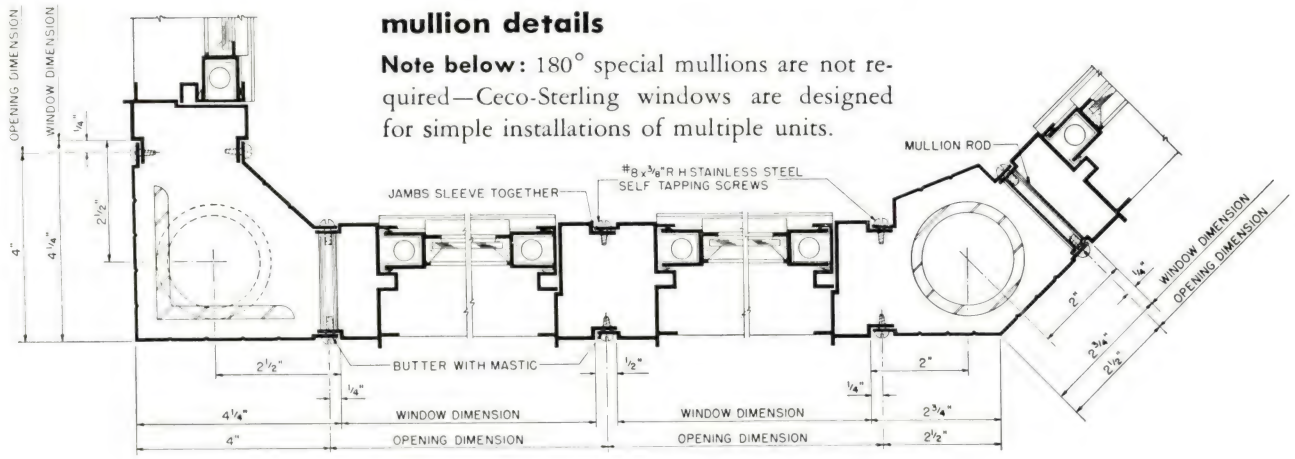




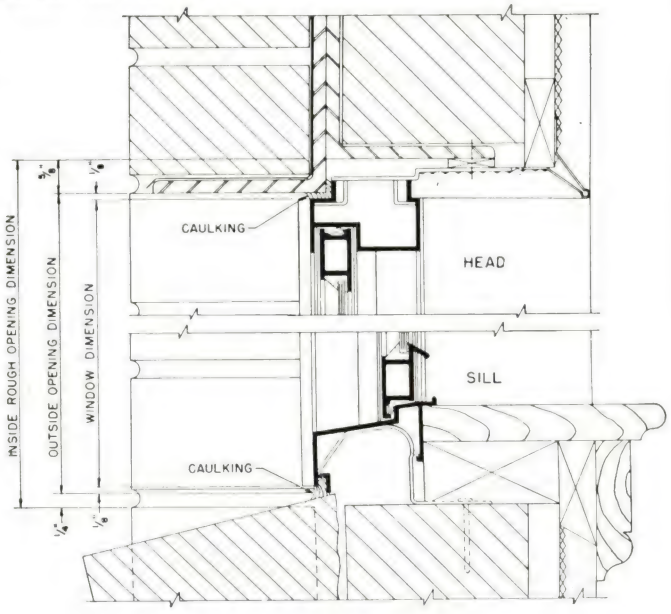


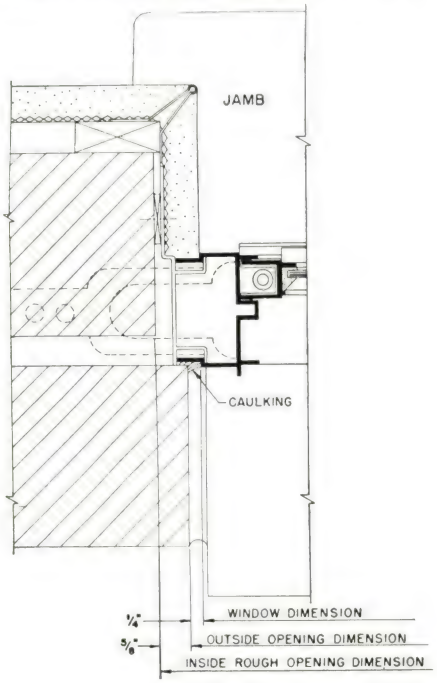
mullion details

Note below: 180° special mullions are not required—Ceco-Sterling windows are designed for simple installations of multiple units.

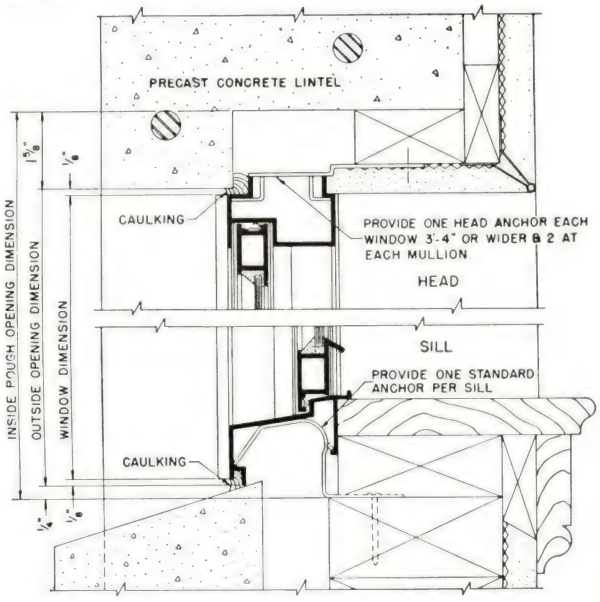


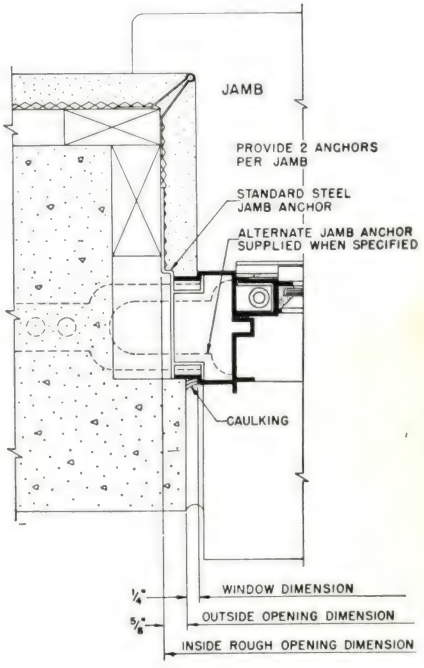
SOLID MASONRY





CONCRETE BLOCK





Aluminum Residential Windows • series 50-B

exterior fin & trim

Ceco-Sterling Exterior Fin & Trim is employed in frame construction. It deserves consideration because of the savings in erection time. It is easily and quickly installed on the window frame, eliminating fitting other trim. The jambs act as convenient guides for siding. Siding also butts to the drip cap at the head and to the sub-sill at the sill. The assembly work is done by the window erector.

installation instructions

A —Attach left-hand fin to frame with #8 x 3/8 round-head self-tapping screws and Tinnerman nuts.

B —Attach right-hand fin to frame with #8 x 3/8 round-head self-tapping screws.

C —Attach drip caps with special wire clips.

D —Apply sill anchors.

E —Install window square and plumb and nail securely through jamb fin and anchors.

F —Apply bead of caulking to caulking leg of sub-sill.

G—Insert under window sill and nail through undrilled flashing leg into sheathing.

exterior brick mold

Ceco-Sterling Brick Mold is used in brick veneer or solid masonry construction. It too is a practical product and an added refinement, acting as an effective masonry guide and keeping the masonry units from crowding the window.

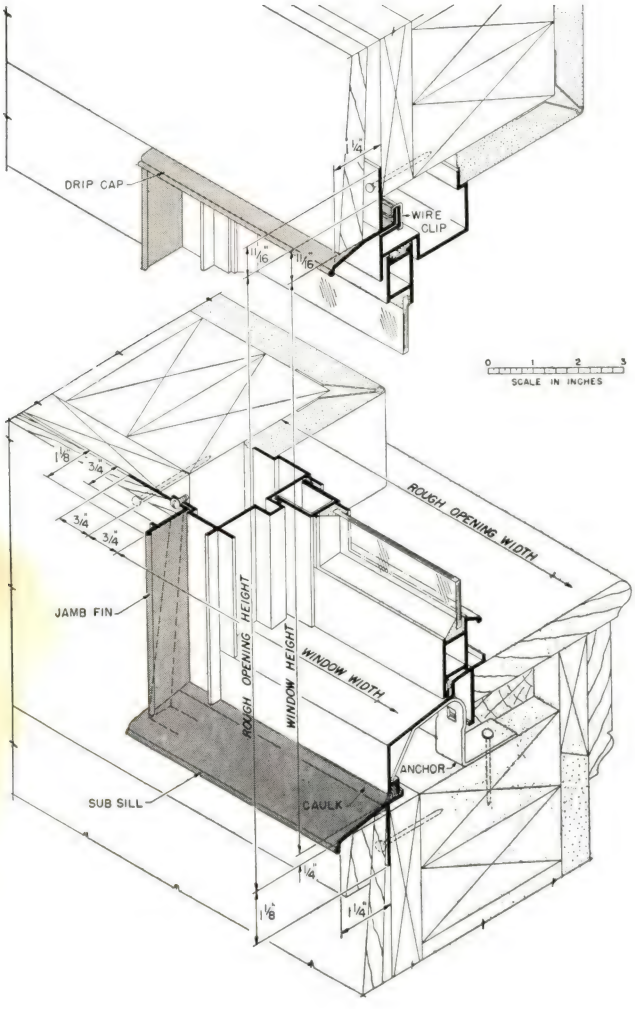
installation instructions

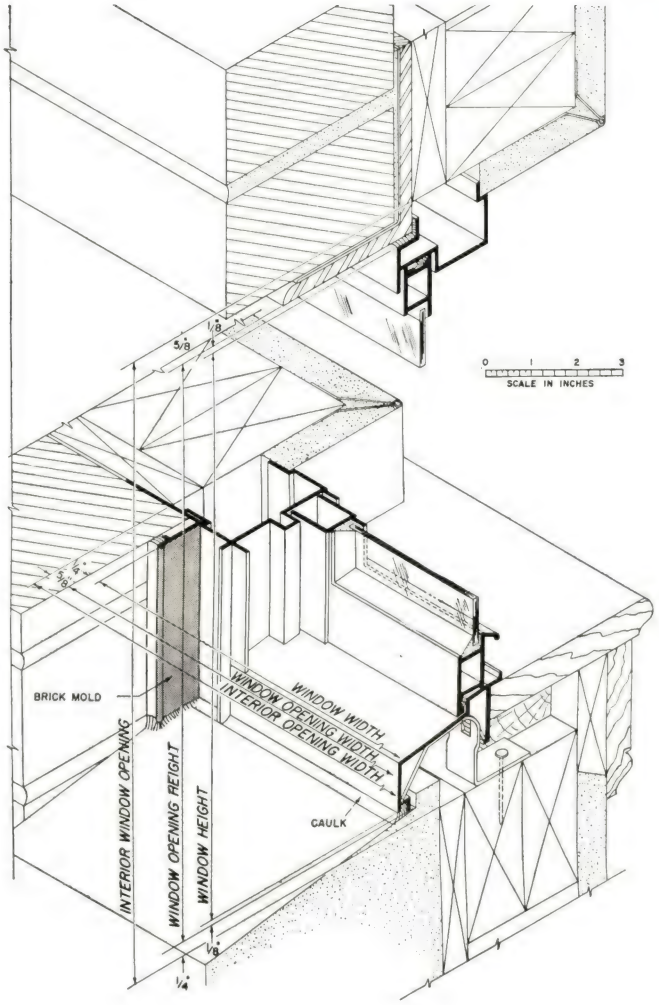
A —Attach left-hand fin to frame with #8 x 3/8 round-head self-tapping screws and Tinnerman nuts.

B —Attach right-hand fin to frame with #8 x 3/8 round-head self-tapping screws.

C —Apply sill and head anchors as required.

D —Install window square and plumb and nail securely through jamb fins and anchors.



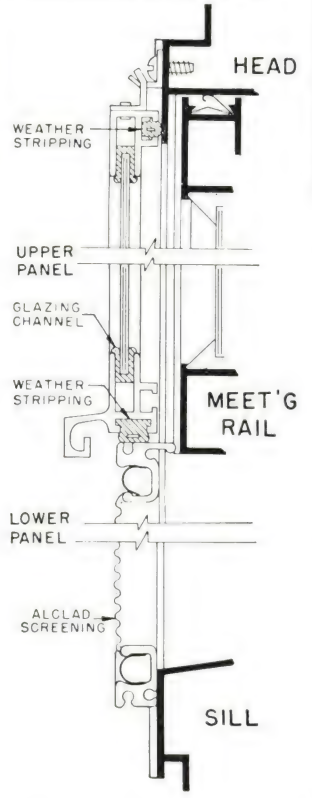


screens and storm windows • *half-size sections*

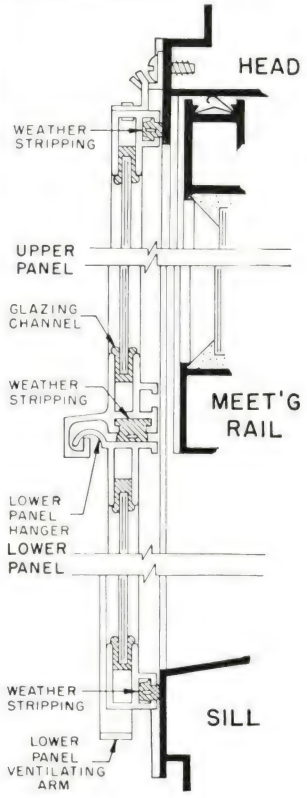
Screens are manufactured from extruded or rolled aluminum sections and contain aluminum screen cloth.

Storm windows are manufactured from extruded aluminum sections and are glazed with glass set in plastic seal.

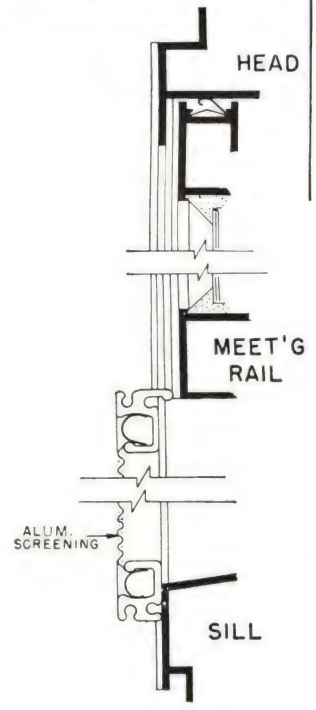
storm sash and screen panels



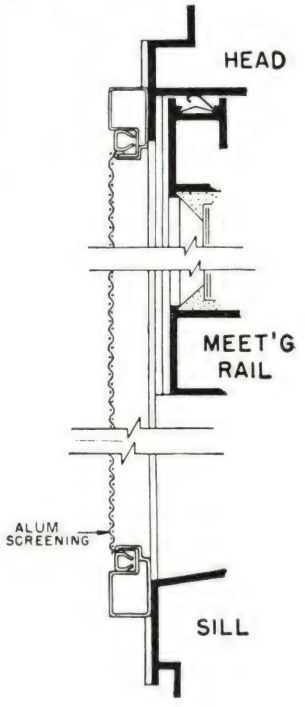
full two-panel storm sash



half-panel screen



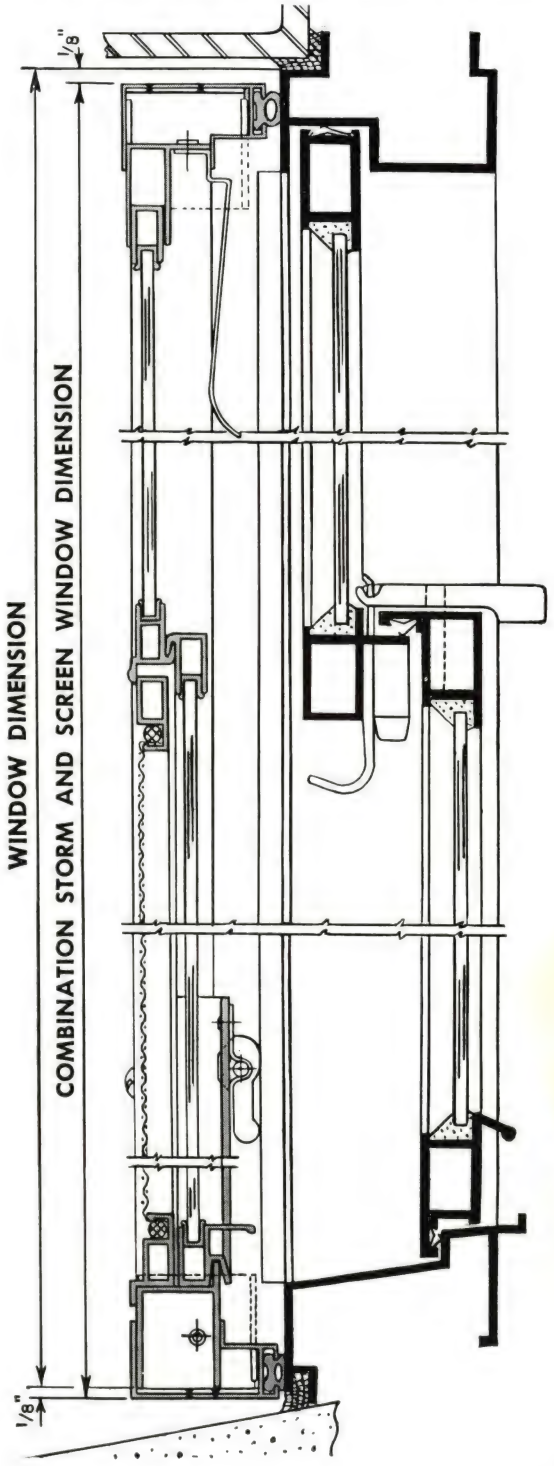
full one-panel screen



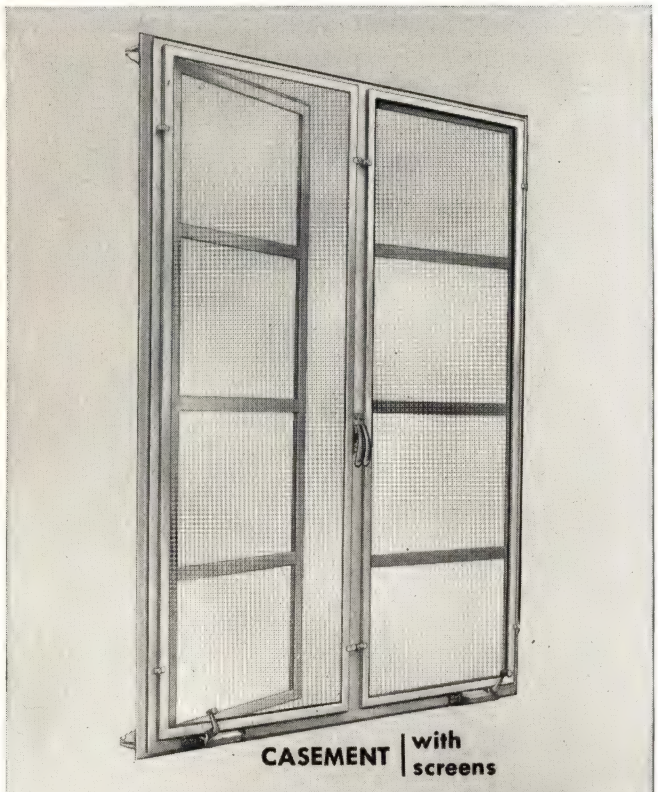
3 in 1 window • *prime • storm • screen*

The Ceco-Sterling 3-in-1 aluminum window is comprised of a series 50-B Prime window and a combination Storm and Screen unit. The Storm and Screen unit is attached directly to the Prime window after installation. The Prime window is shipped without glass. The Storm and Screen unit is glazed.

This product is available in types and sizes as shown on pages 16 and 17. Add prefix "X" before type number to indicate complete 3-in-1 window, as X20H16. Matching picture windows with fixed storm windows are available.



Aluminum Residence Casements



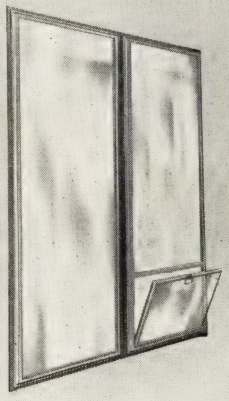
Aluminum Residence Casements have made rapid strides in popularity in all sections of the country. Besides the strong appeal of a modern glamor metal, their popularity centers around the ease of maintenance. The windows need not be painted, and they are easily cleaned by washing when the window glass is washed. Neutral in color, aluminum blends harmoniously with any surrounding color and any style of architecture.

Residence Casements are used by leading designers in all types of homes—large, small, traditional, modern. They are also used in apartments and small commercial buildings. Owner advantages of casements: Side-hinged ventilators control ventilation; full-vented types open to provide 100% ventilation; slender frames provide 10% to 30% more light; easy to open; easy to wash from inside the home; easy to screen and storm window from inside; hardware included, no extras to buy. Builder advantages: Easy to install; no fitting necessary; carried in stock.



screens

Ceco Screens for aluminum casements are made in aluminum frame. They are supplied with aluminum cloth, 18 x 14 mesh. Screens are easily attached to the inside of the windows with inconspicuous and conveniently located clips, and are easily removed and re-attached. A separate screen is furnished for each ventilator. Windows can easily be opened and closed with the window operator without touching the screen. There is no interference with shades or draperies. Frames are furnished with removable spline permitting easy rewiring.



storm windows

Ceco Storm Windows are manufactured of specially designed extruded aluminum sections, completely assembled and glazed with double strength glass at the factory. Rubber weathering seal is also furnished. Storm window units are provided for fixed side lights, transoms and operated ventilators to give complete coverage of glass and aluminum. Complete coverage is important because it conserves heat and retards condensation by insulating the metal window frame as well as the glass. Also, complete coverage enlarges the livable portion of the room in winter by allowing the air near the window to be warmed economically. Ventilators are available as illustrated in the photograph. If desired, they must be ordered with the storm windows.

specifications

GENERAL—All windows shall be of standard Aluminum Residential Casements as manufactured by Ceco Steel Products Corporation of sizes and types shown on the Architect's drawings. They shall conform to the Aluminum Window Manufacturers Association Specification C-A1.

MATERIAL—All principal members shall be especially extruded aluminum alloy 6063T-5 having a tensile strength of not less than 27000 P.S.I. The solid extruded 1″ Z shaped sections are to be not less than ⅛″ in thickness and have 5/32″ web thickness.

CONSTRUCTION—The corners of the window frame and the ventilators are to be electrically flash welded with exposed surfaces at the weld, dressed to a smooth finish. Muntin bars shall be firmly attached at the cross joints and riveted to the abutting sash section. Side hinged ventilators to open out shall be on extension cleaning type hinges. Hinges are to be of aluminum securely welded to the frame and riveted to the ventilators. The hinge pins and the washers to be stainless steel. A continuous drip rail shall be provided at the transom bars and when specified at the head of the opening where ventilators extend the full height of the window. All windows shall be prepared for screens.

FINISH—All windows shall have a thoroughly clean natural aluminum finish with a protective coating of an approved type water-clear lacquer.

HARDWARE—All unattached hardware shall be packaged and shipped separately to prevent damage and shall be applied after erection. Operators shall be of the roto type die cast with aluminum finish. Handles to be die cast aluminum lacquer finish. Keepers and roto guides shall be of stainless steel. Necessary screws and rivets for attachment shall be of aluminum or non-magnetic stainless steel.

SCREENS AND STORM WINDOWS—All screens and storm windows shall be of aluminum as designed and manufactured by Ceco and of the flat fixed type. All screens and storm windows shall be easily removed from the inside.

related Items

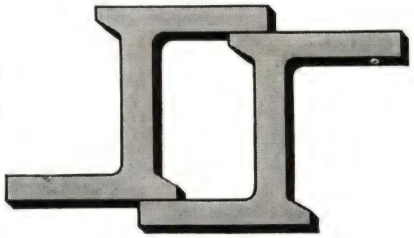
ERECTION—All windows shall be set plumb, true and level without springing or forcing in accordance with the Manufacturer's recommendation. Non-corrosive screws shall be used for the attachment to wood surrounds. Formed head and jamb fins, finished with an insulated coating, will be furnished when specified, complete with non-corrosive attaching bolts and nuts.

ADJUSTMENT—After windows are erected in place and before glazing, all ventilators shall be adjusted by erection contractor to operate smoothly and be weathertight when closed.

GLAZING—Windows shall be designed for glazing from outside, with spring wire glazing clips and aluminum glazing compound. (Glass, compound, glazing clips and glazing by others.)

full-size section

Sections for aluminum casements have a 5/32″ web. They have a full 1/8″ thickness in the flanges, and they are a full 1″ in depth.

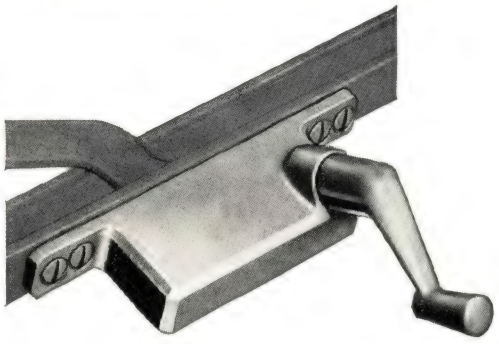


hardware

• operators

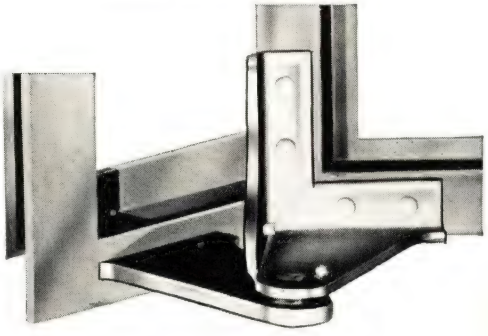
Roto Operators for aluminum residence casements are die cast with an aluminum finish. Operator arm is aluminum

2-8-20146—Left Hand 2-8-20246—Right Hand



• hinges

Hinges are the extension cleaning type, made of aluminum securely welded to the frame and riveted to the ventilator.



• locking handles

Locking Handles are die cast and have an aluminum finish. One Locking Handle is used for each ventilator. When two ventilators occur side by side, two Locking Handles are used.

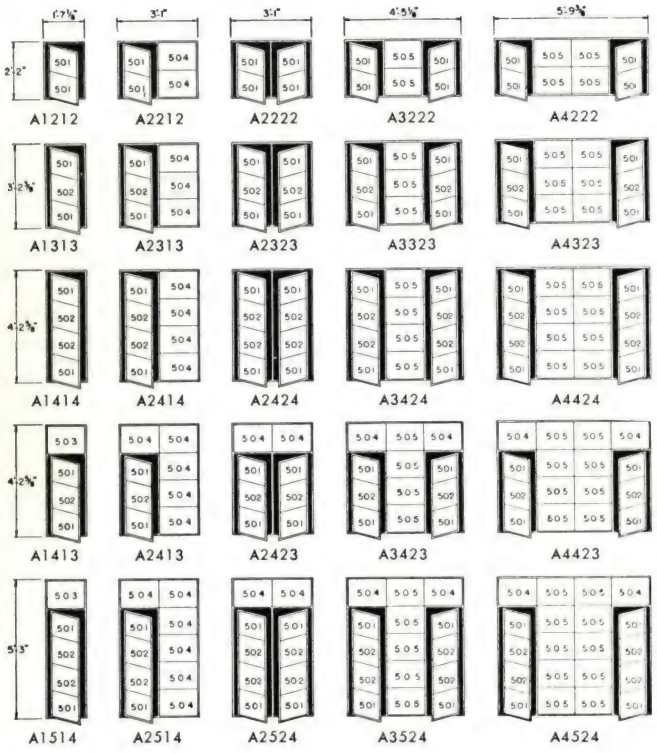


Two 2-8-10646 Locking Handles (for adjacent ventilators)



2-8-10646 (for single ventilator)

Aluminum Residence Casements • types and sizes



All ventilators swing out and are furnished with Roto type underscreen hardware, permitting the opening of the screened window without touching the screen. • Sizes shown are window dimensions. For opening dimensions of single units add ¼". For multiple window opening dimensions add actual unit dimensions plus ¼". • For casements with one ventilator, indicate by suffix L or R whether ventilator is left or right hand. (Example 1212-L.) All casements are viewed from outside. Handing is determined by location of hinges. A left-hand casement will have hinges on left when viewed from outside. • Glass sizes are for guidance only and should be verified on the job.

NOTE: *All types shown are also available as fixed types.*

Units shown, fixed or ventilated, are standard warehouse types. Muntin variations, as shown on facing page, may be obtained when specified, but as factory shipment only.

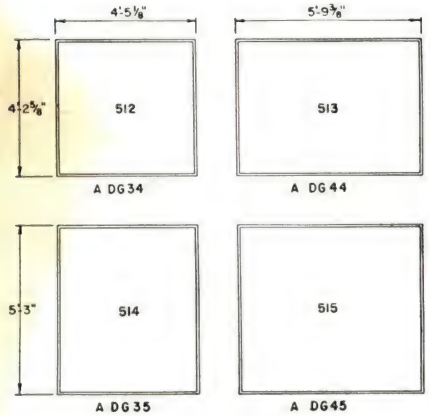
glass schedule

GLASS SCHEDULE			
MARK	W	H	
501	15¾	11¼	Glass sizes are for guidance and should be verified on the job.
502	15¾	12	
503	17⅛	12	
504	17½	12	
505	16	12	

picture windows • *type and sizes*

Ceco Picture Windows are available in six sizes for glass up to ¼" in thickness, and in four sizes for double insulating glass, as shown here. • Sizes shown are window dimensions. For opening dimensions of single units add ¼". For multiple window opening dimensions add actual unit dimensions plus ¼". (It is not necessary to add anything for mullions.)

for insulating glazing

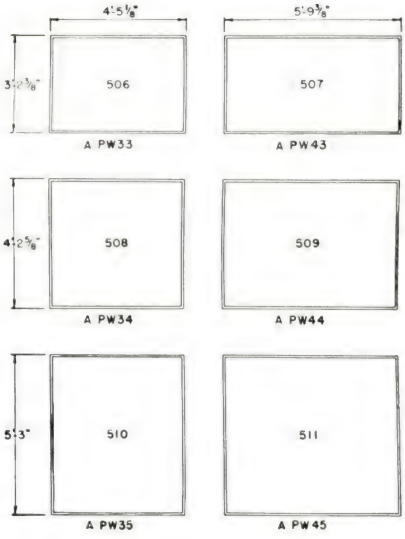


Designed for stock sizes of 1" insulating glass. Supplied with continuous inside glazing strips.

glass schedule

Mark	W	H	Mark	W	H
512	50⅜	47¾	514	50⅜	60⅛
513	66⅝	47¾	515	66⅝	60⅛

for standard glazing

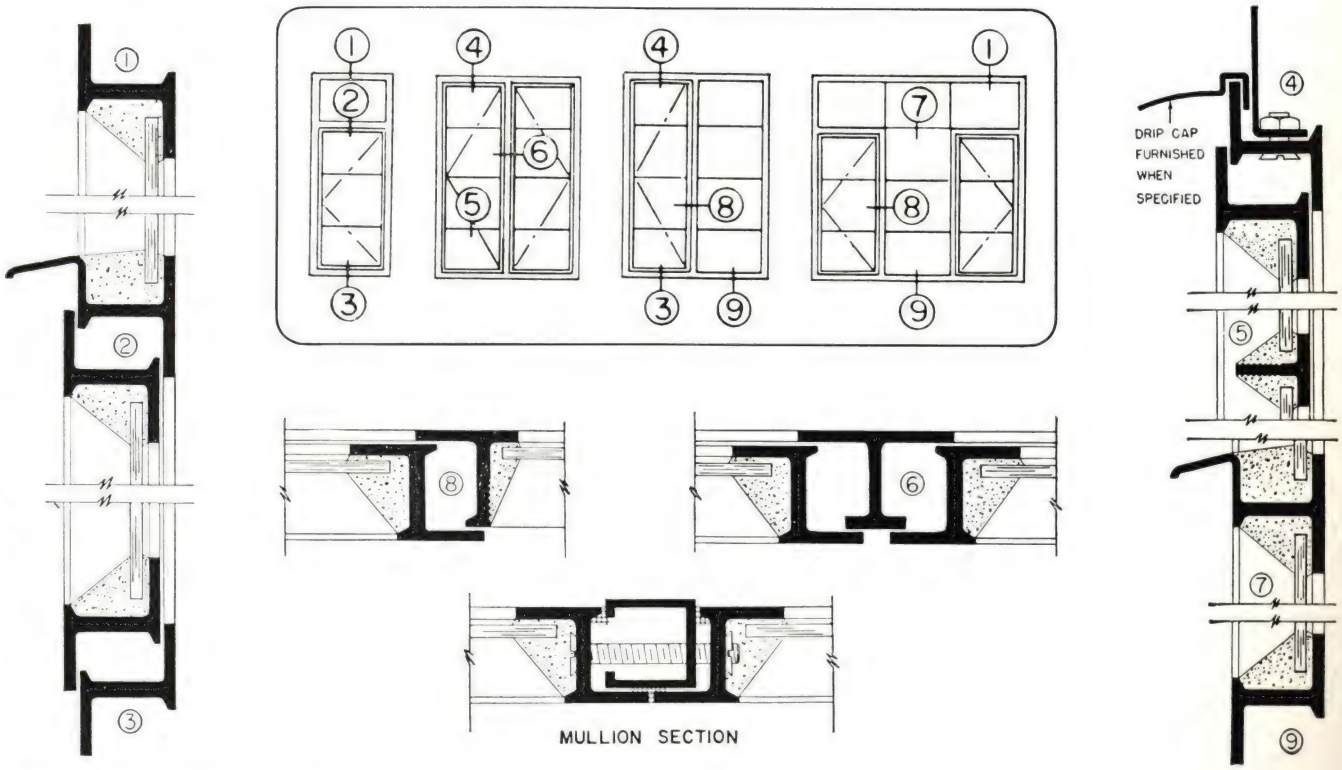


The six stock sizes illustrated at the left, for standard glazing, are designed to receive up to ¼" plate glass.

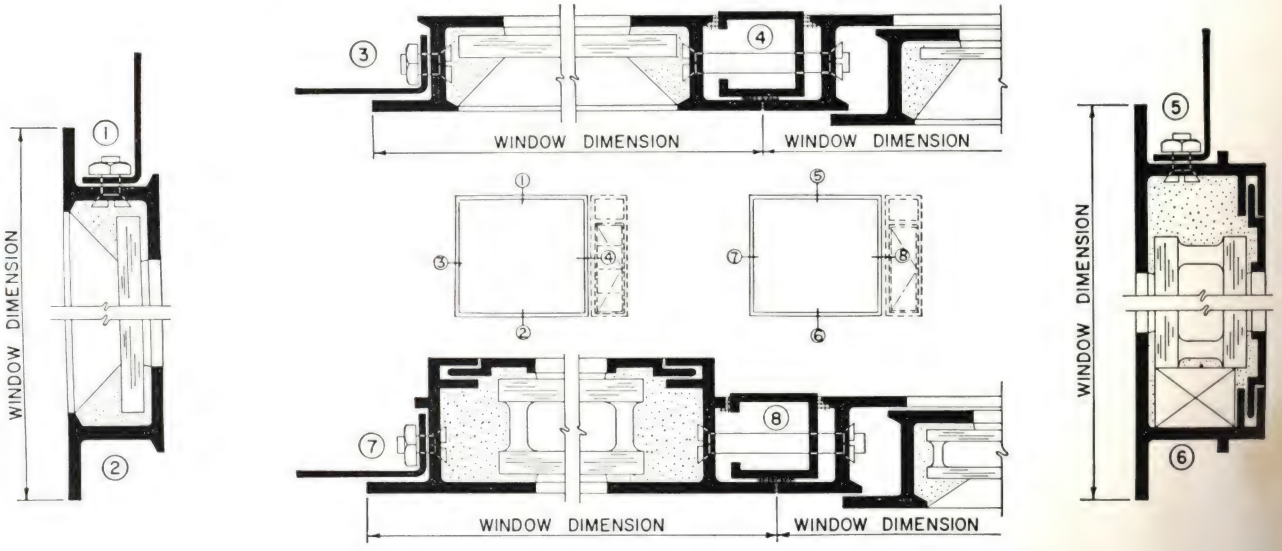
glass schedule

Mark	W	H	Mark	W	H
506	51⅜	36⁹⁄₁₆	509	67⅝	48⅞
507	67⅝	36⁹⁄₁₆	510	51⅜	61¼
508	51⅜	48⅞	511	67⅝	61¼

casement windows · *half-size sections*



picture windows · *half-size sections*



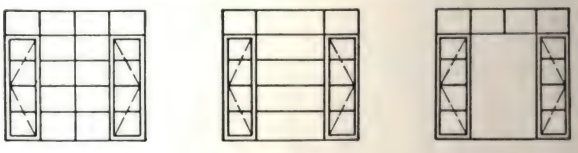
Muntin Variations—Additional architectural treatments may be obtained by omitting muntins from the casements shown on the opposite page. Below are illustrated several variations possible with only two sizes of residence casements.

SMALL WINDOW VARIATIONS



With All Muntins | With All Muntins | Vertical Muntins Omitted

LARGE WINDOW VARIATIONS



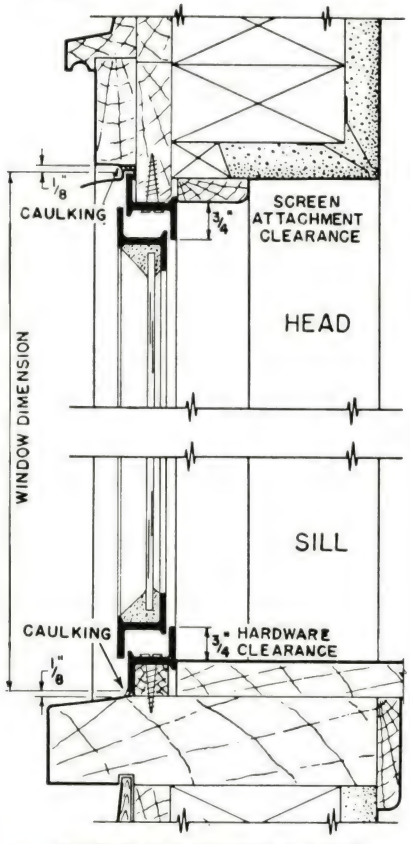
With All Muntins | Center Vertical Muntin Omitted | Horizontal Muntins In Vents Only

Aluminum Residence Casements

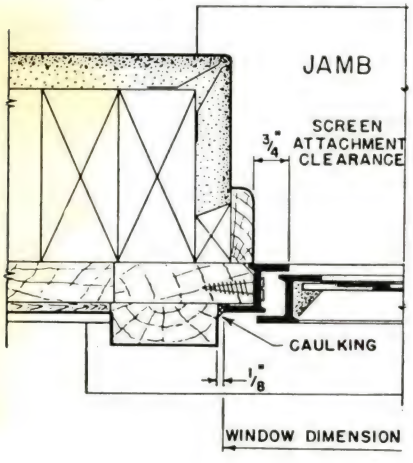
installation details • *scale 3″ = 1′-0″*

Note that the finished exterior openings are ¼″ higher and ¼″ wider than the window dimensions, to allow clearance for installing. In detailing the interior finish, observe the ¾″ clearances, needed for application of hardware, screens and storms. • The architect has considerable freedom in detailing casement installations beyond the few suggested drawings shown here. Stone sills may be used instead of brick. Structural glass or stone stools may replace wood. • Hardware is shipped in packages. The window erector installs the hardware after the erection of the window and adjustment of the ventilators. • Mastic is provided by the

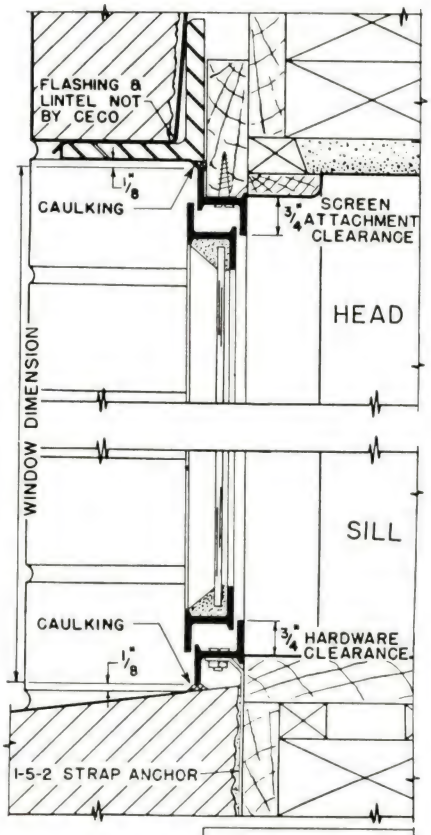
FRAME

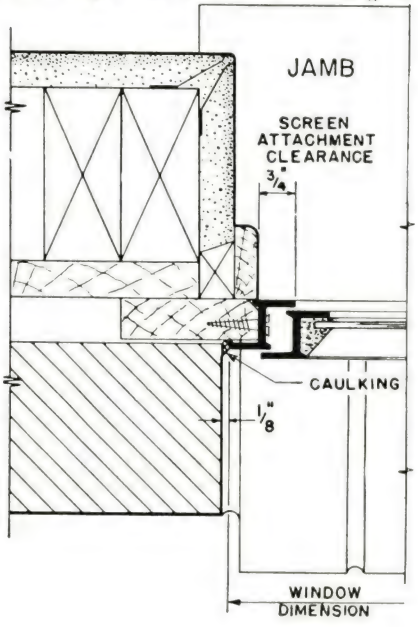


CAULKING TO BE FURNISHED BY OTHERS

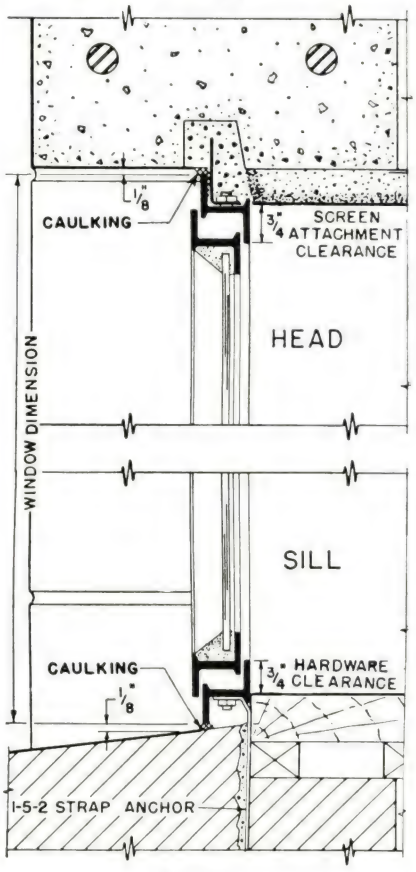


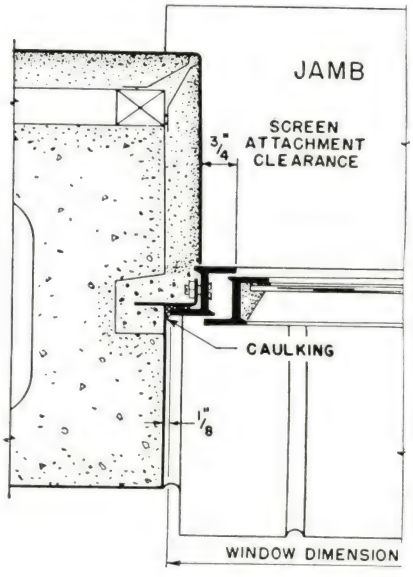
BRICK VENEER





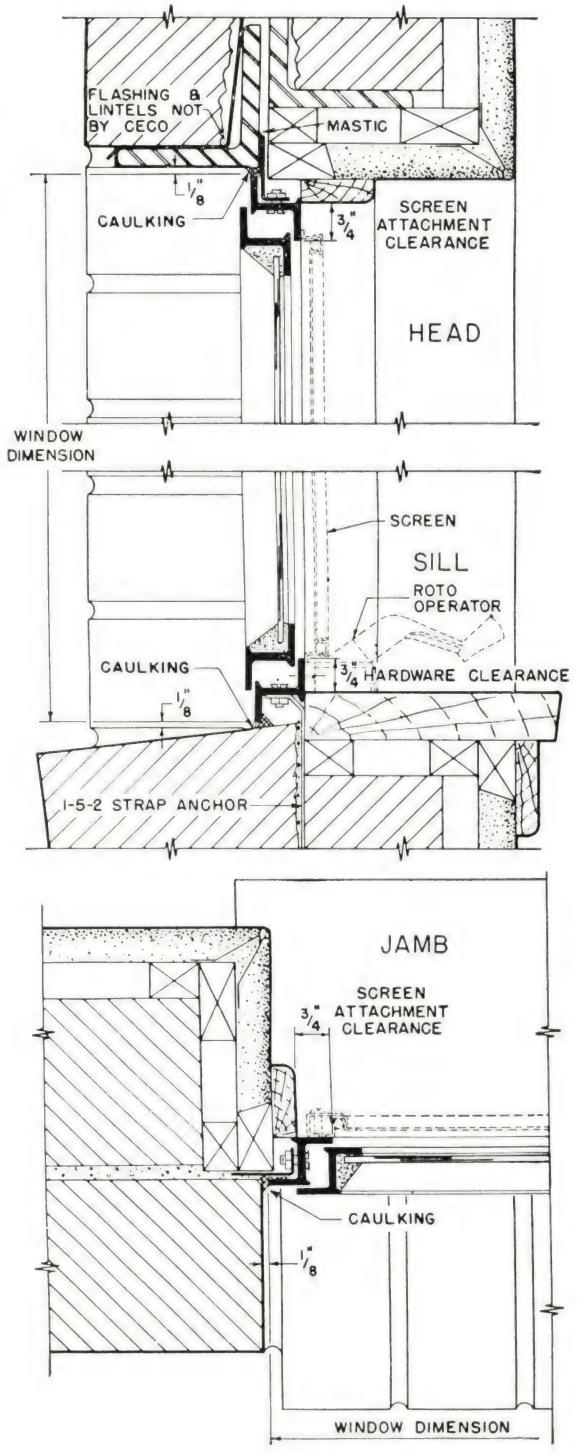
CONCRETE BLOCK





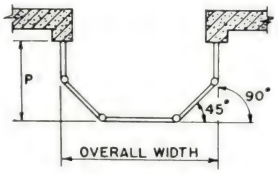
window erector but caulking is by other trades. • Fins are shipped loose. Strap anchors are shipped flat so they may be formed by the erector around any sill profile. The bolts and nuts necessary for the attachment of fins and strap anchors are furnished with the windows.

SOLID BRICK

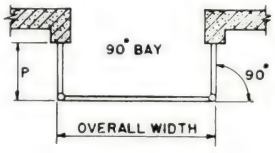


bay and corner mullions

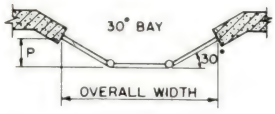
Standard Aluminum Pipe Mullions furnished by Ceco are not to be used as support members. Load-bearing mullions, furnished by others, are to be of proper size to carry the load. Top and bottom plates should be used with load-bearing mullions. • Pipe mullions are to be drilled in the field by the window erector to match anchor holes in the windows. • Mastic where indicated is to be furnished by the window erector, but caulking is by other trades.

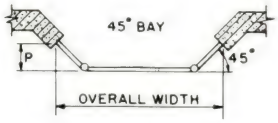


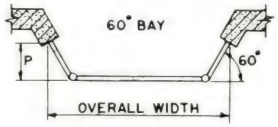
SQUARE SPLAYED BAY



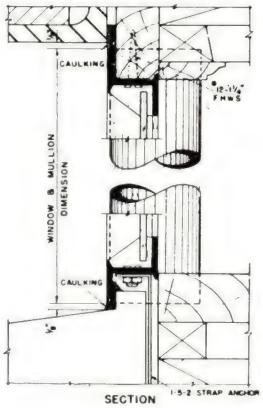
SQUARE BAY

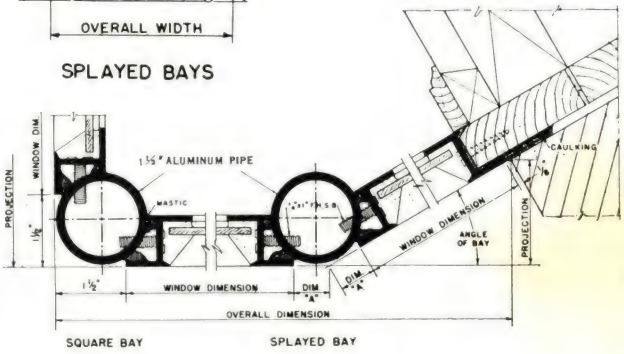






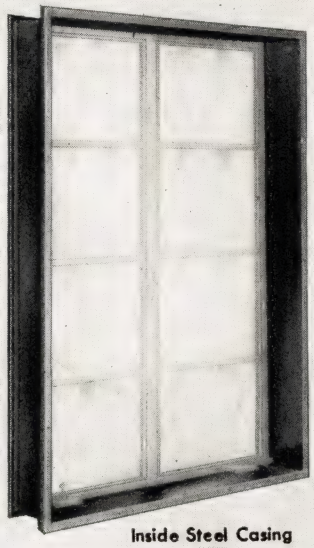
SPLAYED BAYS



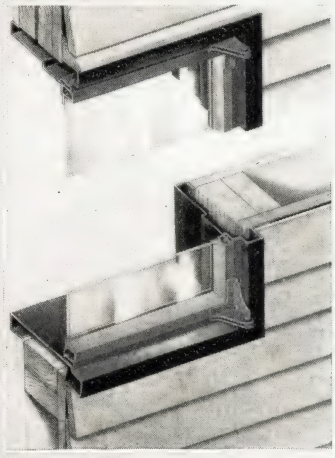


ANGLE OF BAY	LIGHTS IN RETURN	OVERALL WIDTH — LIGHTS IN FRONT SECTION 2	3	4	PROJECTION	DIM. "A"
30°	1	6'-1⅛"	7'-5¼"	8'-9½"	10"	¾"
	2	8'-8⅛"	10'-0¼"	11'-4½"	1'-6⅞"	
45°	1	5'-7¼"	6'-11⅜"	8'-3⅝"	1'-2¼"	⅞"
	2	7'-8½"	9'-0⅝"	10'-4⅞"	2'-2⅞"	
60°	1	4'-11¼"	6'-3⅜"	7'-7⅝"	1'-5½"	1"
	2	6'-5⅛"	7'-9¼"	9'-1½"	2'-9"	
90°	1	3'-4"	4'-8⅛"	6'-0⅜"	1'-8¾"	1½"
	2	3'-4"	4'-8⅛"	6'-0⅜"	3'-2⅝"	
SQUARE SPLAYED	1	5'-8¼"	7'-0⅜"	8'-4⅝"	2'-10⅞"	⅛"
	2	7'-9½"	9'-1⅝"	10'-5⅞"	5'-5⅛"	

Casings and Trim



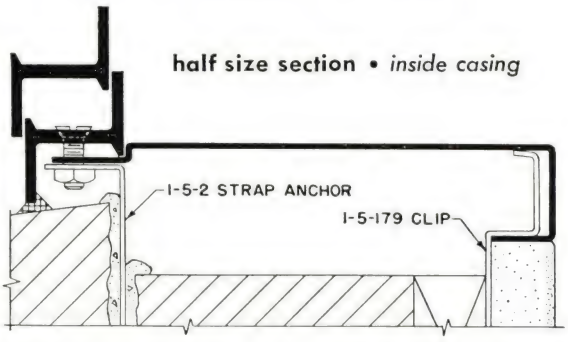
Inside Steel Casing



Inside-Outside Steel Trim

Ceco Inside Steel Casings and Inside-Outside Trim provide economical and neat finishes for aluminum casements. They are both available in 4½″ and 5¼″ depths for use with all standard residence casements and in popular multiple openings. They are adaptable to all kinds of wall construction, in small homes and large housing projects.

half size section • *inside casing*



inside-outside trim

types available

LIGHTS HIGH	LIGHTS WIDE					
	Single Unit Openings				Two Mullion Openings	
	1-Lt.	2-Lts.	3-Lts.	4-Lts.	5-Lts.	6-Lts.
2	**12**	**22**	**32**	**42**	**131-2**	**141-2**
3	**13**	**23**	**33**	**43**	**131-3**	**141-3**
4	**14**	**24**	**34**	**44**	**131-4**	**141-4**
5	**15**	**25**	**35**	**45**	**131-5**	**141-5**

All units shown are warehouse stock types for 5¼″ depth only. Nomenclature for Inside-Outside Trim shown above corresponds to the casement units with which they are to be used. Examples: 23 Inside-Outside Trim is used with a 2313 or 2323 casement. 131-3 Inside-Outside Trim is used with 1313-L casement, 33 fixed window and 1313-R casement.

specifications

GENERAL—All inside-outside trim units for aluminum residence casements shall be manufactured, complete with all necessary anchors, by Ceco Steel Products Corporation.

MATERIAL—Head and Jamb members of inside-outside trim shall be fabricated from 18 gauge steel. Sill members shall be made from 16 gauge steel.

CONSTRUCTION—Inside-outside trim shall be formed to depths of 4½″ and 5¼″ measured from inside face of window to inside plaster line at the head and jambs. The stool extends ⅜″ inside. Inside flange of inside-outside trim to be 1″ wide. Clip anchors shall be furnished to secure the trim to the wall construction. Inside-outside trim shall provide for mortise and tenon assembly of all four corners.

BONDERIZING AND PAINTING—All inside-outside trim units shall be treated with Bonderite and receive one coat of gray primer paint baked on at 300° F. for not less than one-half hour.

FIELD PAINTING—Immediately upon delivery, and before attachment to windows, inside-outside trim shall be painted by painting contractor with one coat of color selected by the owner and a second coat applied after installation.

ASSEMBLY—Inside-outside trim members shall be accurately fitted and tenons clinched over by erection contractor. The inside-outside trim unit is then to be secured directly to casement by means of sheet metal screws.

NOTE—*Shade bracket holes are not provided on standard trim, but can be punched if specified at a slight extra charge.*

casings

types available

LIGHTS HIGH	LIGHTS WIDE									
	Single Unit Openings				One Mullion Openings		Two Mullions Openings			
	1-Lt.	2-Lts.	3-Lts.	4-Lts.	4-Lts.	6-Lts.	4-Lts.	5-Lts.	6-Lts.	6-Lts.
2	**12**	**22**	**32**	**42**	22-2	33-2	**121-2**	**131-2**	**141-2**	222-2
3	**13**	**23**	**33**	**43**	22-3	33-3	**121-3**	**131-3**	**141-3**	222-3
4	**14**	**24**	**34**	**44**	22-4	33-4	**121-4**	**131-4**	**141-4**	222-4
5	**15**	**25**	**35**	**45**	22-5	33-5	**121-5**	**131-5**	**141-5**	222-5

Units in bold face figures are warehouse stock types for 5¼″ depth only. Casing nomenclature shown above corresponds to the casement units with which they are to be used. Examples: 23 casing is used with a 2313 or 2323 casement. 131-3 casing is used with 1313-L casement, 33 fixed window & 1313-R casement.

specifications

GENERAL—All inside steel casings for aluminum residence casements shall be manufactured, complete with all necessary anchors, by Ceco Steel Products Corporation.

MATERIAL—Head, Jamb and Sill members of casings shall be fabricated from 18 gauge steel.

CONSTRUCTION—Casings shall be J shaped with depths of 4½″ and 5¼″ measured from inside face of casement to inside face of casing. Inside face of casing to be 1″ wide and finish flush with plaster. Clip anchors shall be furnished to secure the casing to the wall construction. Casings shall provide for mortise and tenon assembly of all four corners.

BONDERIZING AND PAINTING—All casings shall be treated with Bonderite and receive one coat of gray primer paint baked on at 300° F. for not less than one-half hour.

FIELD PAINTING—Immediately upon delivery, and before attachment to windows, casings shall be painted by painting contractor with one coat of color selected by the owner and a second coat applied after installation.

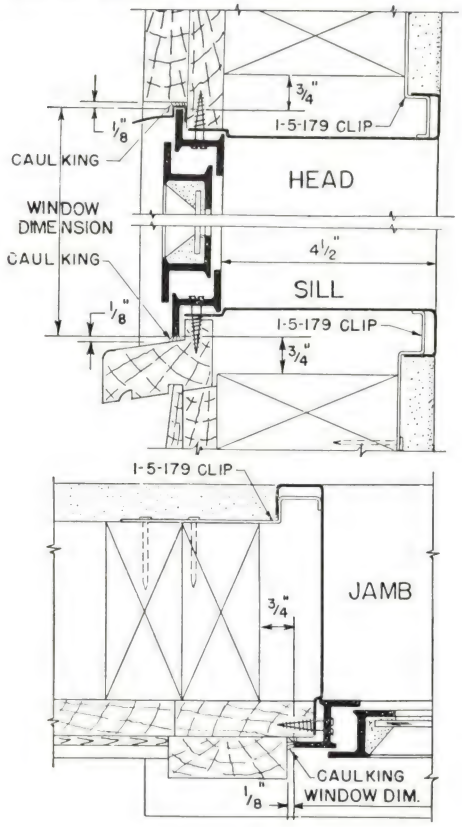
ASSEMBLY—Casing members shall be accurately fitted and tenons clinched over by erection contractor. The casing unit is then to be secured directly to casement by bolts and nuts.

NOTE—*Steel fins are recommended for masonry construction.*

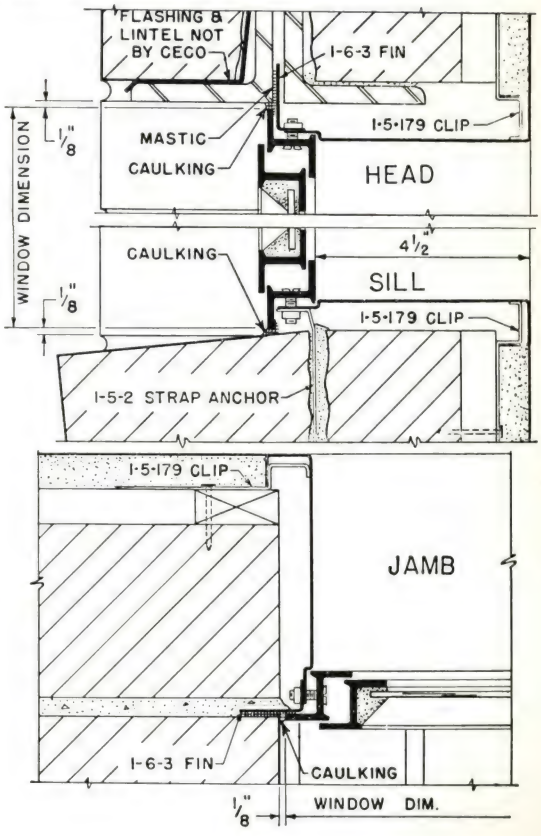
NOTE—*Shade bracket holes are not provided on standard casings, but can be punched if specified at a slight extra charge.*

installation details · *scale 3" = 1'-0"*

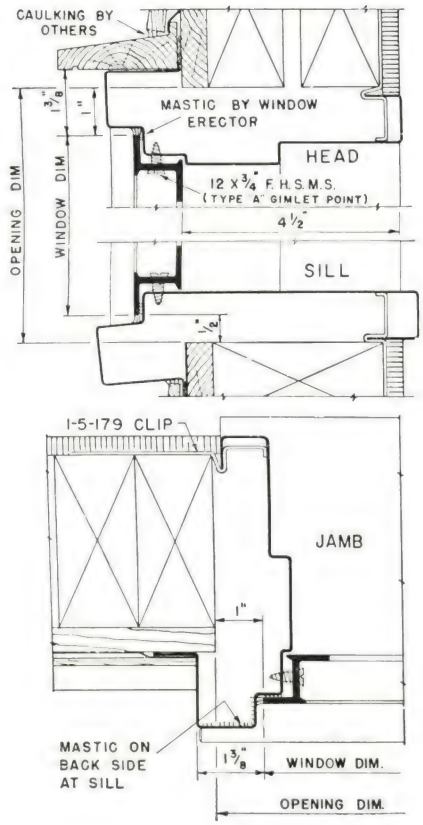
CASING—frame construction



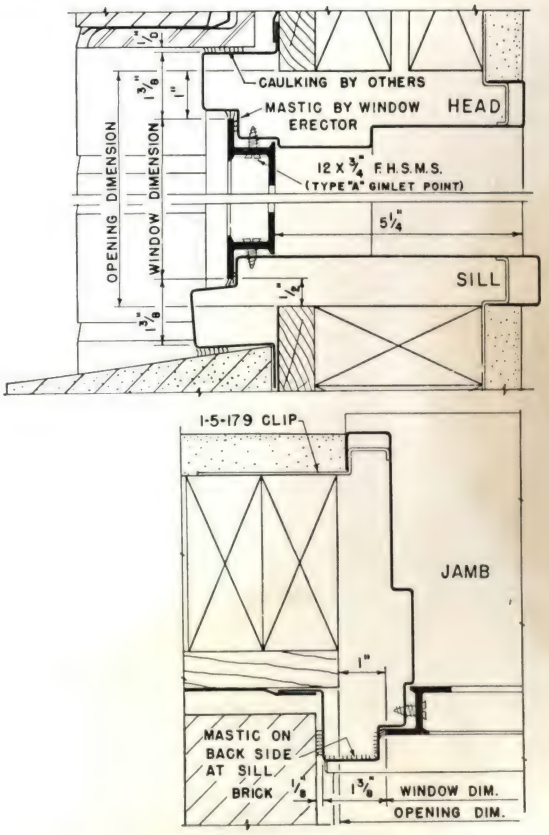
CASING—solid brick construction



TRIM—frame construction



TRIM—brick veneer construction





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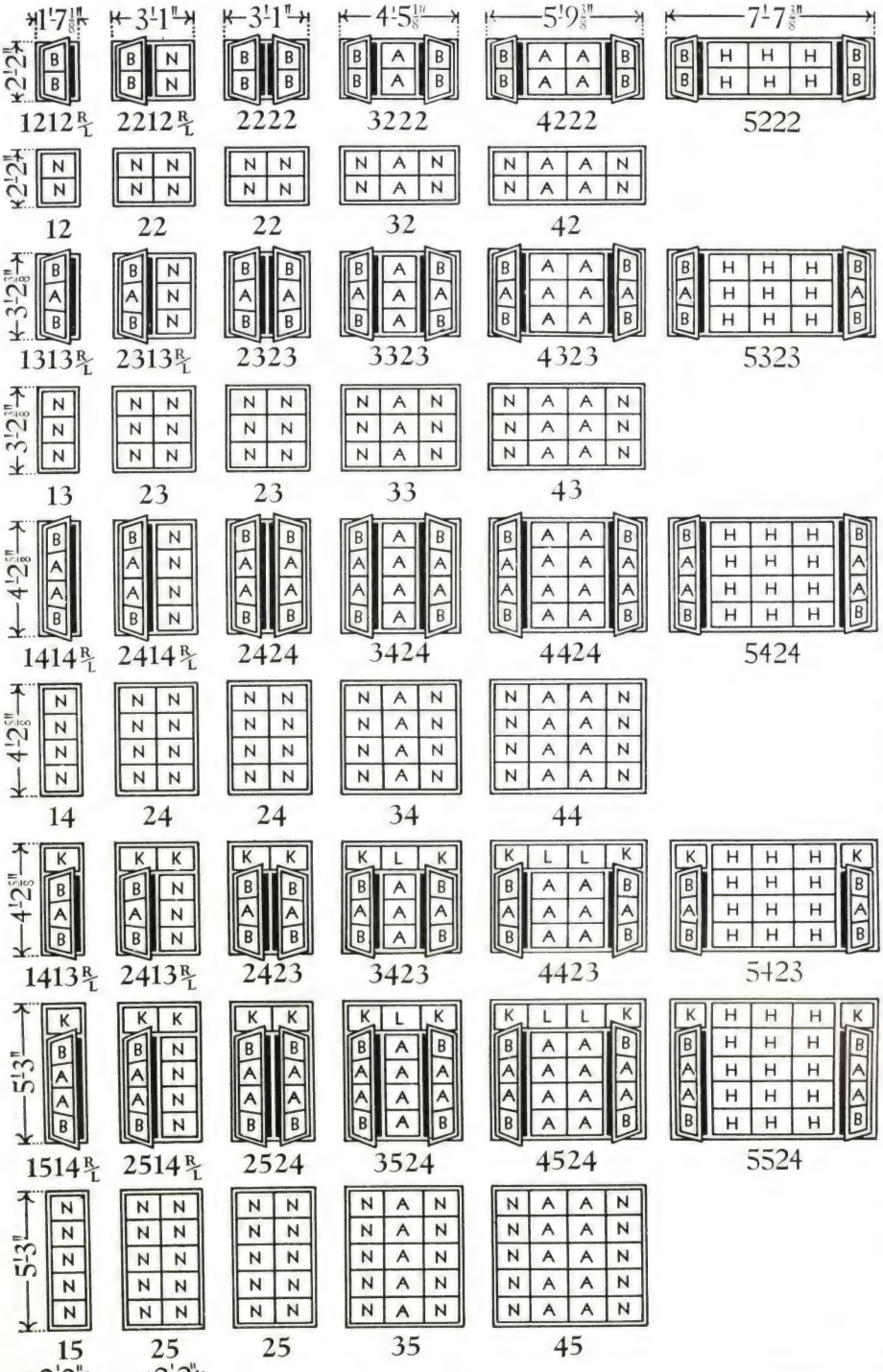
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REDWOOD SURROUNDS	PAGE 10
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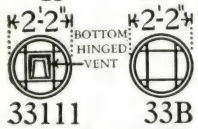
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HOPE'S RESIDENCE (*Holford*) CASEMENTS

STANDARD TYPES AND SIZES





33111 33B

Glass templates for these bullseye windows supplied by Hope's upon request.

THE standard roto, lever and fixed types shown hereon are kept in stock for warehouse shipment in all states except Washington, Oregon, California, Idaho, Utah, Nevada and Arizona. Refer to Head Office for leaflet showing types and sizes stocked in those states.

SIZES shown hereon are actual sash sizes; see full size section shown on page 3.

ELEVATIONS are shown as viewed from outside. Types containing single casements, for example: 1212, 1313, 2414, 2514, etc., are shown as left hands (indicate by suffix "L"). When the opposite hand is required please order them as right hands (indicate by suffix "R").

HOPE'S Residence Casements can be glazed with Libby-Owens' Thermopane, Pittsburgh Plate's Twindow or like insulating glass provided that the maximum overall thickness is 9/16". See page 4 for Picture Window information.

GLASS sizes shown in the glass schedule are for guidance only and should be verified on the job. When Thermopane is used refer to factory for sizes.

ALL muntins may be omitted for leaded lights or single panes of glass. F.M. (full muntin) types can be supplied from the factory against orders for 300 units or more. Steel frame screens (with bronze mesh) are kept in stock in standard sizes to fit the above casements.

TYPES and sizes shown are as recommended by the Steel Window Institute.

GLASS SIZES						
	A	B	H	K	L	N
WIDE	16"	16"	$17\frac{7}{8}$"	$17\frac{1}{4}$"	16"	$17\frac{1}{4}$"
HIGH	12"	$11\frac{5}{16}$"	12"	$11\frac{5}{8}$"	$11\frac{5}{8}$"	12"

HOPE'S RESIDENCE (*Holford*) CASEMENTS

HARDWARE AND SPECIFICATIONS

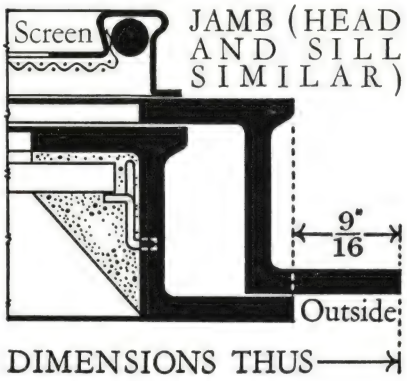
FOR ROTO OR LEVER TYPES

SCOPE AND CONSTRUCTION—All windows shall be Hope's Residence (*Holford*) casements (roto or lever type) in the standard types and sizes as indicated by reference numbers on the drawings. Casements shall consist of inner and outer frames of solid rolled low carbon new billet steel having a minimum depth of 1″ from front to back and a combined weight of not less than 2.1 lbs. per lineal foot (exclusive of angle fins or hardware). All corners shall be solid welded and neatly cleaned off with faces finished smooth. Sections shall provide a continuous two point flat weathering contact between the inner and outer frames throughout the perimeter of the casement without the aid of loose or applied linings. All side hung casements shall open outwards. Muntins shall consist of rolled steel tee sections, carefully coped and riveted to ventilators and/or frames.

HARDWARE—All casements shall be hung on mild steel extension cleaning hinges having solid brass pins and washers, and shall be fitted with standard fastener No. 92 and standard roto-operator No. A90. (Hope's standard LEVER operator No. 93 is interchangeable with standard roto-operator No. A90 and costs less—specify it when required.)

PAINTING—All steel work shall be cleaned free from rust and loose scale and shall be bonderized and painted one coat of DuPont's special rust-inhibitive primer stoved on at 325 degrees F. for at least 35 minutes. Field coats of paint shall be applied by the painting contractor. (We recommend one field coat before glazing and one field coat promptly after the glazing compound has set.)

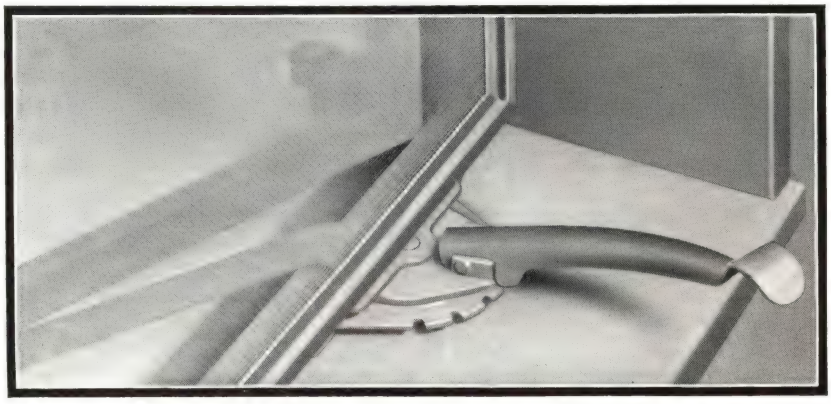
GLAZING—Windows shall be arranged for outside glazing with steel sash glazing compound. Glass, steel sash glazing compound, glazing and glazing clips shall be by glazing contractor.



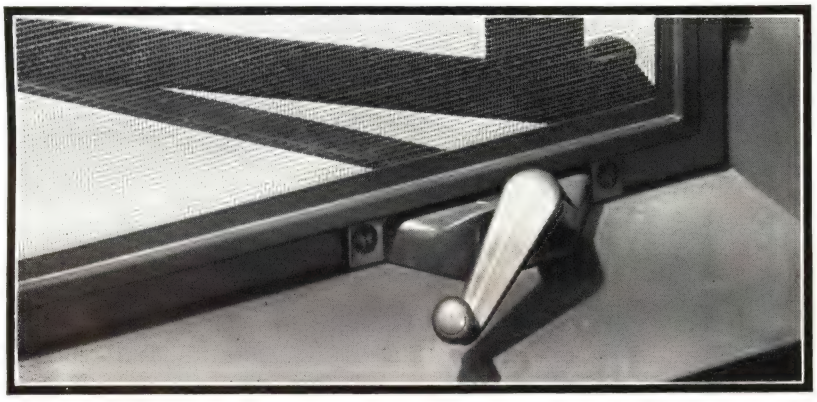
SCREENS for roto or lever types shall also be furnished by Hope's Windows, Inc., carefully packed and shipped separately. Screen frames shall be steel, rewireable, chemically treated, prime coated one coat gray rust-inhibitive primer stoved on and filled with 18 x 14 mesh bronze wire cloth, or 18 x 14 galvanized and iridited steel wire cloth, held in place with solid steel splines. Screen fastenings shall permit easy attachment or removal from the interior side

REDWOOD SURROUNDS of California clear heart redwood kiln dried, shall be supplied in standard sizes to fit the windows with head, jamb and sill pieces cut to exact length, coped and mitered at the corners for easy field attachment, then bundled together with ends protected for shipment with the windows.

INSTALLATION—All windows shall be installed by Hope's Windows, Inc., set plumb and true, properly aligned and securely anchored in accordance with manufacturer's standards. This contractor shall also properly adjust all ventilators before glazing by glazing contractor



LEVER OPERATOR No. 93 (Left Hand)



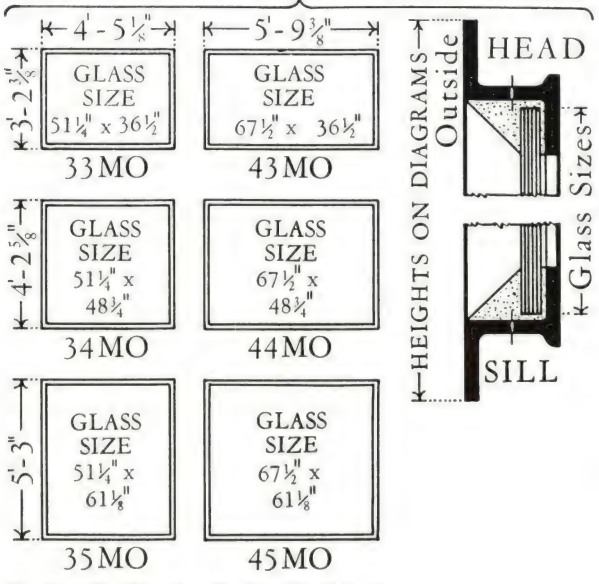


ROTO OPERATOR No. A90 (Left Hand) and FASTENER No. 92 (Left Hand)

HOPE'S RESIDENCE (*Holford*) CASEMENTS

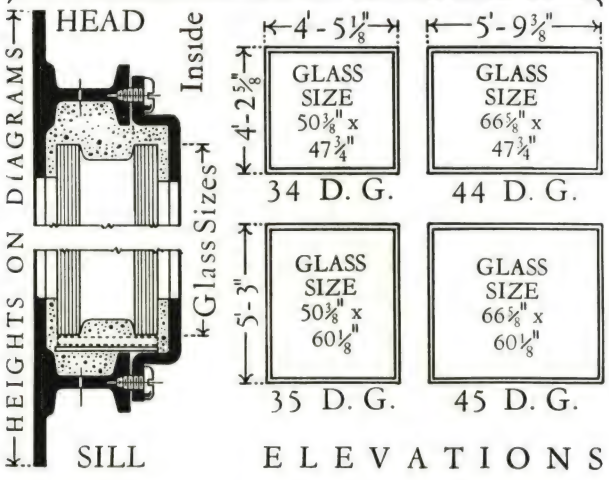
PICTURE WINDOWS IN STANDARD SIZES

OUTSIDE PUTTY GLAZED TYPES FOR USE WITH SINGLE GLASS

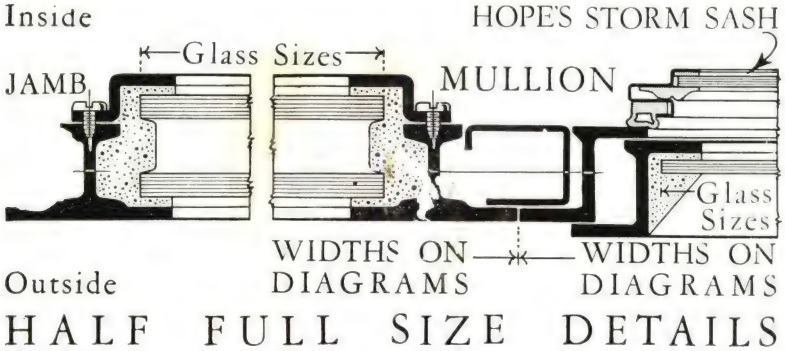


E L E V A T I O N S

INSIDE GLAZED TYPES FOR USE WITH STOCK SIZE THERMO GLASS



E L E V A T I O N S



H A L F F U L L S I Z E D E T A I L S



Picture Window
Residence of Mr. Ernest Fox, Frewsburg, N. Y.

ANY of Hope's Picture Windows shown hereon can be installed as single units in an opening, or when ventilation is required, in combination with any of the casements diagrammed on page 2. The interesting view in the picture above is framed by a Hope's Picture Window type 34 D.G. with a roto type 1414 Residence casement at either side for ventilation. A detail of the steel connecting mullion is shown at bottom left of this page.

THE six standard types of Hope's (*Holford*) Picture Windows shown in the first group are arranged for outside putty glazing with single panes of sheet or plate glass. These six types are shipped as completely fabricated units with all corners solid welded at factory. At a worthwhile saving in price they can also be furnished knocked down for field assembly.

THE four standard types of Hope's D.G. type Picture Windows, second group, are shipped as completely fabricated units, factory fitted with angular steel glazing beads spaced to receive stock sizes of nominal 1″ thick "Thermopane" "Twindow" or like insulating glass furnished by others

GLASS, glazing clips, steel sash putty and glazing shall be by glazing Contractor.

HOPE'S RANCH TYPE WINDOWS

BASIC TYPES, SIZES AND DESCRIPTION



DESIGNED for use in the increasingly popular style of residence for which they are named, Hope's Ranch Type Windows are equally effective in other styles of architecture, in other types of buildings, and with any conventional type of construction.

Hope's Ranch Type Windows are strongly made from 1⅜" solid hot rolled steel frame sections and ⅞" x 1⅜" vertical muntins. Ventilators project out and are prepared to receive standard screens. Unless specified otherwise, ventilators are located in the positions shown in elevations at right and may be omitted entirely when preferred.

ADVANTAGES

1. Specially designed for insulating glass, putty glazed with glazing clips. All fixed panes will accommodate standard ½" thick 36" x 24" units of Thermopane or Twindow. May also be glazed with single panes of double strength or plate glass.

2. Greater strength and rigidity. Muntin intersections are assembled with Hope's Lok'd Bar joint, strongest joint known. Ventilator frames are solid welded at corners.

3. Double steel to steel contacts around perimeter of each ventilator assure weathertight closing and minimum air-infiltration.

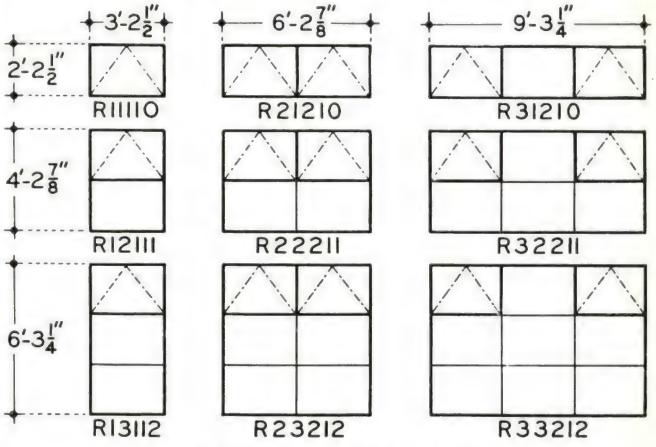
4. Ventilators project outward at bottom; awning effect permits ventilation even in rainy weather.

5. Bonderized and dipped one coat DuPont's special rust-inhibitive primer stoved on.

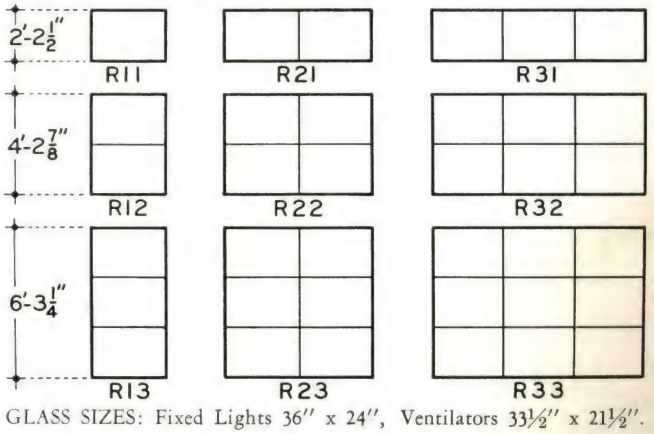
6. Inside steel frame screens quickly and safely attached from interior are hinged at top for easy access to fastener. No cumbersome wicket to mar the view. Screens are prime coated and filled with 14 x 18 mesh bronze wire cloth.

7. The "show window" effect of large undivided areas of glass is minimized by generous well proportioned panes which admit abundant light and provide picture window view.

VENTED TYPES



FIXED TYPES

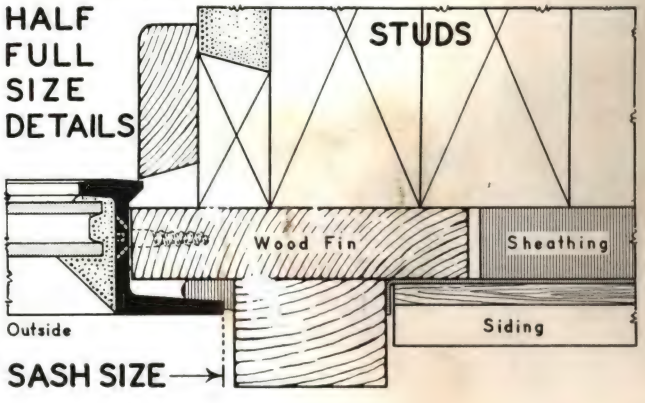


GLASS SIZES: Fixed Lights 36" x 24", Ventilators 33½" x 21½".

INSTALLATION

Hope's Ranch Type Windows are not load bearing and may be installed in all conventional types of construction. The jamb detail suggested below provides a simple method of installing Hope's Ranch Type Windows in wood frame construction.

Hope's Inside-Outside Combination Metal Trim (pages 6 and 7) and Standard Steel Casings (page 8) are also available for Hope's Ranch Type Windows.



HOPE'S INSIDE - OUTSIDE COMBINATION METAL TRIM

Designed for use with Hope's Residence (*Holford*) Casements in wood frame, brick veneer, masonry block or solid masonry construction this new easily assembled, quickly installed steel trim provides a unit which for high quality workmanship and easy low cost installation cannot be excelled.

ADVANTAGES

1. *SIMPLIFIES PREPARATION OF ROUGH OPENING*—locate the studs, nail the sheathing, trim the sheathing flush and the opening is ready.

2. *FAST, EASY INSTALLATION*—plumb and nail the complete unit to the sheathing and the window is completely trimmed inside and out with no finish carpentry required.

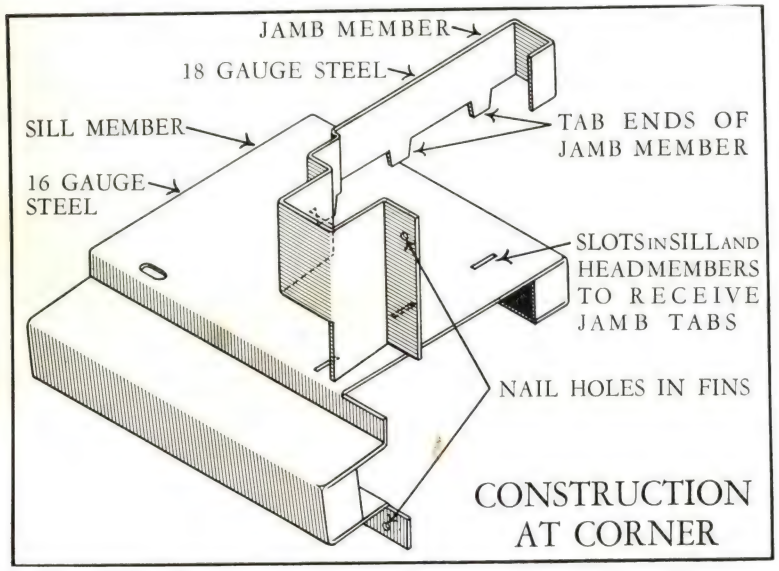
3. *PROVIDES TEMPLATE FOR BUILDER*—stops are provided on the inside for wallboard or plaster and on the outside for brick, clapboards, shingles, stucco, etc.

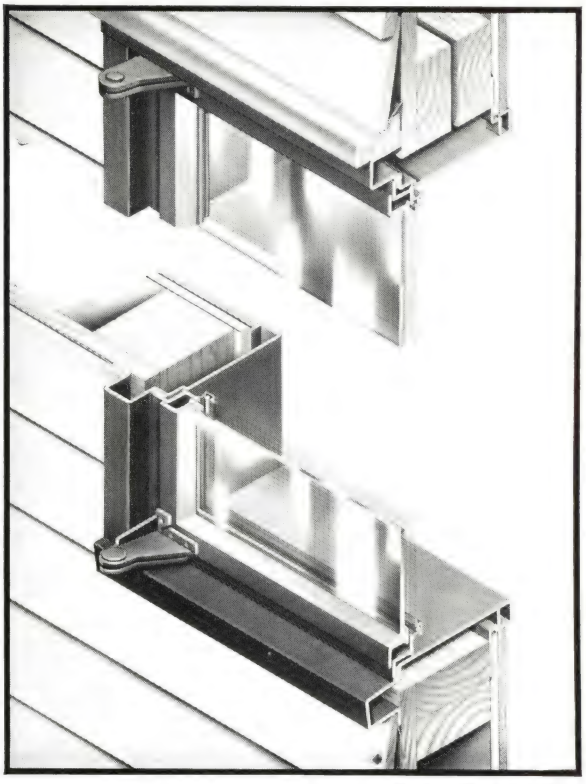
4. *FIRE SAFE and VERMIN PROOF*—made of solid steel.

5. *VENETIAN BLINDS and WINDOW SHADES*—can be cut to standard widths at reduced costs.

6. *EASY TO MAINTAIN*—the hard smooth interior surfaces of the trim are easy to clean—never warp, shrink or swell.

7. *SHIPPED K.D.*—for easy assembly in warehouse or at site.





Hope's Combination Inside-Outside metal trim is available for all Hope's Residence (*Holford*) Casements shown on page 2 hereof and for multiple openings containing a 3 or 4 light wide unit with a one light wide unit at each jamb.

Inside-Outside trim is also available for all Hope's Ranch Type Windows shown on page 5.

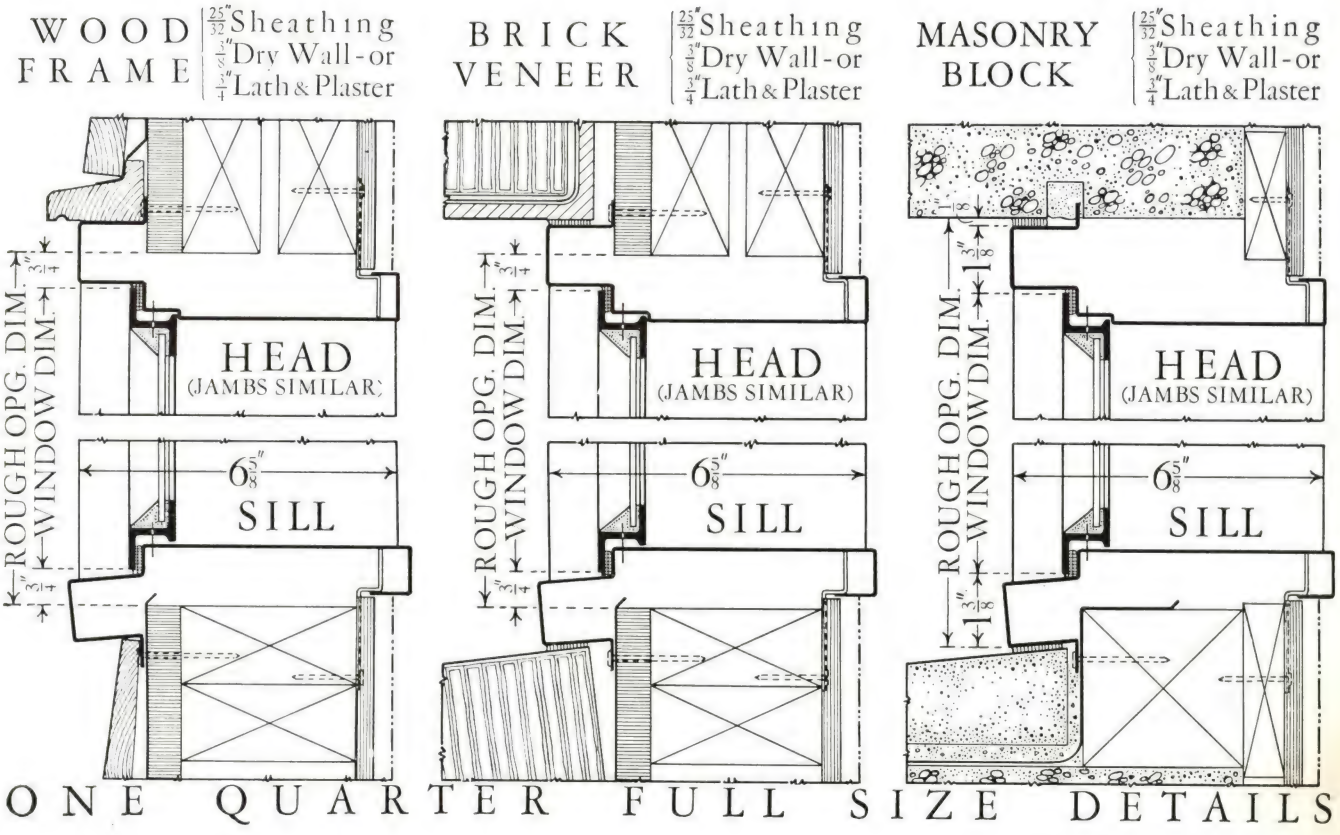
SPECIFICATIONS

Head and jamb members are 18 gauge steel, sill is 16 gauge steel; bonderized and dipped one coat DuPont's special anti-corrosive paint stoved on.

CONSTRUCTION FEATURES

Steel trim members are formed in one piece, ends are coped and fitted for precise fit. Head member over-laps jamb members for rigid weathertight joints. Sill member projects ¼" beyond vertical exterior and interior surfaces of jamb members for weathering and appearance.

HOPE'S INSIDE-OUTSIDE COMBINATION METAL TRIM

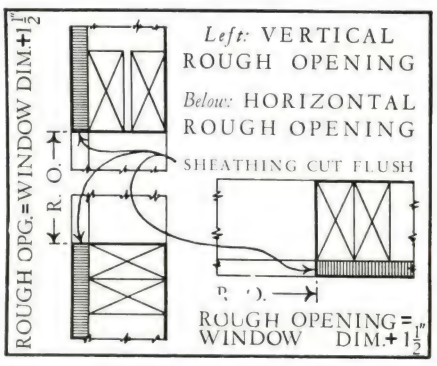


ONE QUARTER FULL SIZE DETAILS

PREPARING ROUGH OPENING

INSTALLATION begins with the preparation of the rough opening and when Hope's Combination Inside-Outside metal trim is used this is extremely simple.

STUDS, headers and rough sills are located to the proper clearance; namely, sash size plus 1½" in width and height (see diagram below); sheathing is applied, cut flush and the opening is ready to receive the assembled unit. It is not necessary to recess the sheathing for stops, fins, anchors, etc.



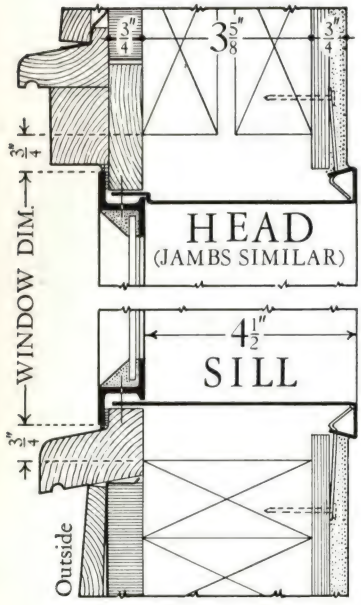
INSTALLING TRIMMED UNIT

EASILY accomplished by one man using only a level, a hammer and nails. The assembled unit is placed in the opening, wedged into position, plumbed and nailed in place. Nailing is from the outside, through holes provided in the trim—see details above, and nails go through the sheathing into the studs. Strap anchors are then inserted—see details—and nailed to the studs or furring.

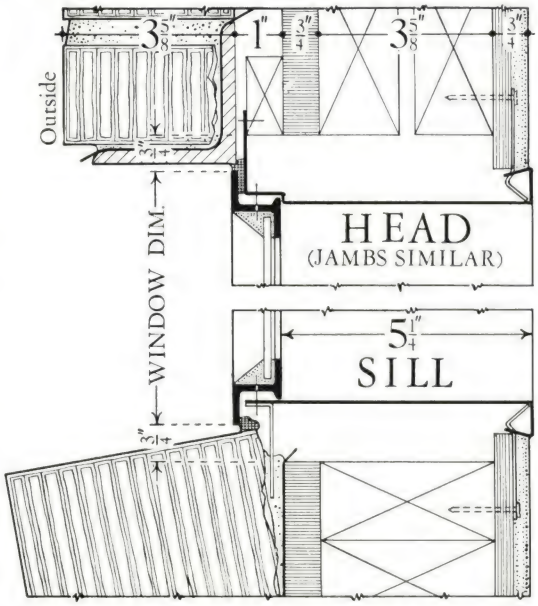
THE speed and simplicity of installation makes Hope's Combination Inside-Outside metal trim a quick and economical means of installing standard residence casements in all types of construction; there is no outside casing or inside trim to buy, cut, fit or install and anyone able to follow simple instructions can make speedy and perfect installations.

HOPE'S INSIDE METAL TRIM

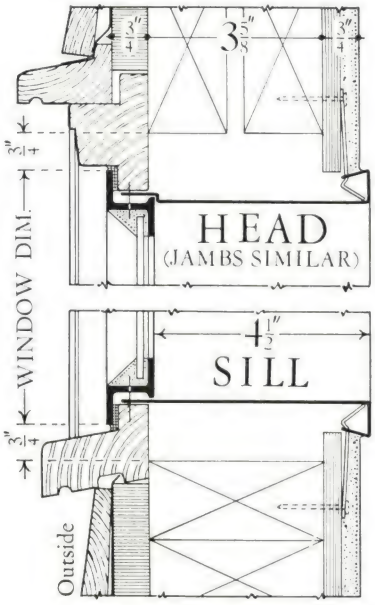
STANDARD STEEL CASINGS



FRAME CONSTRUCTION—WOOD OR STEEL FINS AT HEAD AND JAMBS



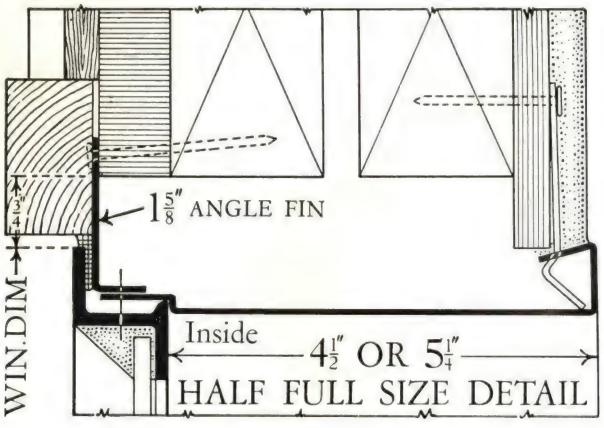
BRICK VENEER—METAL CASINGS HAVING INTEGRAL FINS AT HEAD AND JAMBS

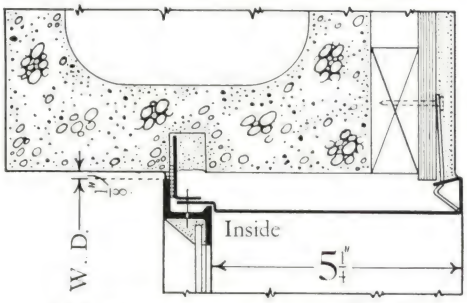


FRAME CONSTRUCTION—HOPE'S REDWOOD SURROUNDS AND METAL CASINGS

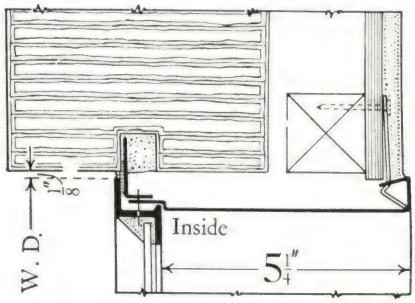
HOPE'S standard Steel Casings (inside metal trim) may be used with all types of building construction. Their use cuts installation time and material costs by eliminating window stools, aprons, corner beads, etc. Fire resistant and vermin proof, they cannot warp, shrink or swell and their hard smooth surface is easy to keep clean. During construction they act as stops for the interior plaster or drywall finish. Head, jambs and sill are 18 gauge steel, bonderized and dipped one coat of DuPont's special anti-corrosive paint stoved on.

HOPE'S standard Steel Casings are available from stock for all Hope's Residence (*Holford*) Casements (page 2) and all Hope's Ranch Type Windows (page 5) in 4½" or 5¼" depths as required. They are shipped knocked down for easy field assembly and attachment to casements with self-tapping screws.





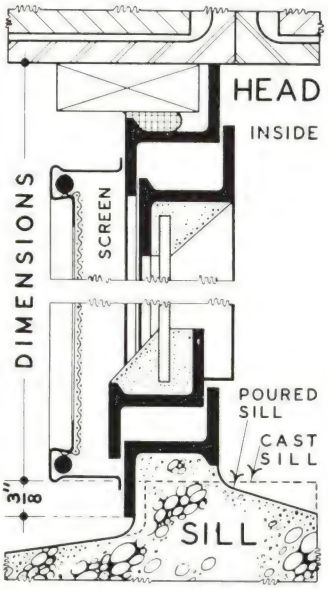
MASONRY BLOCK—JAMB (HEAD SIMILAR) 1⅝" ANGLE FINS AND 5¼" METAL TRIM



"SCR" BRICK—JAMB (HEAD SIMILAR) 1⅝" ANGLE FINS AND 5¼" METAL TRIM

INSTALLATION DETAILS ONE QUARTER FULL SIZE

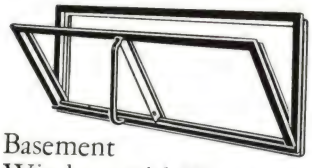
HOPE'S BASEMENT and UTILITY WINDOWS



HOPE'S Basement & Utility windows pivot from the bottom to open inward. Ventilators are easily removed from the frame leaving full opening free for any purpose. Screens are easily attached to exterior side.

When two or more units are joined together by the steel mullion shown below, resulting overall opening width will be the sum of the diagram widths of each unit used plus 1¼" for each mullion used.

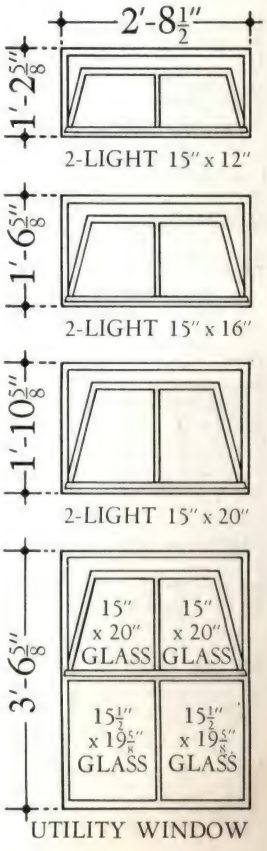
Note that dimensions shown on diagrams are opening sizes.

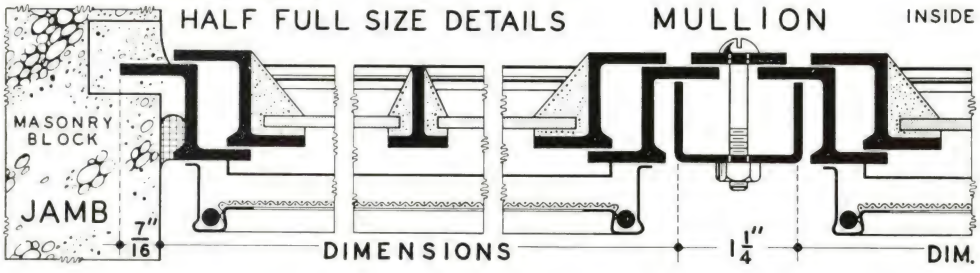


Basement Window with Ventilator in intermediate position.



Window with Ventilator in fully open position.

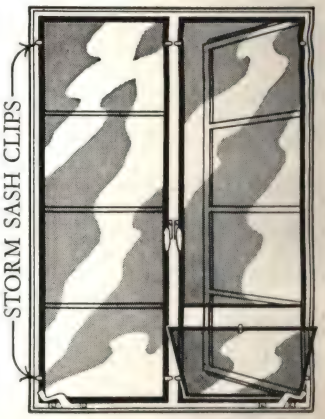




HOPE'S STEEL FRAME STORM SASH

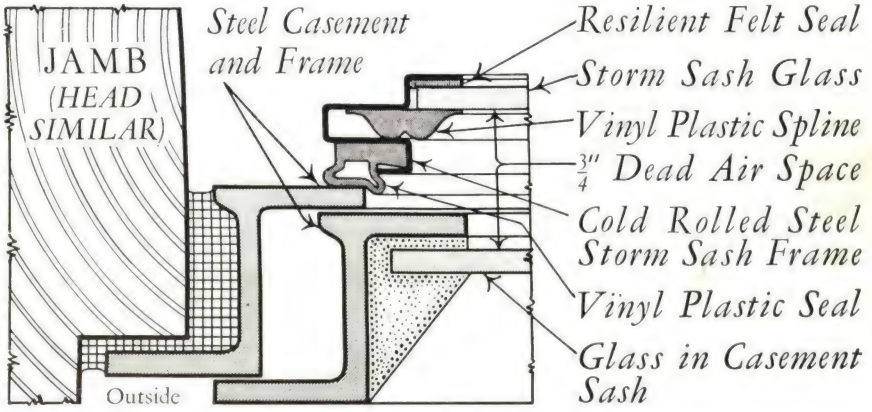
HOPE'S Storm Sash can be supplied from stock for every type of Residence (*Holford*) Casement. Interchangeable with Hope's screens, they lie flat against the inside of the casement and present an excellent appearance being hardly noticeable from inside or outside. Each Storm Sash panel is of reasonable size to permit convenient installation or removal by one person from within the room.

MADE from cold rolled steel, heavily reinforced, electrically welded at corners, prime painted one coat of rust-inhibitive grey primer stoved on; packaged and shipped glazed complete with clear double strength glass bedded on impregnated felt and held in place with vinyl plastic splines easily removable for glass replacement.



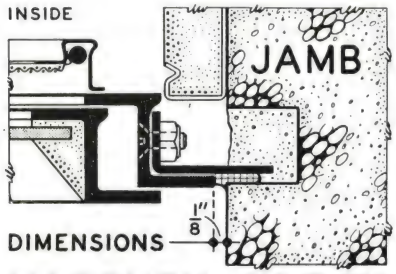
Interior view of two Storm Sash panels (one with tilt-in sill ventilator) attached to a type 2424 Standard Residence Casement.

FULL SIZE SECTION

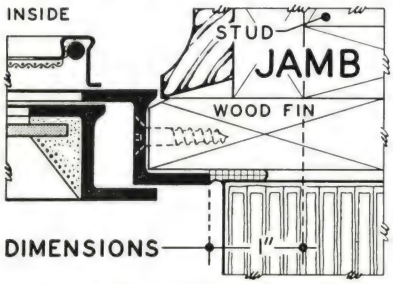


HOPE'S "tilt-in" sill ventilators, with ventilator opening restricted by stop flanges to about 3" can be fitted into Hope's Storm Sash at slight extra cost and are recommended when slight ventilation is required in bedrooms or other locations.

TYPICAL INSTALLATION DETAILS

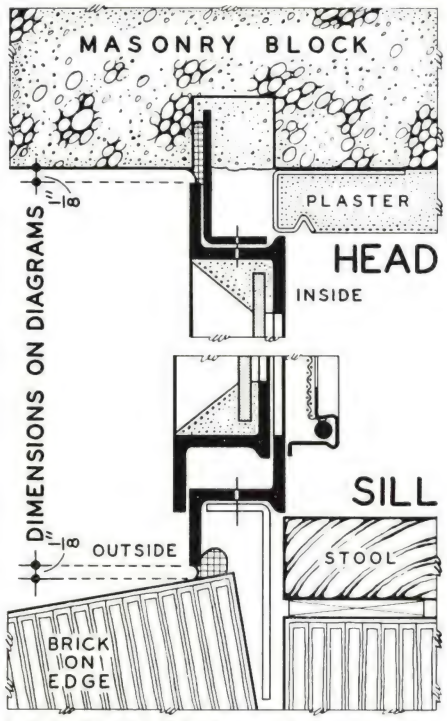


MASONRY BLOCK

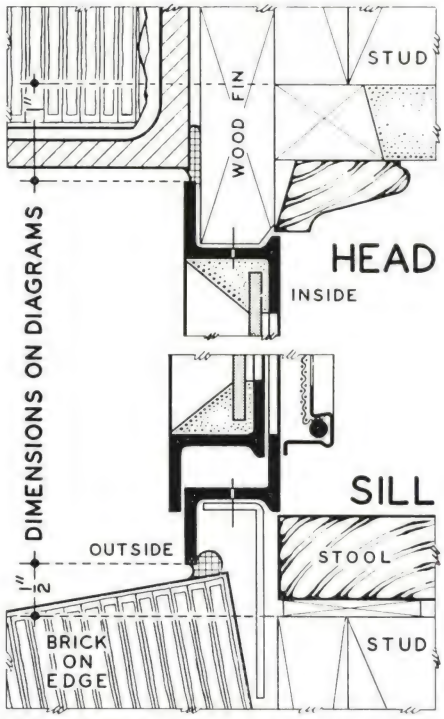


BRICK VENEER

HALF FULL SIZE DETAILS



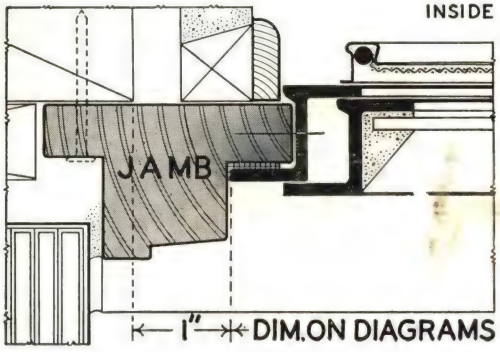
MASONRY BLOCK

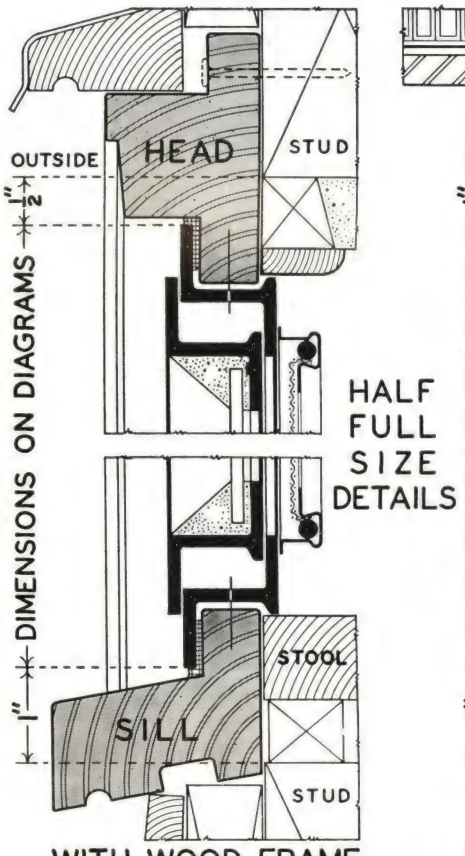


BRICK VENEER

HOPE'S REDWOOD SURROUNDS

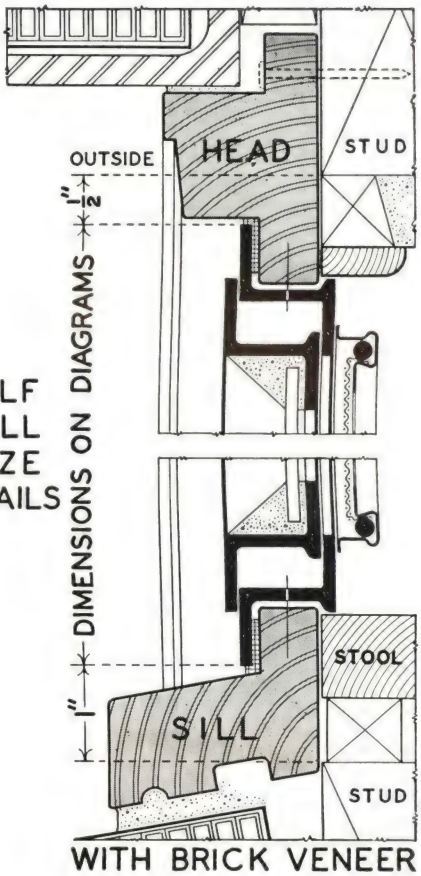
Hope's Redwood Surrounds of kiln dried California clear heart redwood can be furnished for any of Hope's Residence (*Holford*) casements diagrammed on page 2. Hope's Redwood Surrounds are cut to exact length, coped and mitered at the corners for easy field attachment, then bundled together with ends protected for shipment with the windows.





HALF FULL SIZE DETAILS

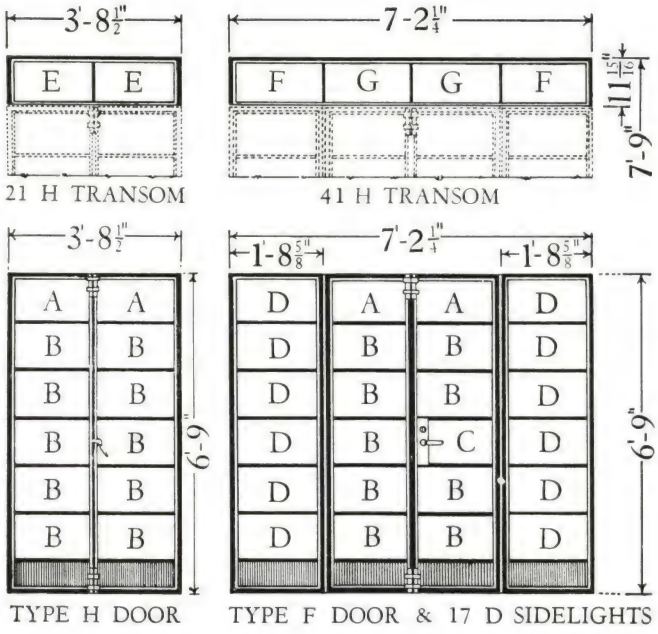
WITH WOOD FRAME

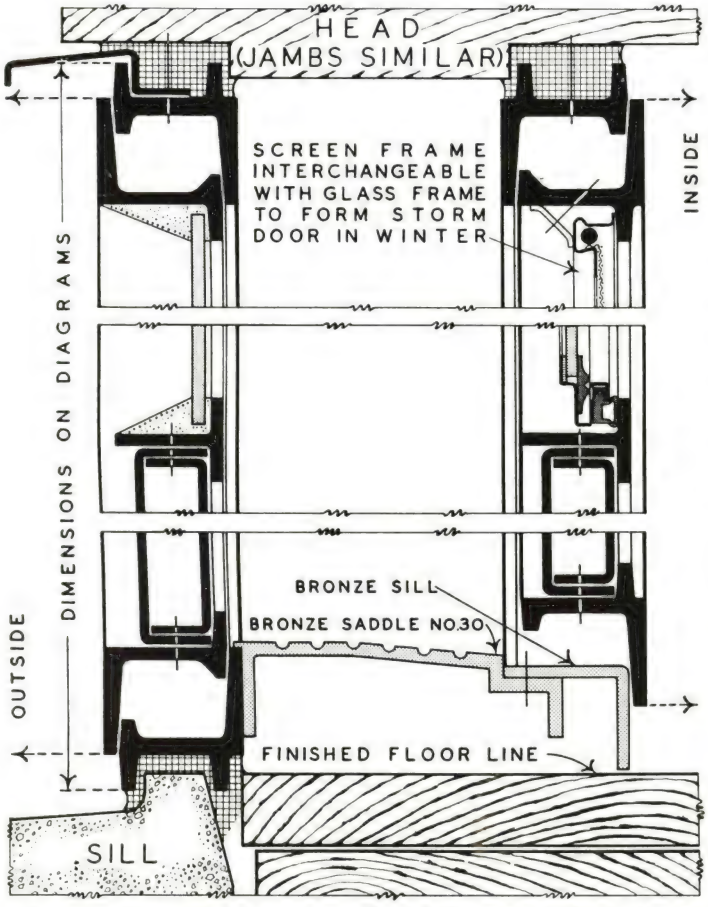


WITH BRICK VENEER

HOPE'S TYPES "H" AND "F" DOORS

COST LESS THAN FIRST GRADE WOOD DOORS





HALF FULL SIZE DETAILS

HOPE's type "H" and "F" doors, low priced to compete with first grade wood doors, are made from strong steel casement sections with slender sight lines, and are specially suited for porches, sun parlors or other rooms where an "open" effect and extra sunlight is desired.

THE overall height of 7' 9" shown at left includes allowance for the steel transom bar, and the overall width of 7' 2¼" also shown at left includes allowance for the steel connecting mullions.

HOPE's type "H" doors, diagrammed at left, open outward and are operative from inside only. Hardware consists of solid bronze top and bottom bolts on both leaves and solid bronze fastener on active leaf. Bronze thresholds are available at a small extra cost and should be specified when required.

HOPE's type "F" doors, diagrammed at left, also open outward but are operative from outside as well as inside. Hardware consists of solid bronze top and bottom bolts on both leaves, a mortise lock on the active leaf with solid bronze lever handle inside and outside and a thumb turn on the inside. Type "F" doors can also be furnished with cylinder locks and/or bronze thresholds at a small extra cost; specify these when required.

OTHER types of side lights and transoms than those detailed hereon, are available for both doors. Combination screen and storm doors, which open in; can also be supplied if desired. All doors are hung on close type friction hinges and can be supplied without muntins (our type HMO or FMO) to receive leaded or plain sheets of glass. Particulars and prices can be obtained from our nearest representative.

THE half full size details at left are for a type "F" door with double rebated bronze threshold. Single rebated threshold can be furnished as desired. The details also include sections thru Hope's combination screen and storm door.

GLASS sizes shown in the glass schedule below are for guidance only and should be verified on the job. When Thermopane is used refer to factory for sizes.

GLASS SIZES							
	A	B	C	D	E	F	G
WID	2' 0"		17 5/16"	19"	21"	19 7/8"	22"
HIGH	11 1/16"	1'	1'	12"	11"	11"	11"



House in E. L. Mackle's 435-home development, Coral Gables, Florida
Nearly 4000 Hope's Residence (*Holford*) Casements were installed.



Residence near Bemus Point, New York
Hope's Residence (*Holford*) Casements and Picture Windows.

HOPE'S WINDOWS, INC.

JAMESTOWN, NEW YORK JAN. 1, 1955

BRANCH SALES OFFICES AND WAREHOUSES

BOSTON 15, MASS. . . . . 11 MUNSON STREET
CHICAGO 1, ILL. . . . . 228 N. LA SALLE STREET
NEW YORK 17, N. Y. . . . . 101 PARK AVENUE
WASHINGTON, D. C. . . . . 1820 N. NASH ST., ARLINGTON 9, VA.

REPRESENTATIVES IN ALL OTHER CITIES

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PUBLICATION No. 143



RUSCO

HOT-DIPPED GALVANIZED

STEEL PRIME WINDOWS

HORIZONTAL SLIDE • VERTICAL SLIDE • FULVUE VERTICAL SLIDE WINDO-DOOR UNITS

the Window that brought A NEW LOOK to Building

1955 THE F. C. RUSSELL COMPANY

The world's largest manufacturer of metal combination windows and doors and home comfortizing products

CLEVELAND, OHIO

A. I. A. FILE NO. 16H

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5b
Ru



the most modern development in complete window protection

Available in a wide variety of types and standard sizes, Rusco Galvanized Steel Prime Windows permit greater versatility in architecture and design.

Rusco Prime Window units come factory-painted, fully assembled (even including hardware) complete with wood or metal casing — are ready to install in the window opening. Because they eliminate on-the-job glazing, painting, fitting and laborious adjusting, Rusco Prime Windows can be placed in the window opening in minutes instead of hours. The resulting saving is sizeable.

Rusco Vertical Slide Prime Window units can easily be combined in twin or any other multiple combination from picture window with flankers to "window wall" effects to achieve a desired treatment. In addition to the Vertical Slide, Rusco Horizontal Slide Prime Windows ideally meet design and construction requirements for high window placement, such as in ranch type houses, where added wall space and greater privacy is desired.

The tubular steel construction assures the maximum strength and rigidity of all Rusco Prime Windows and the smooth narrow frame members provide a clean, streamlined appearance for present day architectural treatments in the modest or deluxe home, apartment building or institutional type building.

Rusco Prime Windows, complete with insulating window (optional) offer the architect or owner a double window combination on which he can depend to fulfill specified design requirements of heating and air conditioning insulation, providing complete all-season window protection and no-draft MagicPanel® ventilation as described on page 4.



the moderately priced dwelling

The variety of standard sizes available, together with the completeness of the Rusco Prime Window unit and its many other advantages, gives the small home builder the economy and convenience which are so desirable.



the more pretentious home

The flexibility of the many combinations available in the Rusco Prime Window, together with the clean, accurate detail of the frame and panel members are only two of the multiple advantages available to the designer of today's home. Rusco Prime Windows harmonize with all types of architecture.

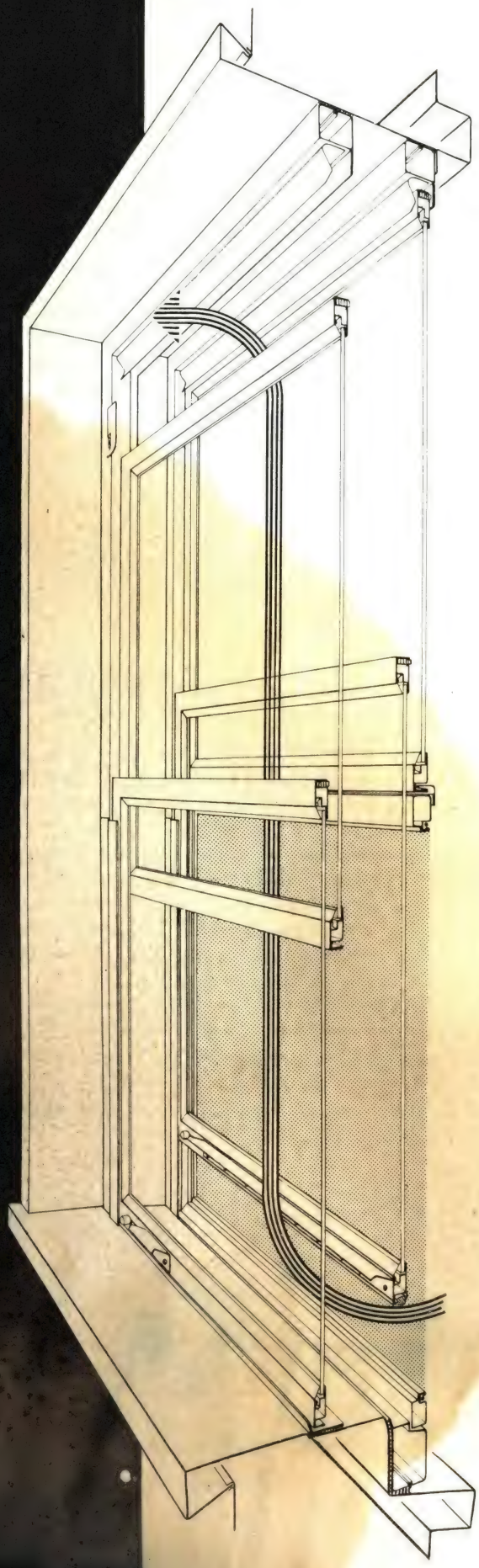




the fine apartment buildings

Rusco Prime Windows are factory-built with precision and are completely interchangeable, thereby simplifying maintenance when reglazing, rescreening or washing. This factor, plus the many other features, provides an ideal window for the apartment and other large building designers.

A BETTER WINDOW "BUY" FROM EVERY ANGLE



1 **TUBULAR** steel construction of all frame and panel members assures maximum rigidity and strength with light weight, and no warping or binding.

2 **NARROW FRAME** and panel members allow maximum glass opening in comparison to frame opening and provide unobstructed vision and attractive appearance.

3 **REMOVABLE GLASS** and screen panels for cleaning and servicing. All panels are easily removable from the inside. No need for ladders on the outside or window cleaner hooks.

4 **OPERATION** of the vertical slide window involves no weights, cords or balances. Rusco Prime Windows automatically lock in all closed and ventilating positions. Simple operating hardware is of stainless steel.

5 **GLAZING** is done without unsightly putty. Glass is bedded with mastic and held in place with plastic spline. This facilitates replacement of broken glass when required.

6 **SCREENING** is fiberglas cloth. It is held in place with removable plastic spline, providing the strongest, most weatherproof type of resilient screen — will not rust, rot, corrode or bulge and never needs painting — no staining of side walls. Electrostatic effect filters dirt from the air. Screen may be left in or taken out during the winter.

7 **PAINTING.** Rusco Prime Windows are factory-finished with baked-on, outdoor gray enamel.

8 **INSULATING** double windows. When inside adjustable insulating window is used, it reduces heat loss and helps control condensation, as well as decreases the transmission of outside street noises.

9 **NO-DRAFT VENTILATION.** When insulating sash is used, it provides rainproof, draft-free, filtered screen ventilation in any weather. The inside upper panel is lowered a few inches and the outside lower panel is raised a few inches, allowing air movement as shown by arrow on the diagram.

10 **COMPLETE** assembly of the window includes wood casing, metal casing or metal fins.

11 **MANY COMBINATIONS** of Prime Windows are accomplished by using the standard mullion.

12 **EASY INSTALLATION** of the complete unit with minimum field labor.

13 **CONVENIENCE** during construction is provided by the complete removability and interchangeability of the glass and screen panels. Openings may be completely free of panels during the day and closed quickly when desired.

COMPLETELY INSTALLED IN 5 MINUTES

(As applicable to frame construction) • Similar easy methods are used in other types of construction

1.

Place window with surround assembly (glass and screen panels removed) into stud opening.



2.

Nail window surround to studs. The installation is completed and the wall ready for finishes.



3.

Adjust window position and set level and plumb.



4.

Closure of window opening is accomplished simply by inserting glass and screen panels in the frame to form complete unit.









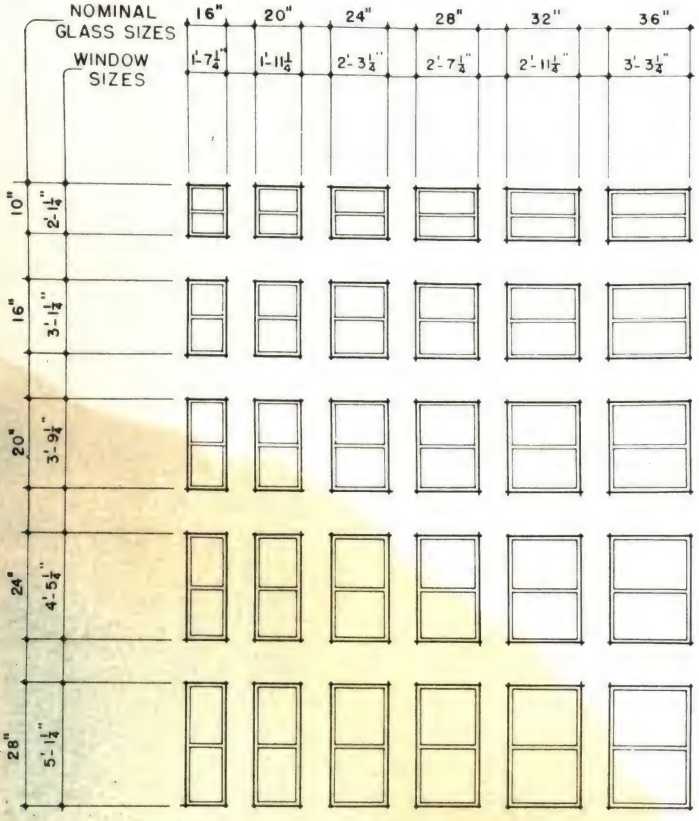


1. To operate, slide knobs toward handles—raise or lower glass to desired position—release knobs to engage lock.
2. To remove, slide lower glass panel to top of window frame—pull bottom of panel in and down. Pull top of screen panel in and move upward to remove. Lift upper glass panel to disengage from slots in side frames—pull in and down to remove.
3. The panels of the insulating window operate similarly. All panels are easily removed from the inside for safe and convenient cleaning and servicing.

Rusco Prime Units are made of steel protected with a triple layer weather-seal application. The first layer is a hot dipped galvanized coating that does not flake or peel in forming. Second, this surface is bonderized for perfect paint adherence. Lastly, a beautiful, durable, baked-on, outdoor enamel is applied.

STANDARD TYPES AND SIZES

TYPE P-11 VERTICAL SLIDE



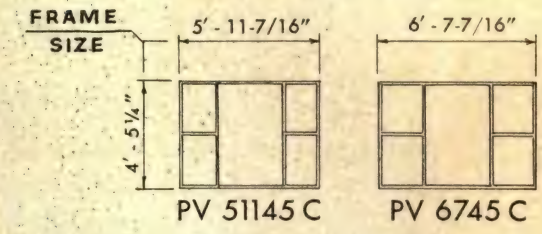
TYPE P-22 VERTICAL SLIDE

Types P-11 and P-22 are identical in size and details of installation. They differ only in that type P-22 has horizontal muntins and type P-11 does not.



P-22

COMPOSITE VERTICAL SLIDE



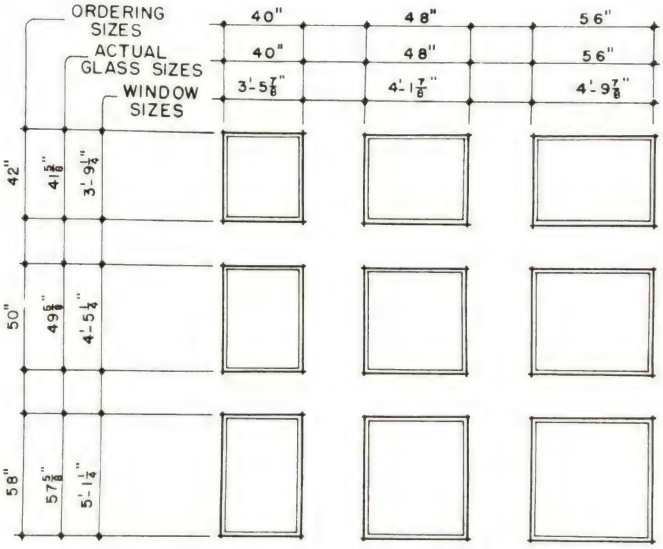
PV 51145C Fixed center light 34 x 50 — 2 Flankers 16 x 24
PV 6745C Fixed center light 34 x 50 — 2 Flankers 20 x 24

Composite Vertical Slide windows are made up of three lites; the center fixed, with operating right and left hand flanker units. All lites are mounted in an integral steel frame, eliminating the need for steel mullions.

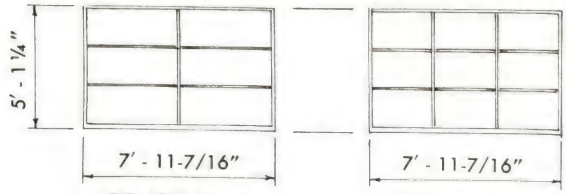
Insulating windows are available for all types and sizes of Prime Windows and their use is optional. For the dimension points of window sizes refer to pages 21, 22, 24. For Installation suggestions refer to pages 25 to 29. For the dimensions of rough openings required for installation refer to pages 18, 19.

TYPE P. P. PICTURE WINDOWS

Rusco Picture Windows are available in three heights, corresponding to three of the standard heights of vertical slide windows. Picture windows may be used singly, in multiple, combined with vertical slide windows as flankers, or in any other desired horizontal combination. Insulating Picture Window (optional) set separately on the inside of the Prime Picture Windows, are easily removable from the inside for cleaning. The cleaning of exterior surfaces of picture windows in multi-story installations is facilitated by having vertical slide units as flankers.



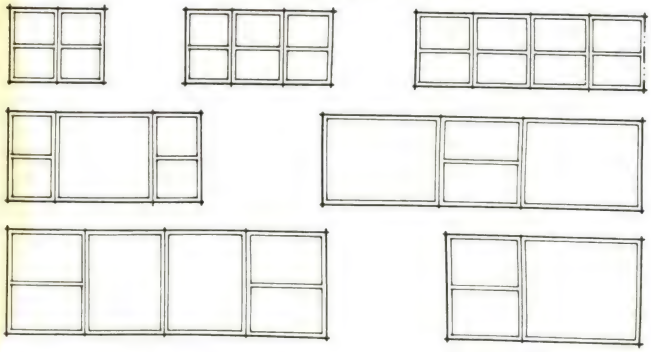
MULTI-LITE PICTURE WINDOWS



PP 71151-6 PP 71151-9

Multi-lite Picture Windows provide large economically-fixed glass areas.

COMBINATIONS



The horizontal combination of Rusco Prime Windows is accomplished by the use of metal non-load-bearing mullions placed between the window units. These mullions are supplied on order by The F. C. Russell Company. In each case the combined width of the windows is the sum of the individual window widths plus 1⅝" for each non-load-bearing mullion.

Structural mullions (not supplied by The F. C. Russell Company) may be placed between the jambs of individual or groups of windows. For suggestions, refer to installation details.

COMBINED WINDOW WIDTHS

UNIFORM MULTIPLE COMBINATIONS



COMBINED WINDOW WIDTHS	Quantity and Widths of Windows IN COMBINATIONS AS LISTED						MULLIONS REQUIRED @ 15/16" EACH
	16" 1-7 1/4	20" 1-11 1/4	24" 2'-3 1/4	28" 2'-7 1/4	32" 2-11 1/4	36" 3-3 1/4	
3'- 3 7/16"	2						1
3'-11 7/16"		2					1
4'- 7 7/16"			2				1
5'- 3 7/16"				2			1
5'-11 7/16"					2		1
6'- 7 7/16"						2	1
6'-11 5/8"			3				2
7'-11 5/8"				3			2
8'-11 5/8"					3		2
9'- 3 13/16"			4				3
9'-11 5/8"						3	2
10'- 7 13/16"				4			3
11'- 8"			5				4
11'-11 13/16"					4		3
13'- 3 13/16"						4	3
13'- 4"				5			4
14'- 0 3/16"			6				5
15'- 0"					5		4
16'- 0 3/16"				6			5
16'- 4 3/8"			7				6
16'- 8"						5	4
18'- 0 3/16"					6		5
18'- 8 3/8"				7			6
20'- 0 3/16"						6	5
21'- 0 3/8"					7		6
21'- 4 9/16"				8			7
23'- 4 3/8"						7	6
24'- 0 9/16"					8		7
26'- 8 5/16"						8	7

Multiple combinations shown are selected for probable greatest convenience. Other uniform multiple combinations are practical. Refer also to pages 18 and 19.

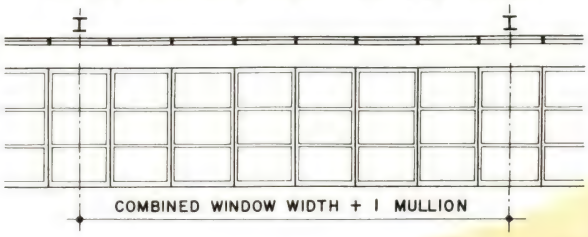
All of the window widths are available in the types and window heights shown on page 6, 11 & 15.

Windows may be combined horizontally in other than uniform width multiples subject to aesthetic design factors. A regular repetitive pattern or symmetrical arrangement is usually preferable.

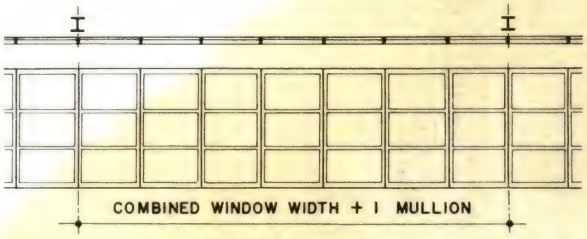
CONTINUOUS WINDOWS

Windows in continuous bands set in front of structural columns may be arranged in either of two ways:

WINDOWS CENTERED on COLUMNS



MULLIONS CENTERED on COLUMNS



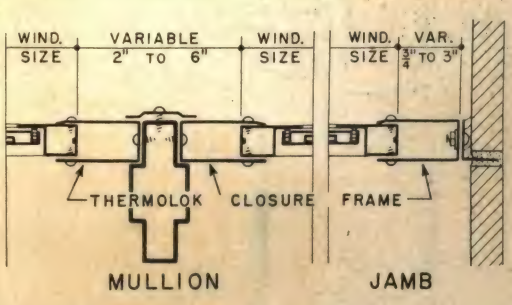
Because of the characteristics of the Rusco Prime windows, the clearance required between the inside of the mullion and the face of the columns, for the removal or operation of the window panels needs be very little; 2" is ample. Accordingly windows in front of columns need not be fixed.





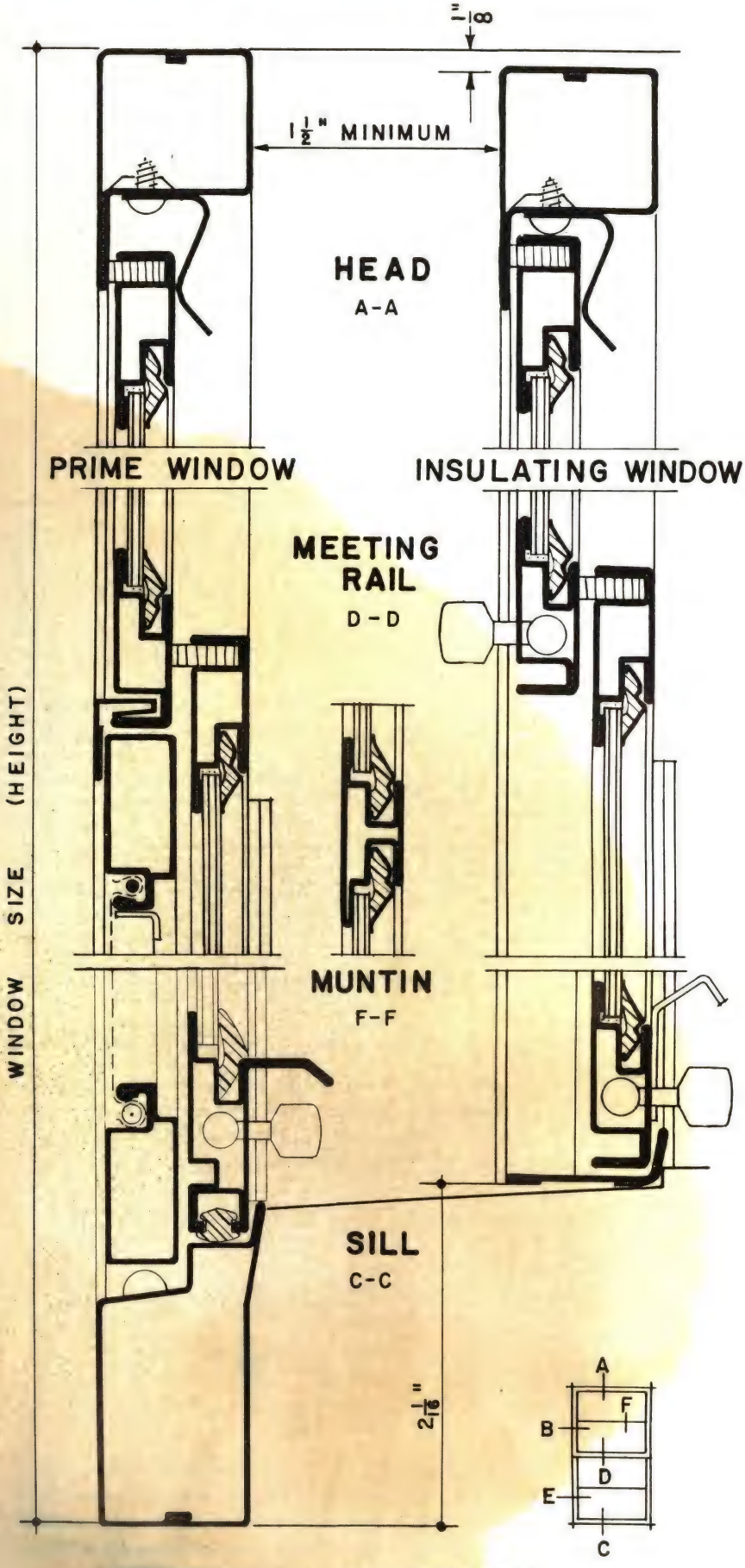
THERMOLOK CLOSURE FRAMES

Adjustments in the lengths of window runs to fit given column spacings may be made by the use of the Thermolok closure frame, which combined with mullion SW116 and various jamb arrangement can provide any dimension.

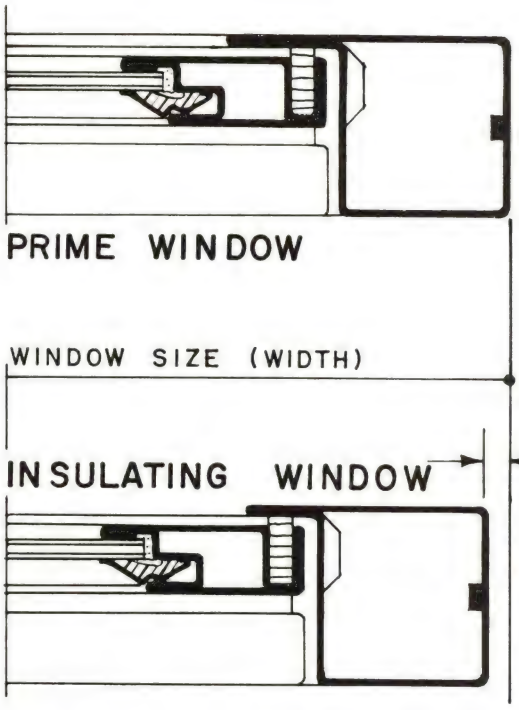


The relationship between the Thermolok closure frame and the window frame is variable and different widths of Thermolok closure frames are available. Consult direct with the F. C. Russell Co. or their distributors for combinations available and for ordering instructions.

FULL SIZE DETAILS VERTICAL SLIDE WINDOW

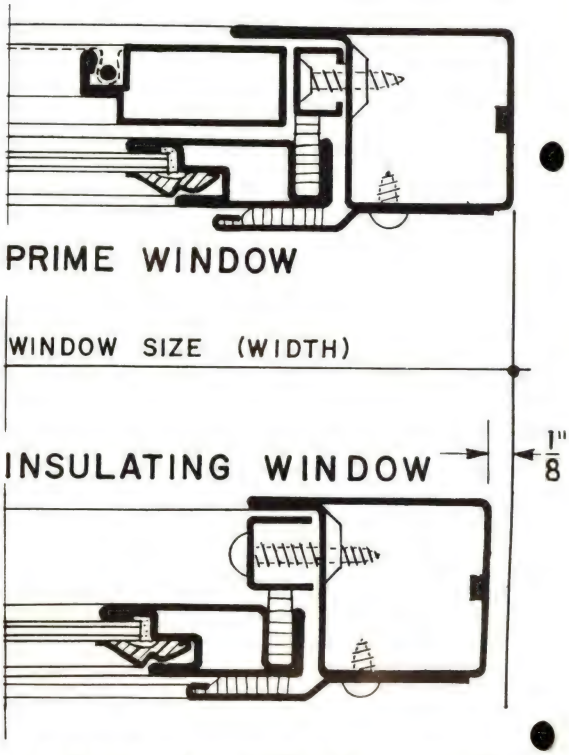


VERTICAL SECTION



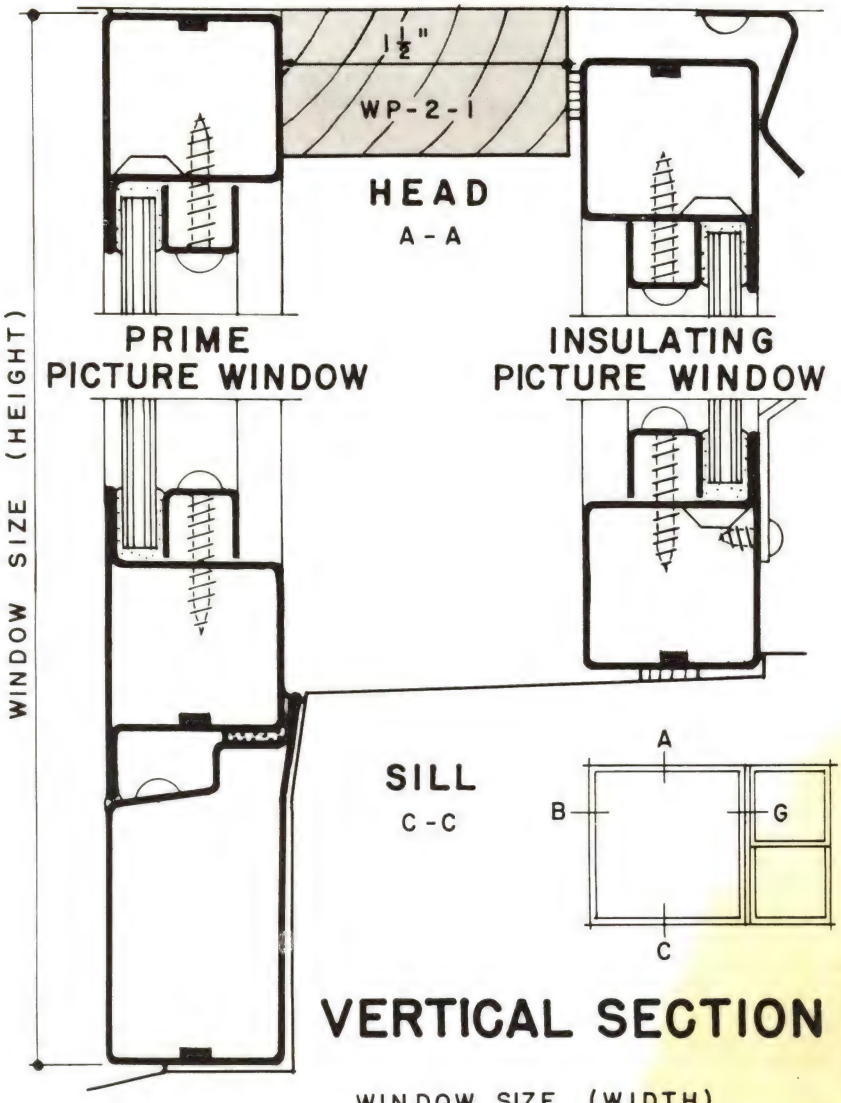
JAMB SECTION B-B

ABOVE MEETING RAIL

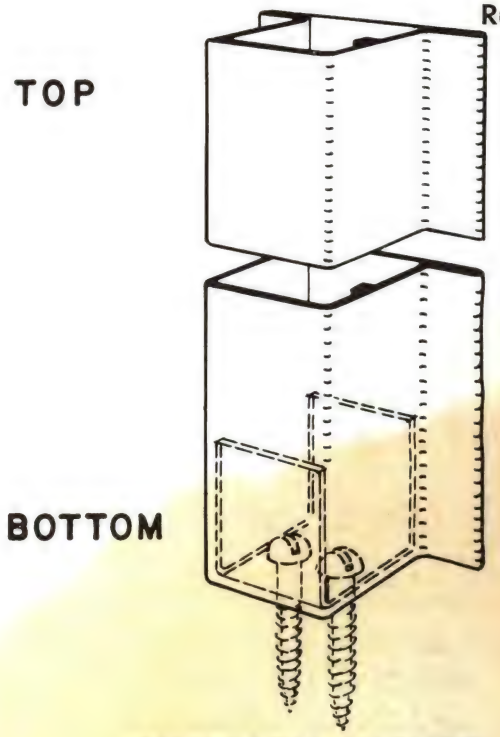


JAMB SECTION E-E

BELOW MEETING RAIL

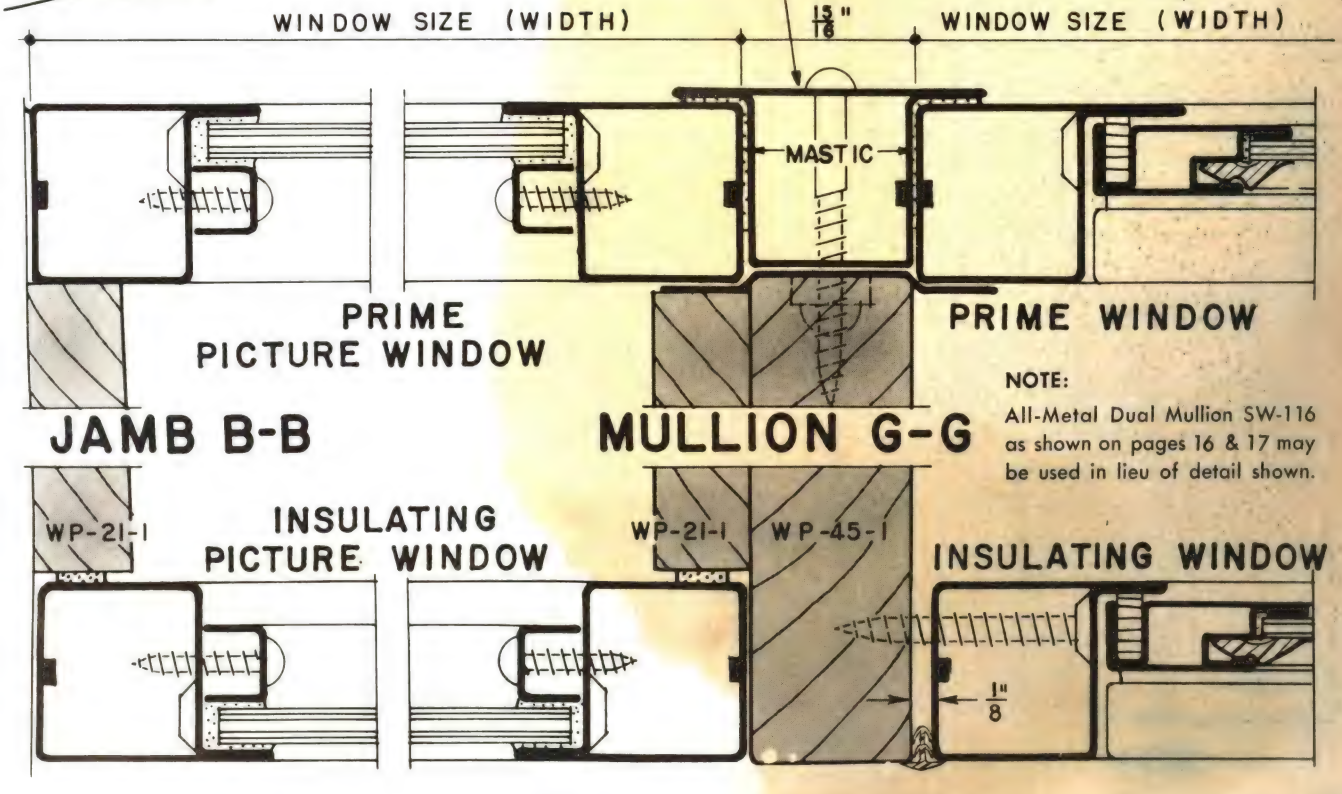


VERTICAL SECTION



MULLION ANCHOR
FOR USE AT SILL
HG - 16

NOTE: METAL PART OF MULLION MAY BE USED ALONE WHEN INSULATING WINDOWS ARE NOT USED



NOTE:
All-Metal Dual Mullion SW-116 as shown on pages 16 & 17 may be used in lieu of detail shown.

MULTI-LITE PICTURE WINDOWS

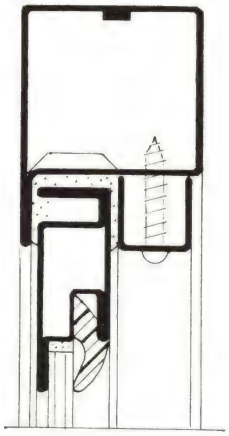
FULL SIZE DETAILS

Rusco Multi-lite Picture Windows are made available to meet the demand of architects and builders for economical expansive multiple fixed lite windows, required for use in contemporary architecture.

The integral frame construction of Rusco Multi-lite Picture Windows eliminate the need for grouping a number of smaller windows together with the use of mullions to obtain the desired large glass areas. Lower cost combined with pleasing appearance is thereby achieved.

The Multi-lite Picture Windows, like other Rusco Windows, are supplied completely assembled, glazed and finished in a gray baked-on enamel. Snap-on Insulating Sash, detailed on page 20, are available for Multi-lite and all regular Picture Windows except the 56" x 58" nominal glass size. They are also available for all Horizontal Slide Windows.

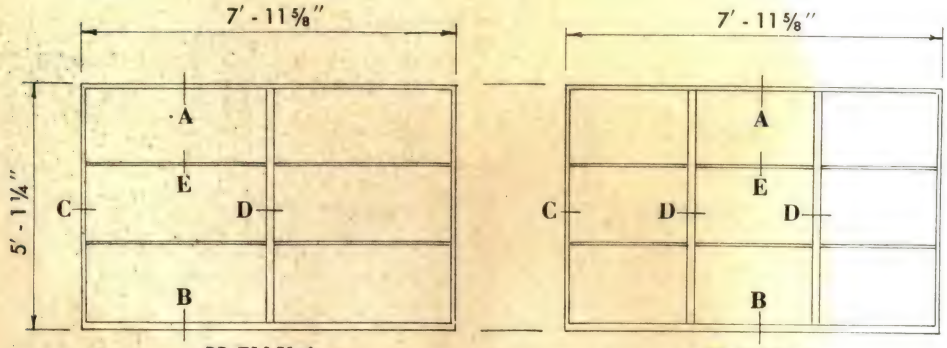
Built-in weatherstripping, around the entire perimeter of the Snap-on Insulating Sash, assures a snug fit against the Prime Window Frame. No tools are required to remove Snap-on Sash for washing; and in most cases they may be easily removed from within the room.



SECTION A

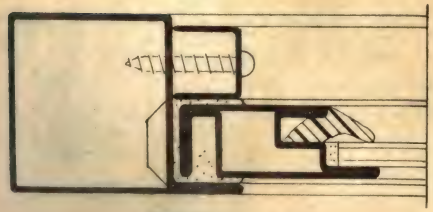


SECTION B

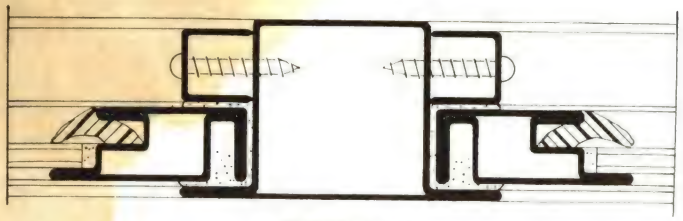


PP 71151-6

PP 71151-9



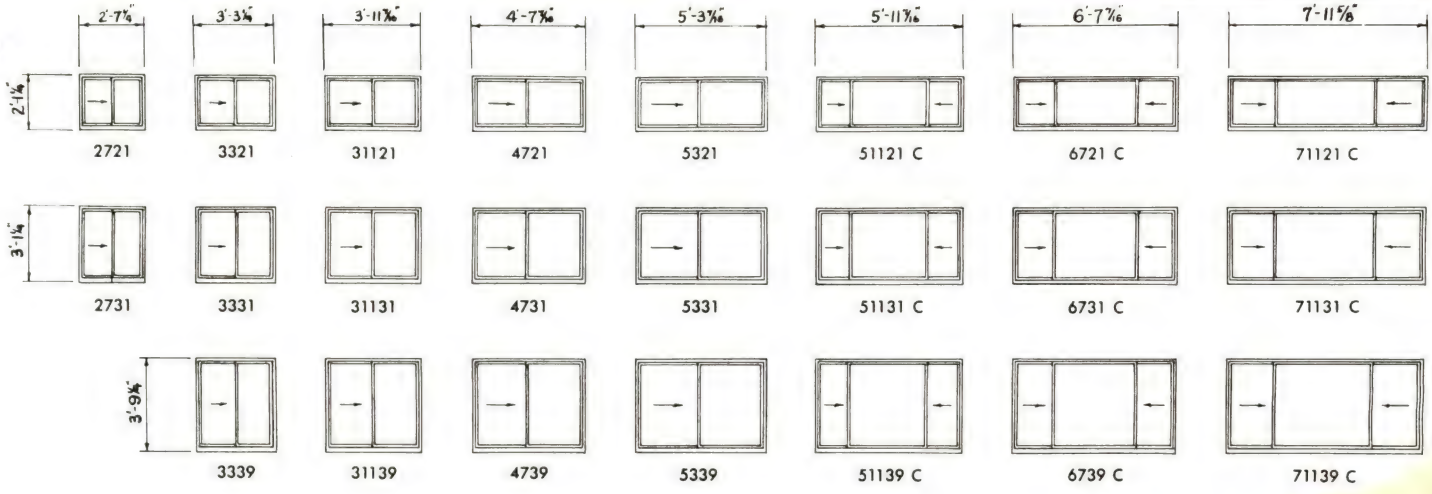
SECTION C

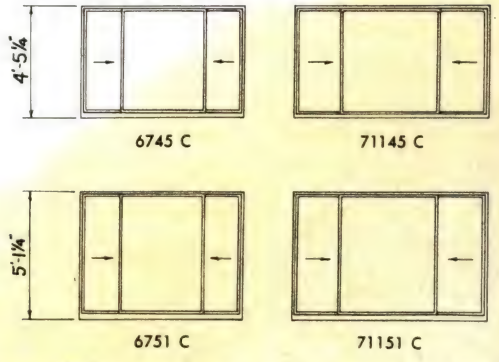


SECTION D



SECTION E





NEW MODERN HORIZONTAL SLIDE TUBULAR STEEL WINDOWS

To meet the demands of architects and builders engaged in the design and construction of ranch type housing and other styles requiring relatively high window placement a new line of galvanized steel Horizontal Slide Windows is offered by The F. C. Russell Company.

Rusco Horizontal Slide Prime Windows, like the Vertical Slide Rusco Window, are supplied as completely finished assemblies and provide the same ease and speed of installation and convenience during construction.

Assuring the home owner greater ease of operation at shoulder-high or head levels, the standard unit consists of one horizontal slide glass insert with a screen panel and one fixed light in an all steel frame. It is available in a range of sizes to fit conventional window openings. The sliding panel may be ordered for either left or right hand operation. With the use of metal mullions placed between window units, two or any number of Rusco Horizontal Slide Windows may be combined horizontally to achieve any effect desired.

An outstanding part of this new line is the composite horizontal slide window made up of three lights, the center light fixed with sliding right and left hand ventilating panels — all mounted in an integral steel window frame, thus eliminating the need for steel mullions.

Incorporates Rusco Vertical Slide Prime Window Features and Advantages

Patterned after the proven basic engineering principles of the widely used and accepted Vertical Slide Prime Window, Rusco's new Horizontal Slide Window incorporates all its many exclusive and famous features. Frame and window members are of streamlined, rigid tubular construction made of galvanized steel, bonderized and finished with baked-on outdoor gray enamel.

Horizontal Sliding Windows are supplied as complete window assemblies attached to casings, painted, glass inserts already glazed, with Rusco's Fiberglas Screen Cloth, weatherstripped, plus all operating hardware. Glass and screen panels are removable for easy cleaning and maintenance. Rusco Horizontal Slide Windows provide the builder the same measure of ease of installation and convenience during construction as the Rusco Vertical Slide Prime Window.

Magic Panel Ventilation

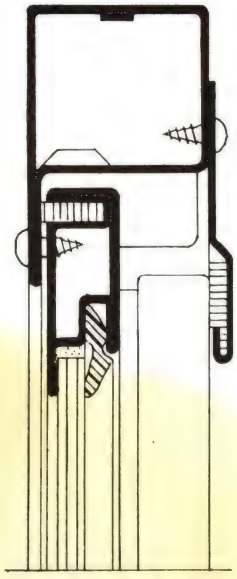
Rusco Horizontal Slide Windows are designed to accept Rusco's famous adjustable insulating sash to reduce heat loss, control condensation, giving the home owner the benefits of rainproof, draft-free MagicPanel Ventilation.

Horizontal Slide Window units may also be grouped together to provide continuous fenestration as shown on page 18.

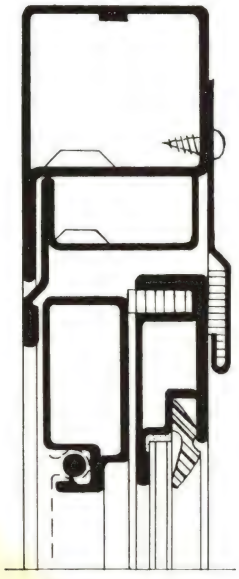
For additional information on Rusco Horizontal Slide Windows, see your nearest Rusco Prime Window distributor.



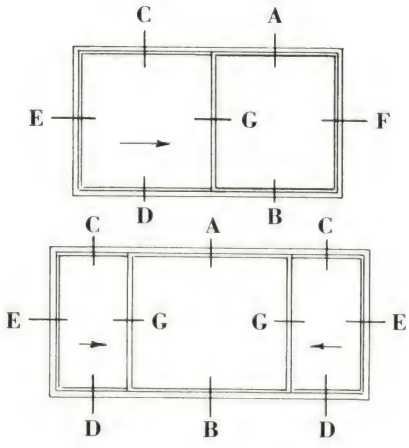
FULL SIZE DETAILS HORIZONTAL SLIDE WINDOW



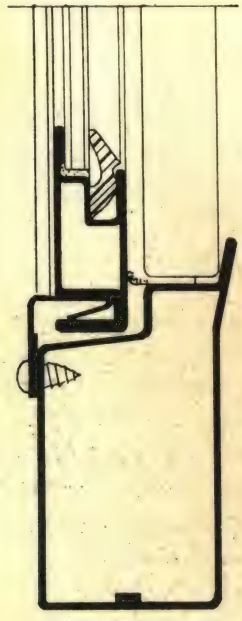
SECTION A



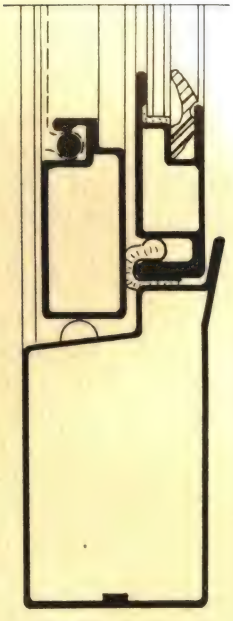
SECTION C



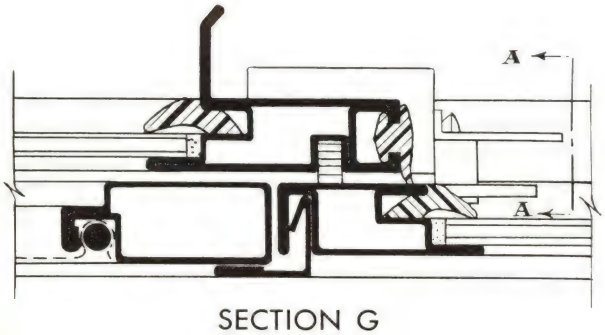
PRIME WINDOW



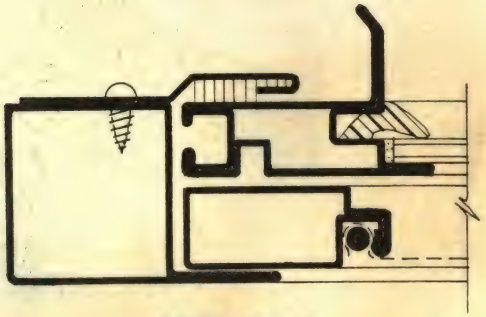
SECTION B



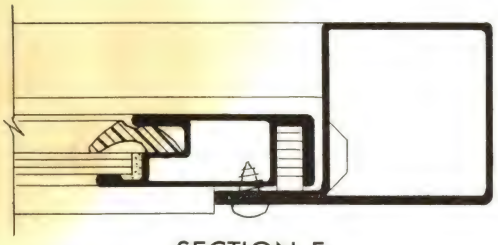
SECTION D



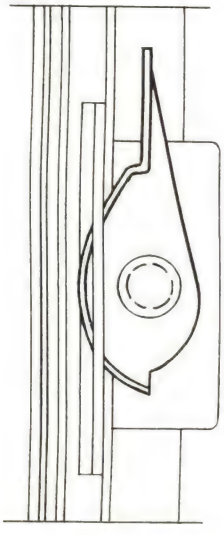
SECTION G



SECTION E

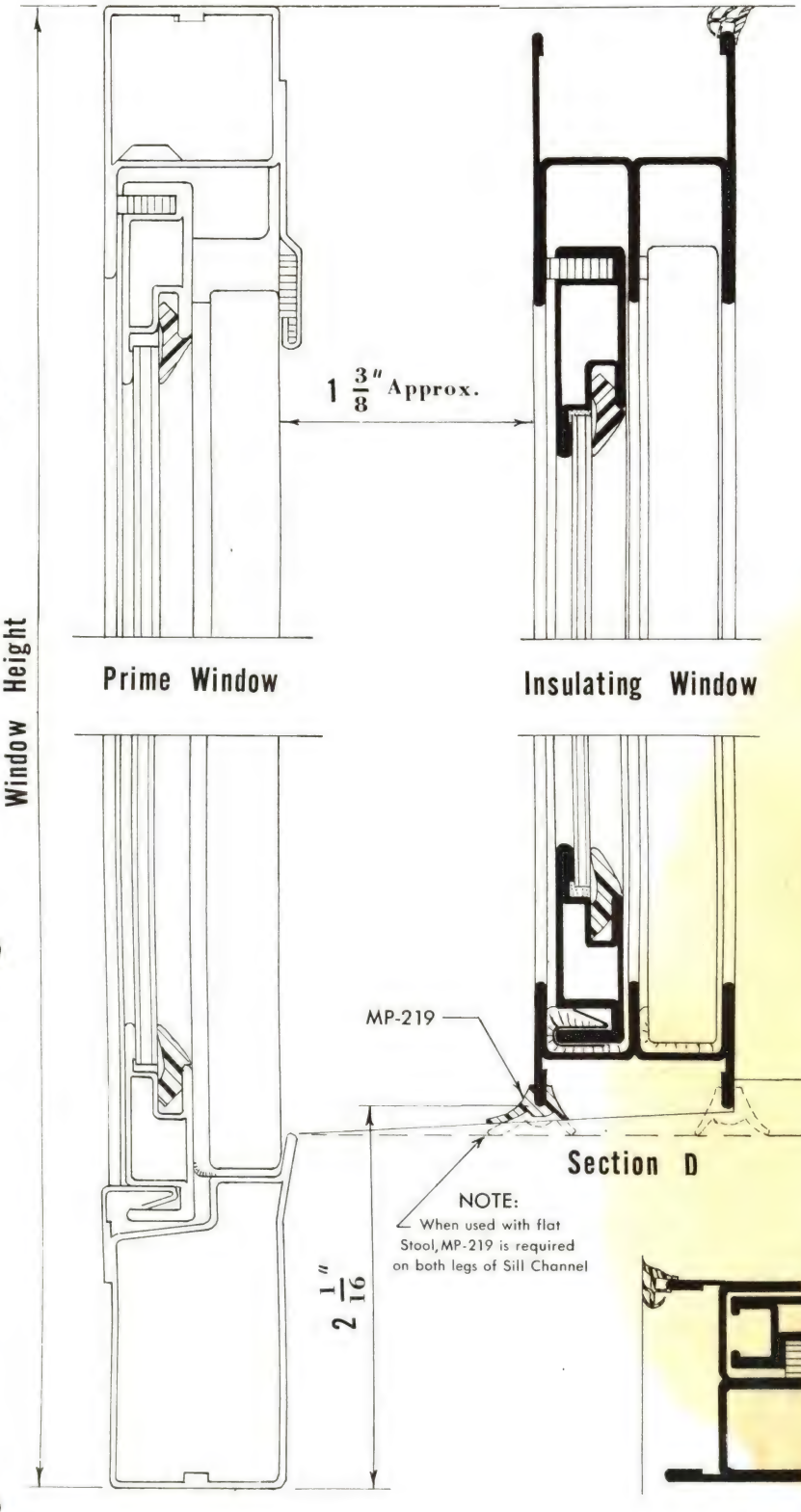


SECTION F

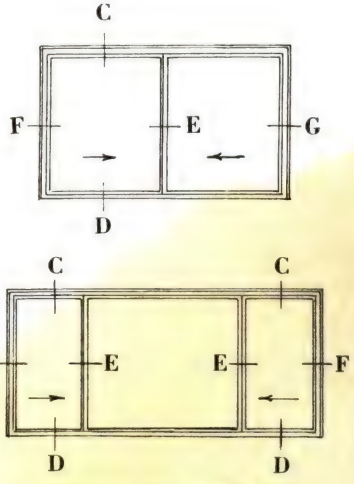


DETAIL A-A
SHOWING
SASH LOCK

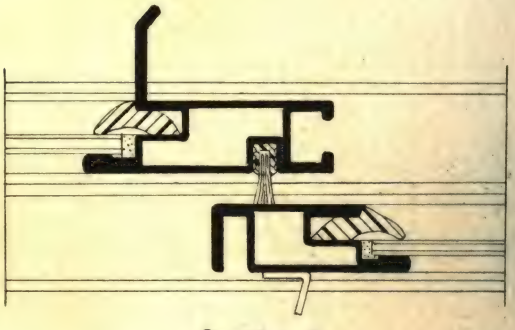
Section C



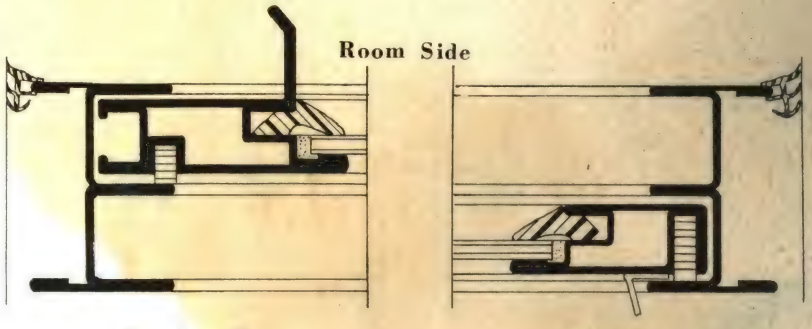
Section D



Insulating Window



Section E



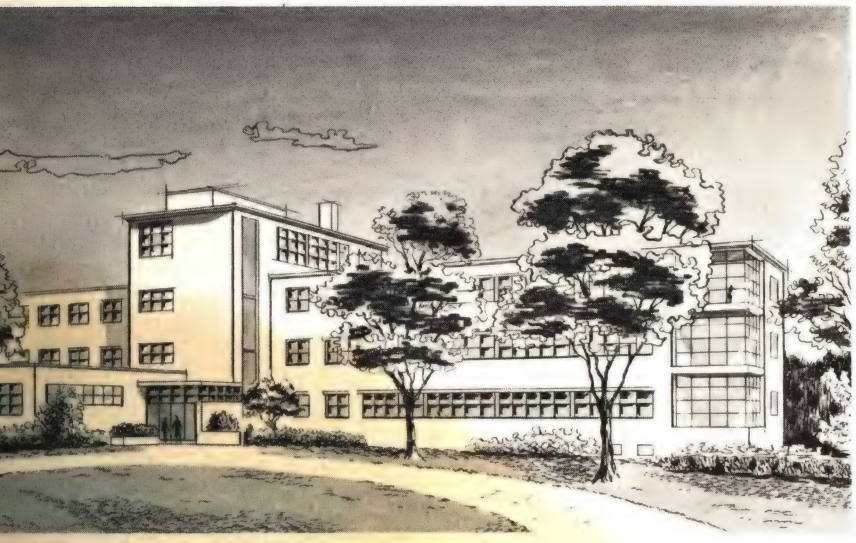
Section F

Section G

FULLVUE VERTICAL SLIDE WINDOWS

The Rusco Prime Windows shown on the preceding pages are indicated for residential use. However, their general features and many advantages make them equally attractive for use in many non-residential types of buildings.

Rusco Prime Fulvue Windows are also available in standard types and sizes which provide additional attractive arrangements for use in residential, commercial, institutional and industrial buildings.

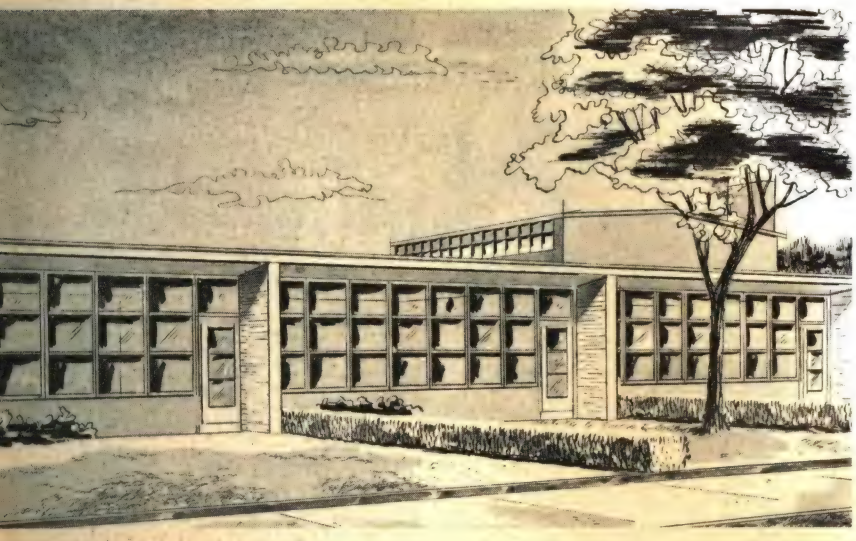


TYPE P - 11 (Two lights high)

The bottom panel ventilates, and the screen is optional. Use of the inside insulating window (optional) provides no-draft ventilation as described on page 4.

This is the basic type of Rusco Prime Window shown in detail on previous pages and reproduced here to emphasize that it may also be used in non-residential buildings.

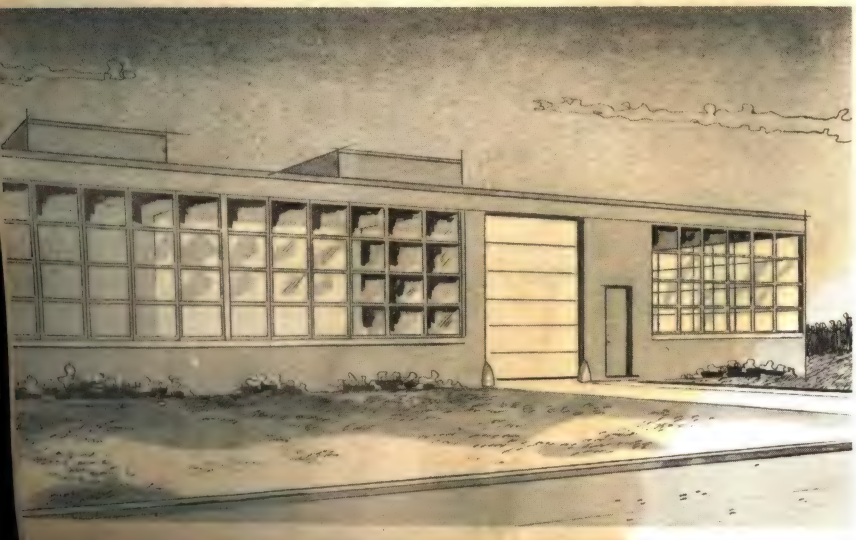
The larger sizes of this type are particularly applicable to office and hotel buildings.



TYPE P-311 (Three lights high)

Either the bottom panel (type P-311 A) or the center panel (type P-311 B) ventilates. In both cases screens are optional. Inside insulating windows with operating panels located in relation to the ventilating panel of the Prime Window to provide no-draft ventilation, is available for type P-311 A only.

Rusco Prime Windows, type P-311, are particularly suitable for use in hospitals, schools, office buildings and hotels and are frequently applicable to residential use when combined horizontally to form window walls.



TYPE P-411 (Four lights high)

The bottom panel and the third panel from the bottom ventilate. Screens are optional. The inside insulating window (optional) has ventilating panels located in relation to the ventilating panels of the Prime Windows to provide no-draft ventilation at either or both locations.

Rusco Prime Windows type P-411 are particularly suitable for use in industrial buildings or in commercial or institutional buildings with sufficiently high ceilings. They are frequently used in stair halls or other high bay locations.

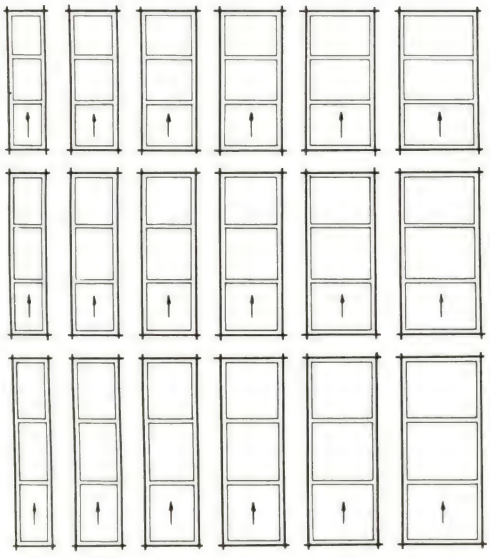
STANDARD TYPES AND SIZES

For Type P-11 refer to page 6 for general information and to page 8 for full size details. Refer to pages 25 thru 29 for installation details.

The all metal dual mullion SW-116 shown on page 16 - 17 may be used with Type P-11 window when insulating windows are required.

Types P-311 A and P-311 B are identical in window sizes and in the details of installation. They are different only in the location of the ventilating panel as indicated by the arrows on the diagram.

TYPE P-311 A



P-311A WINDOW WIDTH SAME AS P-311B
(SHOWN AT RIGHT)

Types P-311 and P-411 may be combined horizontally by using the all metal non-load-bearing mullion shown on page 16 - 17. These mullions are supplied on order by the F. C. Russell Company.

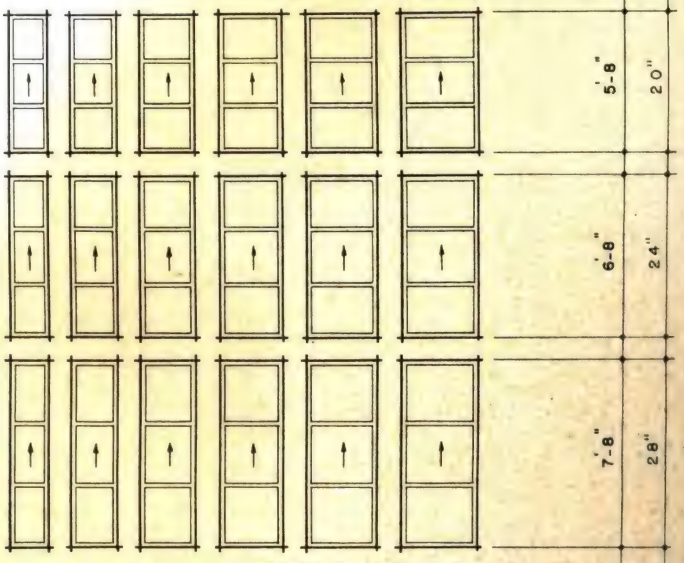
In each case of such combined units the total combined window width is the sum of the individual window widths plus 15/16" for each non-load-bearing mullion as shown on page 7.

The ordering designation of Rusco Prime Vertical Slide and Fulvue Windows is similar to that for conventional double hung windows in that the nominal glass size, in inches, of one panel is used; first the horizontal dimension and then the vertical dimension.

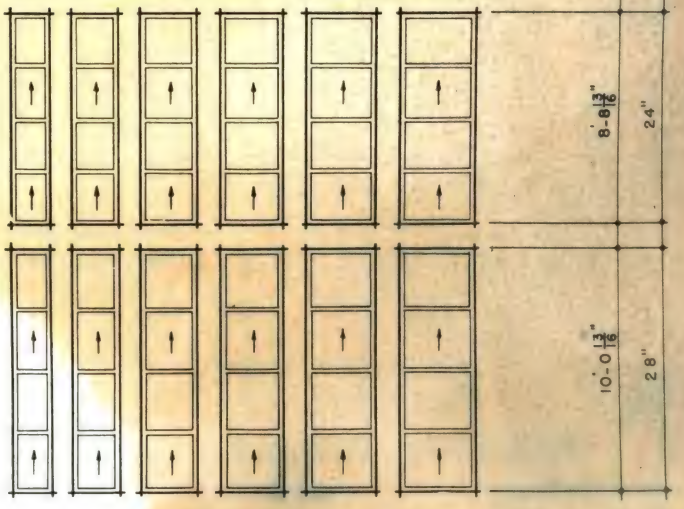
TYPE P-11



TYPE P-311 B

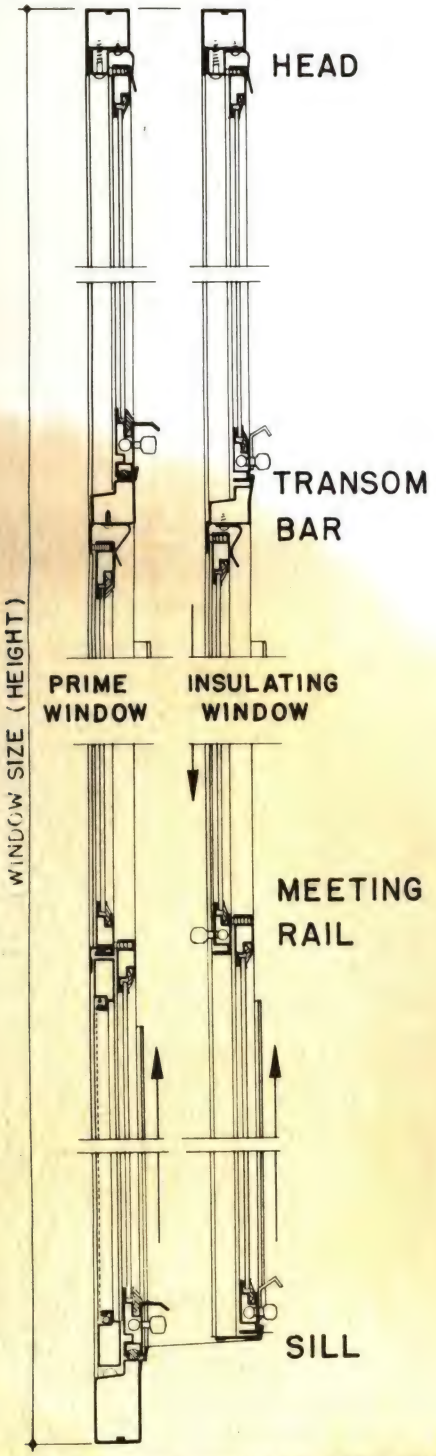


TYPE P-411

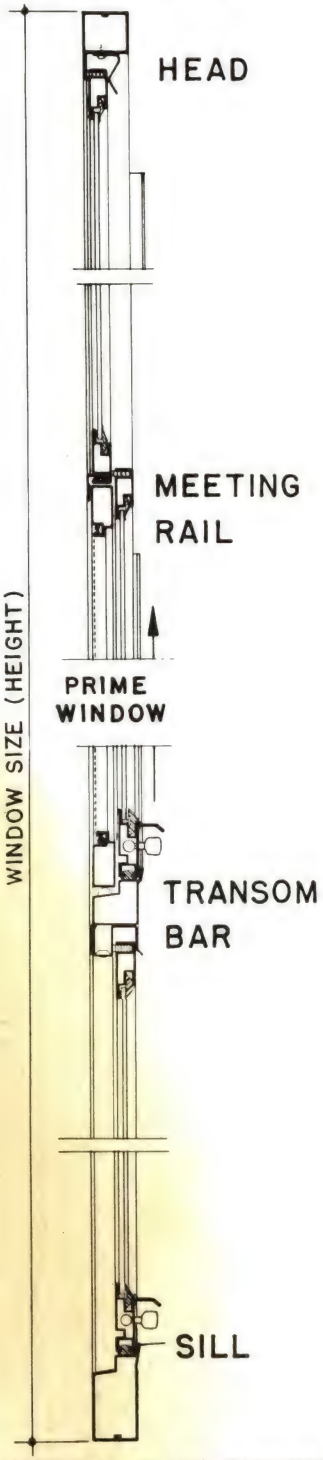


SCALE 3" = 1'0" WINDOW DETAILS FULVUE VERTICAL SLIDE

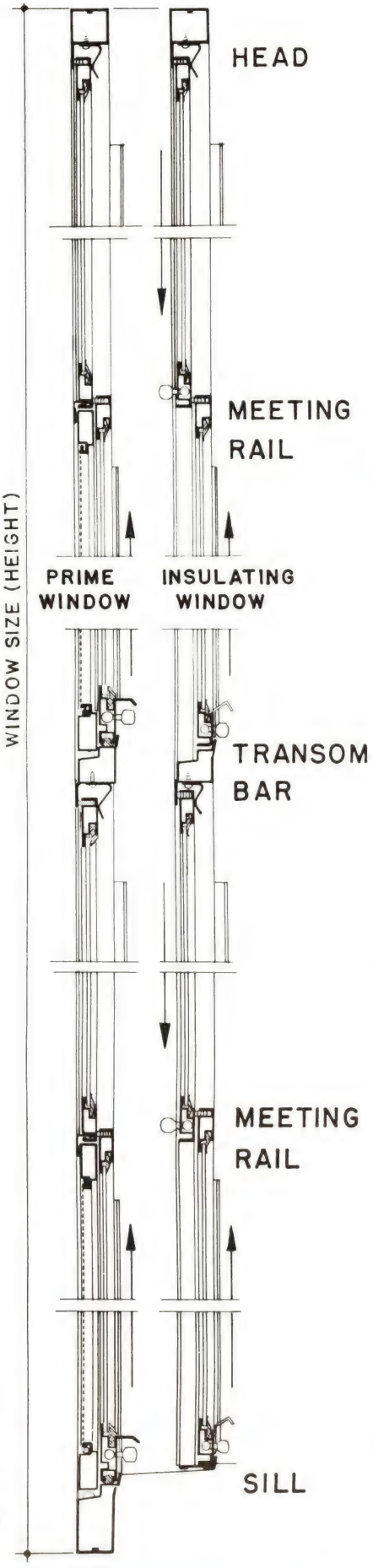
TYPE P311-A



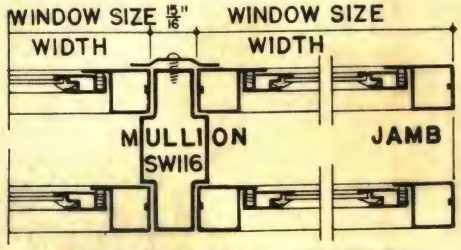
TYPE P311-B



TYPE P411



NOTE: ARROWS INDICATE OPERATION OF VERTICAL SLIDE WINDOWS



HORIZONTAL SECTION

Types P-11, P-311 A & B and P-411 windows may be used with or without screen panels. Insulating windows may be used with all window types except P-311 B.

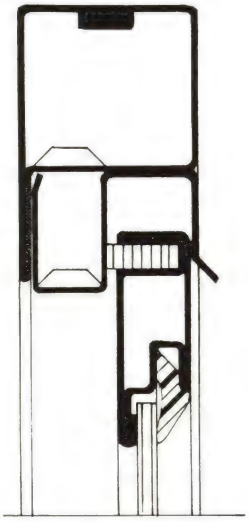
When insulating windows are used, the 1½" minimum dimension between the Prime Window and the insulating window, and the height and slope of the stool, must be maintained.

Metal mullions, metal casings, variable casings, metal fins, anchor clips, casing clips and sill braces as shown in the installation details, pages 25 thru 29, are available on order from the F. C. Russell Co.

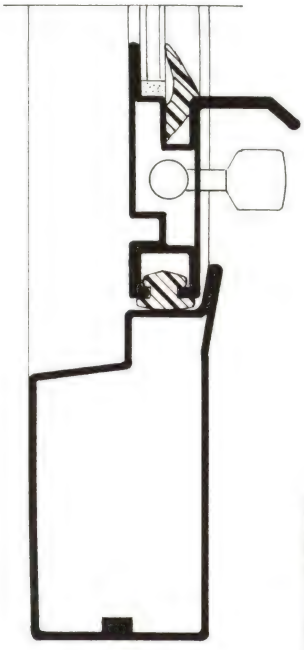
FULVUE VERTICAL SLIDE

RUSCO
PRIME WINDOWS

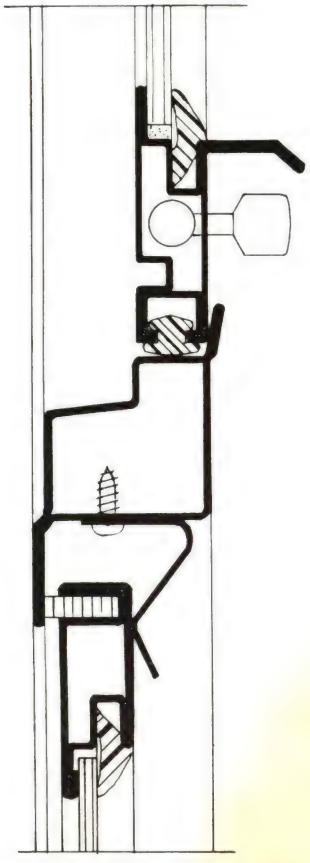
5b
Ru



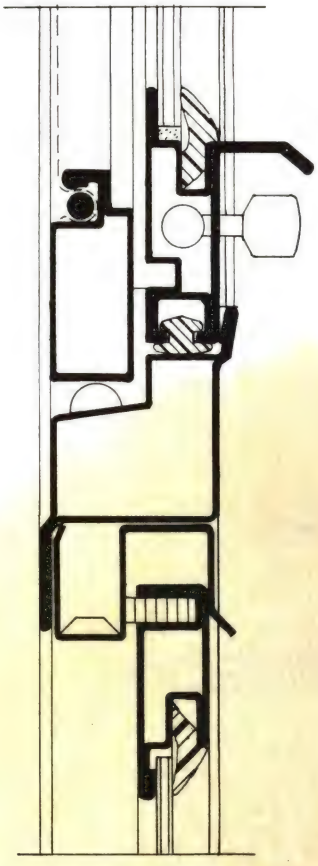
Head 311 A



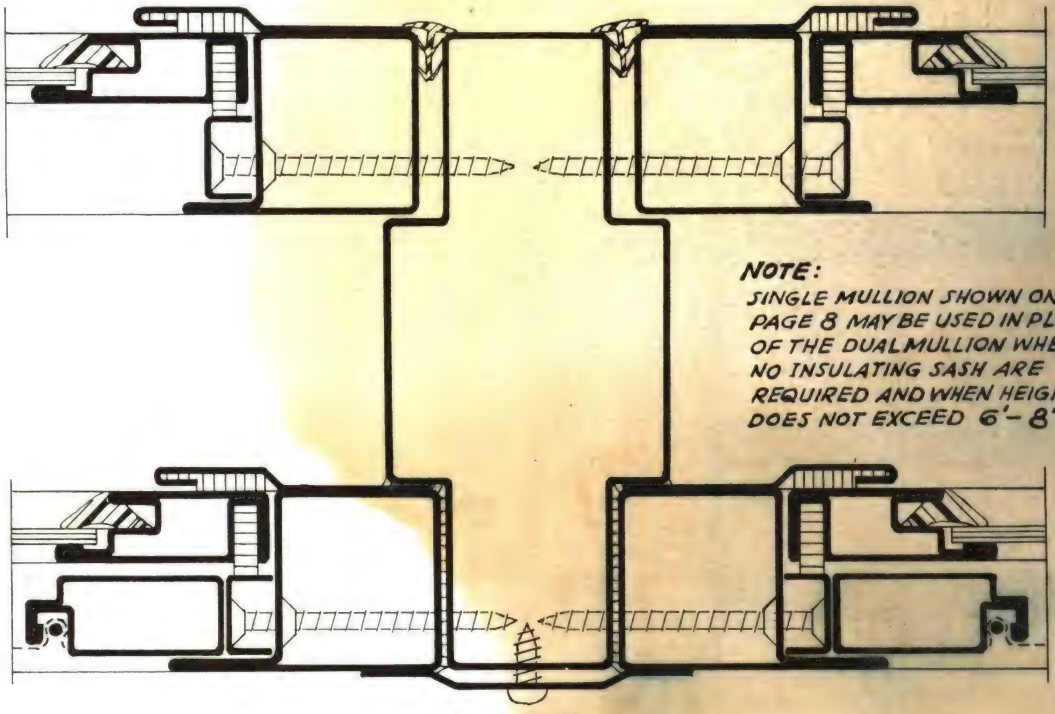
SILL 311 B



Transom Bar 311 A



Transom Bar 311 B

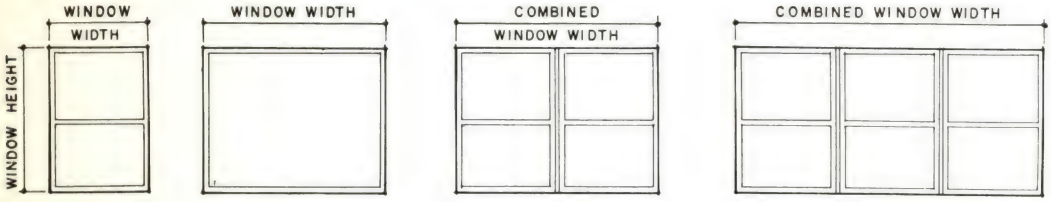


Dual Mullion

NOTE:
SINGLE MULLION SHOWN ON PAGE 8 MAY BE USED IN PLACE OF THE DUAL MULLION WHEN NO INSULATING SASH ARE REQUIRED AND WHEN HEIGHT DOES NOT EXCEED 6'-8"

Sections not shown are the same as those shown for P 11 Window, on page 8.

SINGLE AND STOCK COMBINATIONS DIMENSIONS OF ROUGH OPENINGS



† INDICATES HORIZONTAL SLIDE, AS WELL AS VERTICAL SLIDE WINDOW SIZES.

Picture Windows are available in 20", 24" and 28" heights only.

WIDTHS — ROUGH OPENINGS REQUIRED FOR INSTALLATION

NOMINAL GLASS WIDTH	WINDOW WIDTH	IN FRAME AND BRICK VENEER			IN MASONRY AND CONCRETE BLOCK		
		** WOOD CASING	METAL CASING	METAL FIN	** WOOD CASING	METAL CASING	METAL FIN*
SINGLE VERTICAL SLIDE							
16"	1'-7¼"	1'-9¼"	1'-9¾"	1'-9¼"	1'-10½"	1'-10½"	1'-7¾"
20"	1'-11¼"	2'-1¼"	2'-1¾"	2'-1¼"	2'-2½"	2'-2½"	1'-11¾"
24"	2'-3¼"	2'-5¼"	2'-5¾"	2'-5¼"	2'-6½"	2'-6½"	2'-3¾"
28"	2'-7¼" †	2'-9¼"	2'-9¾"	2'-9¼"	2'-10½"	2'-10½"	2'-7¾"
32"	2'-11¼"	3'-1¼"	3'-1¾"	3'-1¼"	3'-2½"	3'-2½"	2'-11¾"
36"	3'-3¼" †	3'-5¼"	3'-5¾"	3'-5¼"	3'-6½"	3'-6½"	3'-3¾"
SINGLE PICTURE WINDOW							
40"	3'-5⅞"	3'-7⅞"	3'-8⅜"	3'-7⅞"	3'-9⅛"	3'-9⅛"	3'-6⅜"
48"	4'-1⅞"	4'-3⅞"	4'-4⅜"	4'-3⅞"	4'-5⅛"	4'-5⅛"	4'-2⅜"
56"	4'-9⅞"	4'-11⅞"	5'-0⅜"	4'-11⅞"	5'-1⅛"	5'-1⅛"	4'-10⅜"
TWIN VERTICAL SLIDE							
16"	3'-3⅞"	3'-5⅞"	3'-5 15/16"	3'-5⅞"	3'-6 1/16"	3'-6 1/16"	3'-3 15/16"
20"	3'-11⅞" †	4'-1⅞"	4'-1 15/16"	4'-1⅞"	4'-2 1/16"	4'-2 1/16"	3'-11 15/16"
24"	4'-7⅞" †	4'-9⅞"	4'-9 15/16"	4'-9⅞"	4'-10 1/16"	4'-10 1/16"	4'-7 15/16"
28"	5'-3⅞" †	5'-5⅞"	5'-5 15/16"	5'-5⅞"	5'-6 1/16"	5'-6 1/16"	5'-3 15/16"
32"	5'-11⅞" †	6'-1⅞"	6'-1 15/16"	6'-1⅞"	6'-2 1/16"	6'-2 1/16"	5'-11 15/16"
36"	6'-7⅞" †	6'-9⅞"	6'-9 15/16"	6'-9⅞"	6'-10 1/16"	6'-10 1/16"	6'-7 15/16"
TRIPLE VERTICAL SLIDE							
16"	4'-11⅝"	5'-1⅝"	5'-2⅛"	5'-1⅝"	5'-2⅞"	5'-2⅞"	5'-0⅛"
20"	5'-11⅝"	6'-1⅝"	6'-2⅛"	6'-1⅝"	6'-2⅞"	6'-2⅞"	6'-0⅛"
24"	6'-11⅝"	7'-1⅝"	7'-2⅛"	7'-1⅝"	7'-2⅞"	7'-2⅞"	7'-0⅛"
28"	7'-11⅝" †	8'-1⅝"	8'-2⅛"	8'-1⅝"	8'-2⅞"	8'-2⅞"	8'-0⅛"
32"	8'-11⅝"	9'-1⅝"	9'-2⅛"	9'-1⅝"	9'-2⅞"	9'-2⅞"	9'-0⅛"
36"	9'-11⅝"	10'-1⅝"	10'-2⅛"	10'-1⅝"	10'-2⅞"	10'-2⅞"	10'-0⅛"

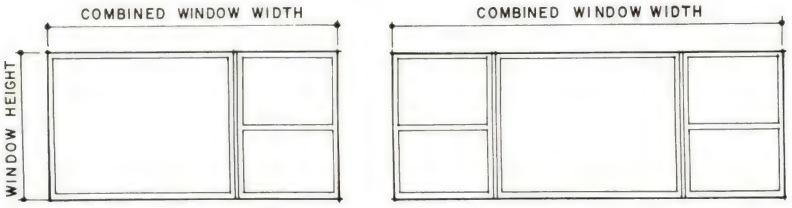
HEIGHTS — ROUGH OPENINGS REQUIRED FOR INSTALLATION

NOMINAL GLASS HEIGHT	WINDOW HEIGHT						
P 11							
10"	2'-1¼" †	2'-3"	2'-2¾"	2'-2½"	2'-3⅝"	2'-3⅛"	2'-1⅞"
16"	3'-1¼" †	3'-3"	3'-2¾"	3'-2½"	3'-3⅝"	3'-3⅛"	3'-1⅞"
20"	3'-9¼" †	3'-11"	3'-10¾"	3'-10½"	3'-11⅝"	3'-11⅛"	3'-9⅞"
24"	4'-5¼" †	4'-7"	4'-6¾"	4'-6½"	4'-7⅝"	4'-7⅛"	4'-5⅞"
28"	5'-1¼" †	5'-3"	5'-2¾"	5'-2½"	5'-3⅝"	5'-3⅛"	5'-1⅞"
P 311							
20"	5'-8"	5'-9¾"	5'-9½"	5'-9¼"	5'-10⅜"	5'-9⅞"	5'-8⅝"
24"	6'-8"	6'-9¾"	6'-9½"	6'-9¼"	6'-10⅜"	6'-9⅞"	6'-8⅝"
28"	7'-8"	7'-9¾"	7'-9½"	7'-9¼"	7'-10⅜"	7'-9⅞"	7'-8⅝"
P 411							
24"	8'-8 13/16"	8'-10 7/16"	8'-10 5/16"	8'-10 1/16"	8'-11 3/16"	8'-10 11/16"	8'-9 7/16"
28"	10'-0 13/16"	10'-2 7/16"	10'-2 5/16"	10'-2 1/16"	10'-3 3/16"	10'-2 11/16"	10'-1 7/16"

REQUIRED FOR INSTALLATION PICTURE AND FLANKER COMBINATIONS

In each case of combined Rusco Prime Window units using Rusco mullions, the combined width of the windows plus 15/16" for each non-load-bearing mullion.

Refer to installation details pages 25 thru 29 for the relationship between the rough openings required for installation and finished stool and head height.



Single flanker may be used on either right or left side as seen from the outside.

NOMINAL GLASS WIDTH COMBINATIONS	COMBINED WINDOW WIDTH	WIDTHS — ROUGH OPENINGS REQUIRED FOR INSTALLATION					
		IN FRAME AND BRICK VENEER			IN MASONRY AND CONCRETE BLOCK		
		**WOOD CASING	METAL CASING	METAL FIN	**WOOD CASING	METAL CASING	METAL FIN*
PICTURE and ONE FLANKER							
40-16	5′-2 1/16″	5′-4 1/16″	5′-4 9/16″	5′-4 1/16″	5′-5 5/16″	5′-5 5/16″	5′-2 9/16″
40-20	5′-6 1/16″	5′-8 1/16″	5′-8 9/16″	5′-8 1/16″	5′-9 5/16″	5′-9 5/16″	5′-6 9/16″
48-16 40-24	5′-10 1/16″	6′-0 1/16″	6′-0 9/16″	6′-0 1/16″	6′-1 5/16″	6′-1 5/16″	5′-10 9/16″
48-20 40-28	6′-2 1/16″	6′-4 1/16″	6′-4 9/16″	6′-4 1/16″	6′-5 5/16″	6′-5 5/16″	6′-2 9/16″
56-16 48-24 40-32	6′-6 1/16″	6′-8 1/16″	6′-8 9/16″	6′-8 1/16″	6′-9 5/16″	6′-9 5/16″	6′-6 9/16″
56-20 48-28 40-36	6′-10 1/16″	7′-0 1/16″	7′-0 9/16″	7′-0 1/16″	7′-1 5/16″	7′-1 5/16″	6′-10 9/16″
56-24 48-32	7′-2 1/16″	7′-4 1/16″	7′-4 9/16″	7′-4 1/16″	7′-5 5/16″	7′-5 5/16″	7′-2 9/16″
56-28 48-36	7′-6 1/16″	7′-8 1/16″	7′-8 9/16″	7′-8 1/16″	7′-9 5/16″	7′-9 5/16″	7′-6 9/16″
56-32	7′-10 1/16″	8′-0 1/16″	8′-0 9/16″	8′-0 1/16″	8′-1 5/16″	8′-1 5/16″	7′-10 9/16″
56-36	8′-2 1/16″	8′-4 1/16″	8′-4 9/16″	8′-4 1/16″	8′-5 5/16″	8′-5 5/16″	8′-2 9/16″
PICTURE and TWO FLANKERS							
16-40-16	6′-10 1/4″	7′-0 1/4″	7′-0 3/4″	7′-0 1/4″	7′-1 1/2″	7′-1 1/2″	6′-10 3/4″
16-48-16 20-40-20	7′-6 1/4″	7′-8 1/4″	7′-8 3/4″	7′-8 1/4″	7′-9 1/2″	7′-9 1/2″	7′-6 3/4″
16-56-16 20-48-20 24-40-24	8′-2 1/4″	8′-4 1/4″	8′-4 3/4″	8′-4 1/4″	8′-5 1/2″	8′-5 1/2″	8′-2 3/4″
20-56-20 24-48-24 28-40-28	8′-10 1/4″	9′-0 1/4″	9′-0 3/4″	9′-0 1/4″	9′-1 1/2″	9′-1 1/2″	8′-10 3/4″
24-56-24 28-48-28 32-40-32	9′-6 1/4″	9′-8 1/4″	9′-8 3/4″	9′-8 1/4″	9′-9 1/2″	9′-9 1/2″	9′-6 3/4
28-56-28 32-48-32 36-40-36	10′-2 1/4″	10′-4 1/4″	10′-4 3/4″	10′-4 1/4″	10′-5 1/2″	10′-5 1/2″	10′-2 3/4″
32-56-32 36-48-36	10′-10 1/4″	11′-0 1/4″	11′-0 3/4″	11′-0 1/4″	11′-1 1/2″	11′-1 1/2″	10′-10 3/4″
36-56-36	11′-6 1/4″	11′-8 1/4″	11′-8 3/4″	11′-8 1/4″	11′-9 1/2″	11′-9 1/2″	11′-6 3/4″

NOMINAL GLASS HEIGHT	WINDOW HEIGHT	HEIGHTS — ROUGH OPENINGS REQUIRED FOR INSTALLATION					
20″	3′-9 1/4″	3′-11 3/4″	3′-10 3/4″	3′-10 1/2″	4′-0 3/4″	3′-11 1/8″	3′-9 7/8″
24″	4′-5 1/4″	4′-7 3/4″	4′-6 3/4″	4′-6 1/2″	4′-8 3/4″	4′-7 1/8″	4′-5 7/8″
28″	5′-1 1/4″	5′-3 3/4″	5′-2 3/4″	5′-2 1/2″	5′-4 3/4″	5′-3 1/8″	5′-1 7/8″

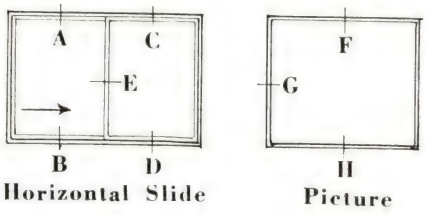
** Dimensions given are based on use of Wood Casings shown on pages 24 and 28.

* WIDTH—Dimension of outside masonry opening.
HEIGHT—Dimension from outside lintel to sill.

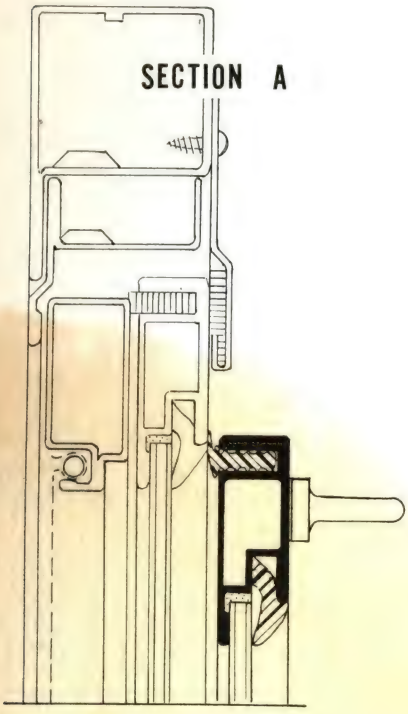
FULL SIZE DETAILS SNAP-ON INSULATING SASH

Snap-on Insulating Sash is designed to provide an economical means of obtaining double glass protection. They are available for all Horizontal Slide Windows and all Picture Windows except the 56" x 58" nominal glass size.

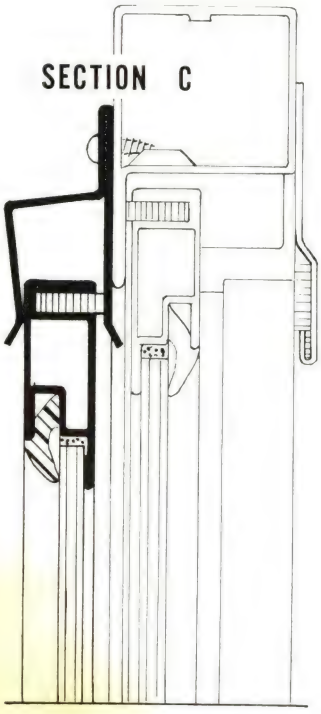
Snap-on Windows and components shown solid.



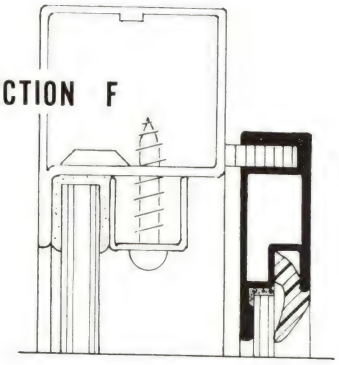
SECTION A



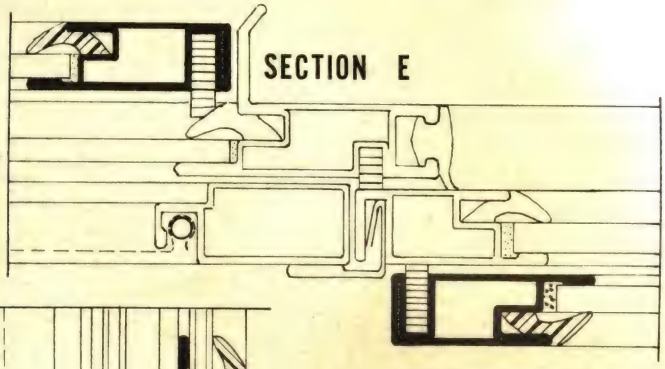
SECTION C



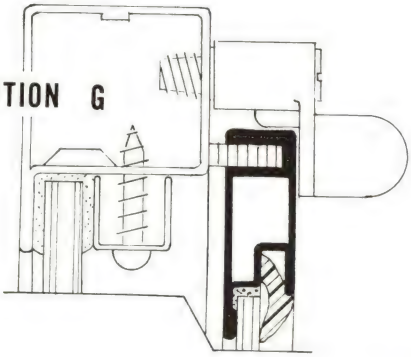
SECTION F



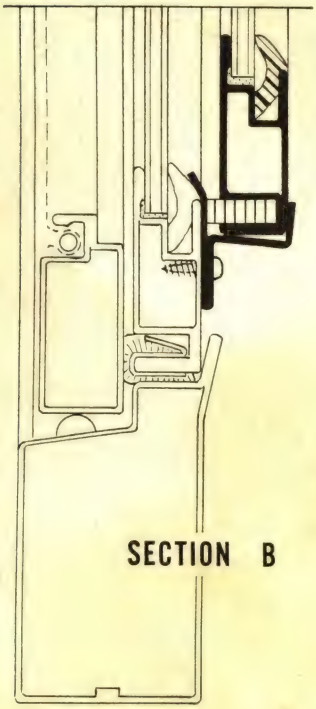
SECTION E



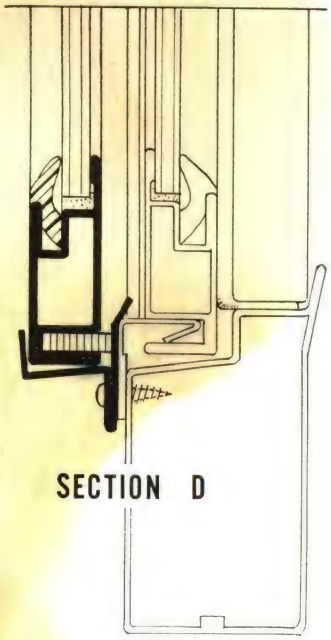
SECTION G



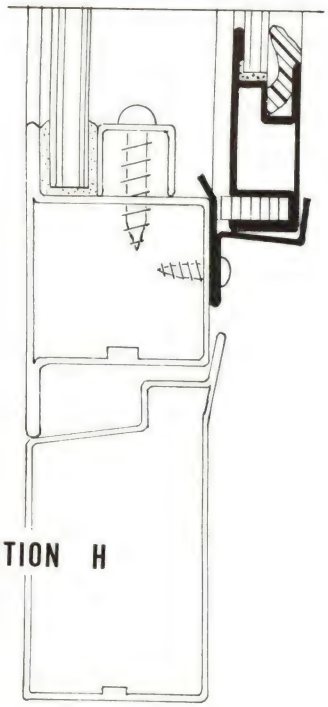
SECTION B

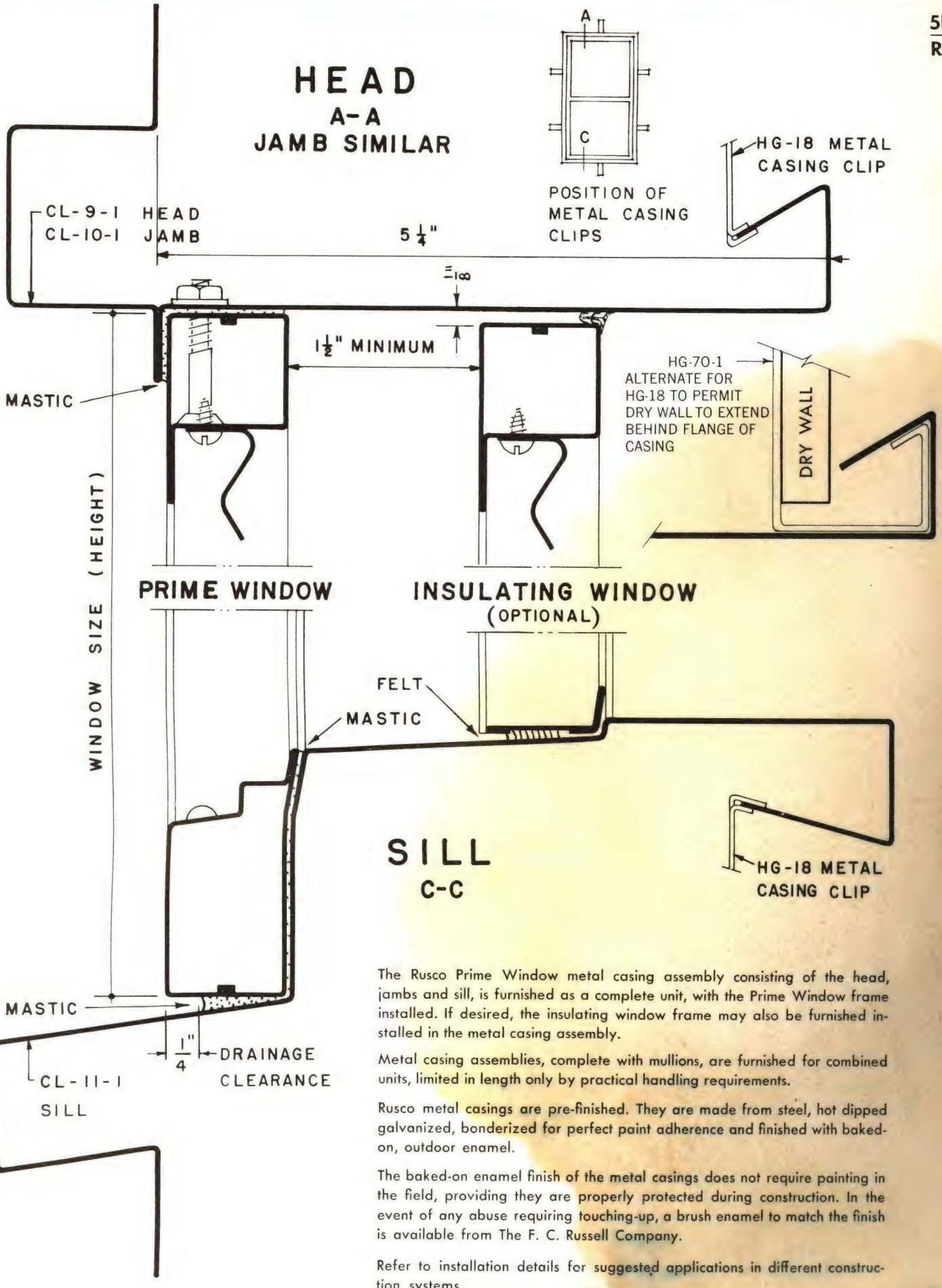


SECTION D



SECTION H





The Rusco Prime Window metal casing assembly consisting of the head, jambs and sill, is furnished as a complete unit, with the Prime Window frame installed. If desired, the insulating window frame may also be furnished installed in the metal casing assembly.

Metal casing assemblies, complete with mullions, are furnished for combined units, limited in length only by practical handling requirements.

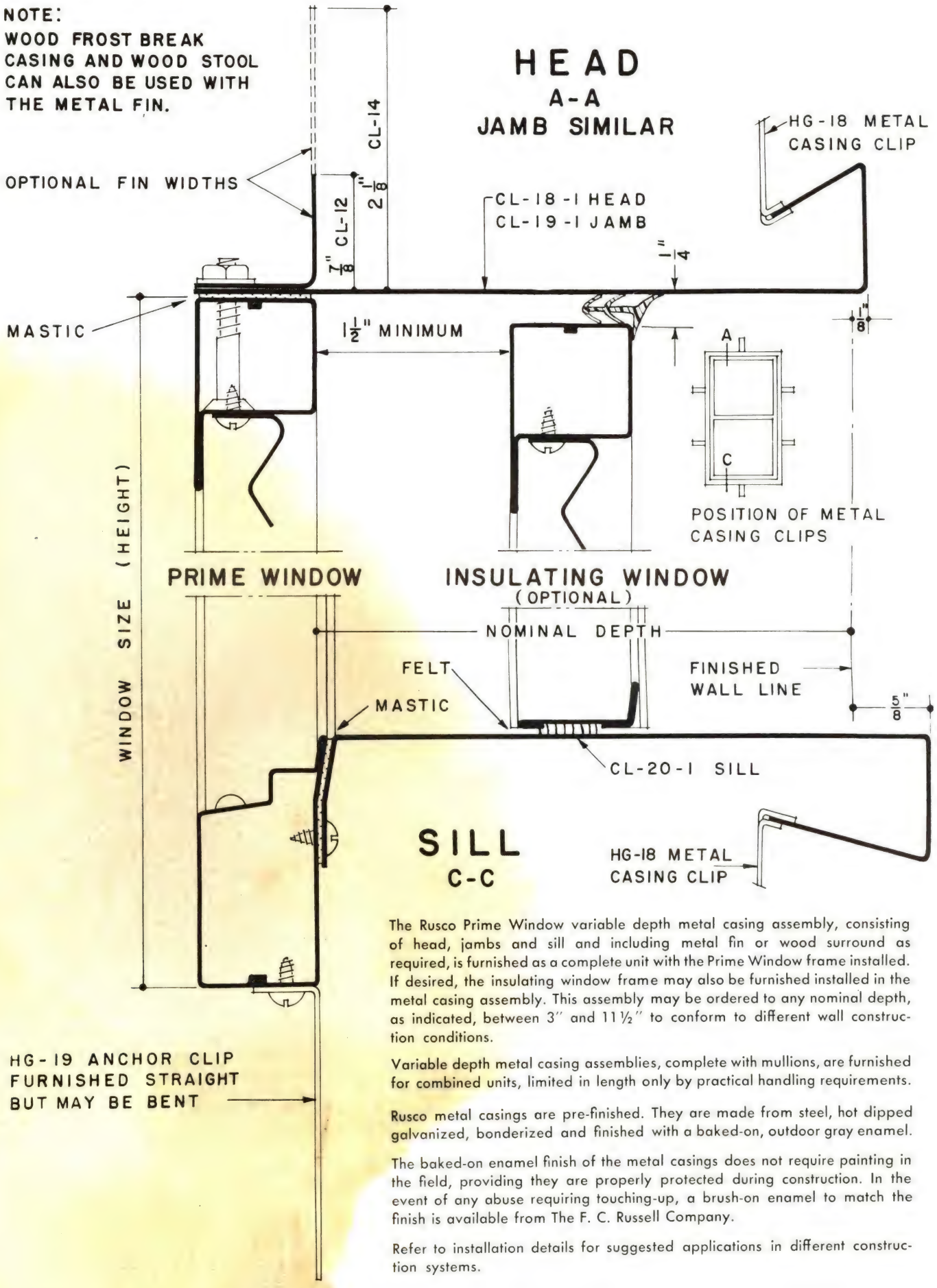
Rusco metal casings are pre-finished. They are made from steel, hot dipped galvanized, bonderized for perfect paint adherence and finished with baked-on, outdoor enamel.

The baked-on enamel finish of the metal casings does not require painting in the field, providing they are properly protected during construction. In the event of any abuse requiring touching-up, a brush enamel to match the finish is available from The F. C. Russell Company.

Refer to installation details for suggested applications in different construction systems.

VARIABLE DEPTH METAL CASING WITH METAL FIN

FULL SIZE DETAILS



The Rusco Prime Window variable depth metal casing assembly, consisting of head, jambs and sill and including metal fin or wood surround as required, is furnished as a complete unit with the Prime Window frame installed. If desired, the insulating window frame may also be furnished installed in the metal casing assembly. This assembly may be ordered to any nominal depth, as indicated, between 3" and 11½" to conform to different wall construction conditions.

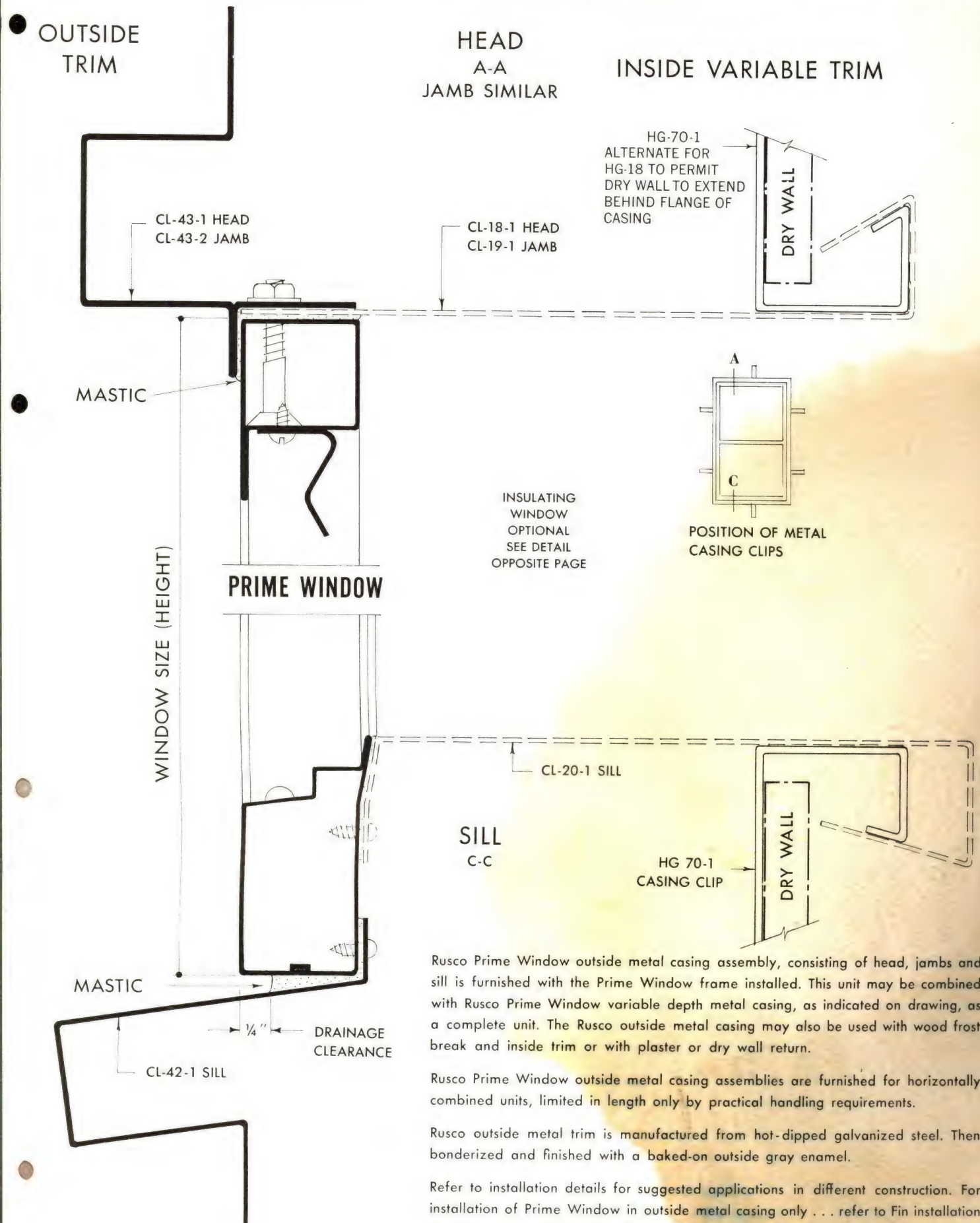
Variable depth metal casing assemblies, complete with mullions, are furnished for combined units, limited in length only by practical handling requirements.

Rusco metal casings are pre-finished. They are made from steel, hot dipped galvanized, bonderized and finished with a baked-on, outdoor gray enamel.

The baked-on enamel finish of the metal casings does not require painting in the field, providing they are properly protected during construction. In the event of any abuse requiring touching-up, a brush-on enamel to match the finish is available from The F. C. Russell Company.

Refer to installation details for suggested applications in different construction systems.

OUTSIDE METAL CASING
FULL SIZE DETAILS



Rusco Prime Window outside metal casing assembly, consisting of head, jambs and sill is furnished with the Prime Window frame installed. This unit may be combined with Rusco Prime Window variable depth metal casing, as indicated on drawing, as a complete unit. The Rusco outside metal casing may also be used with wood frost break and inside trim or with plaster or dry wall return.

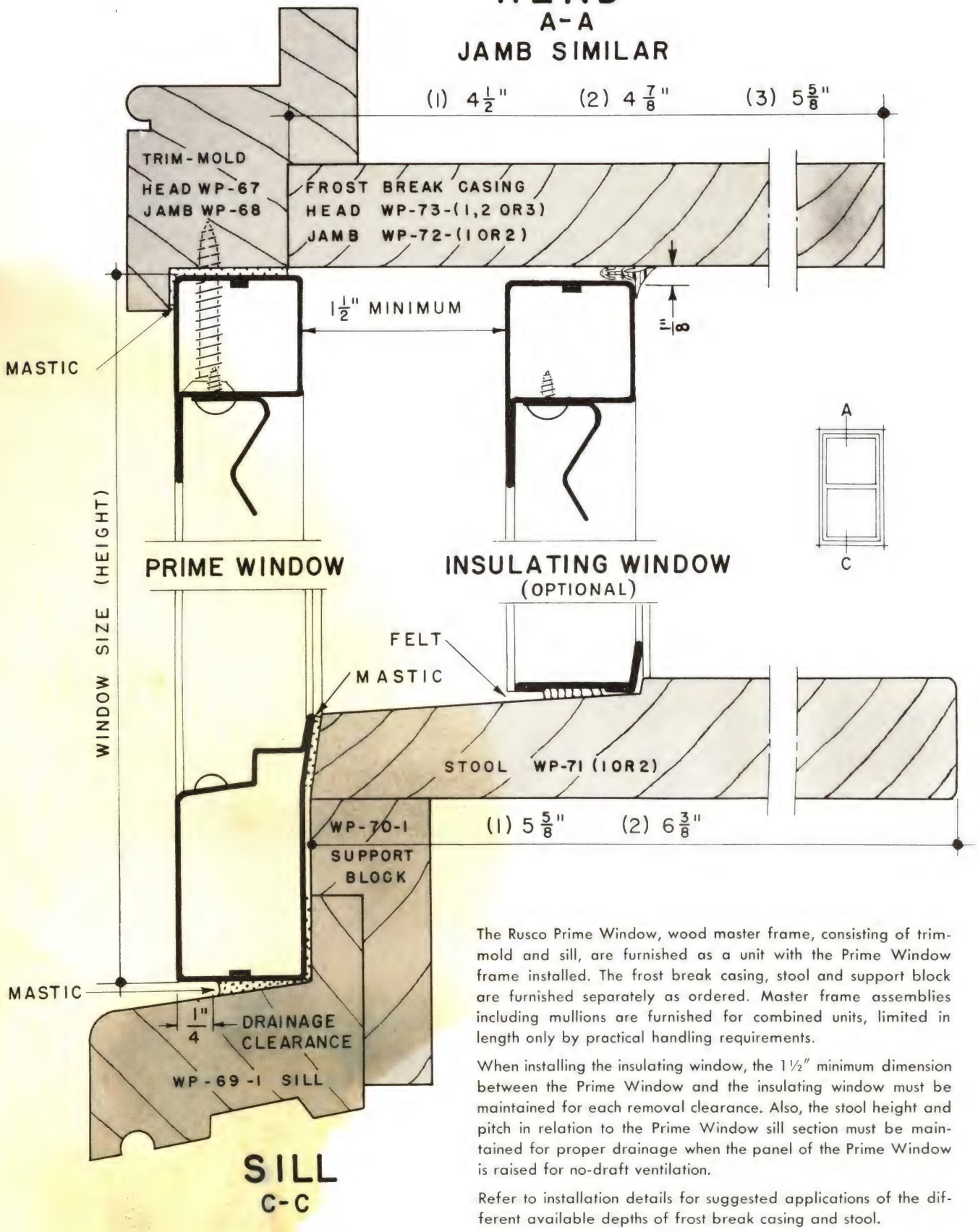
Rusco Prime Window outside metal casing assemblies are furnished for horizontally combined units, limited in length only by practical handling requirements.

Rusco outside metal trim is manufactured from hot-dipped galvanized steel. Then bonderized and finished with a baked-on outside gray enamel.

Refer to installation details for suggested applications in different construction. For installation of Prime Window in outside metal casing only . . . refer to Fin installation details on page 27. For installation of prime window in outside metal casing with variable depth casing refer to metal casing installation details on page 26.

FULL SIZE DETAILS WOOD CASING

HEAD
A-A
JAMB SIMILAR



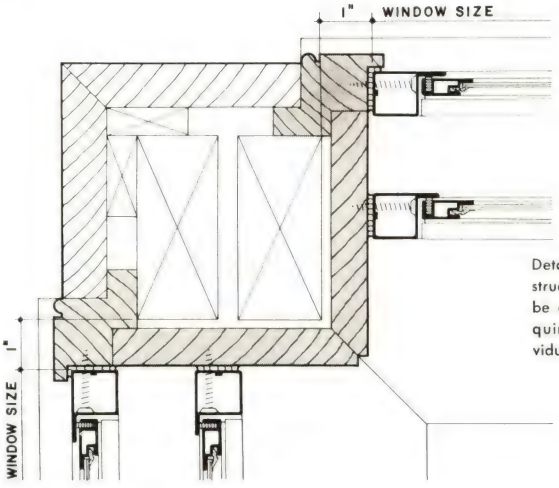
SILL
C-C

The Rusco Prime Window, wood master frame, consisting of trim-mold and sill, are furnished as a unit with the Prime Window frame installed. The frost break casing, stool and support block are furnished separately as ordered. Master frame assemblies including mullions are furnished for combined units, limited in length only by practical handling requirements.

When installing the insulating window, the 1½" minimum dimension between the Prime Window and the insulating window must be maintained for each removal clearance. Also, the stool height and pitch in relation to the Prime Window sill section must be maintained for proper drainage when the panel of the Prime Window is raised for no-draft ventilation.

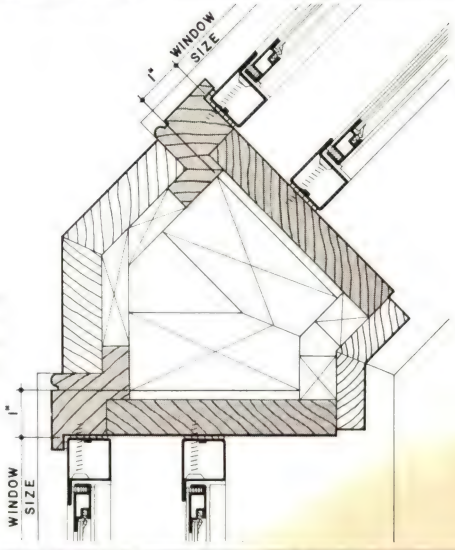
Refer to installation details for suggested applications of the different available depths of frost break casing and stool.

WOOD CASING

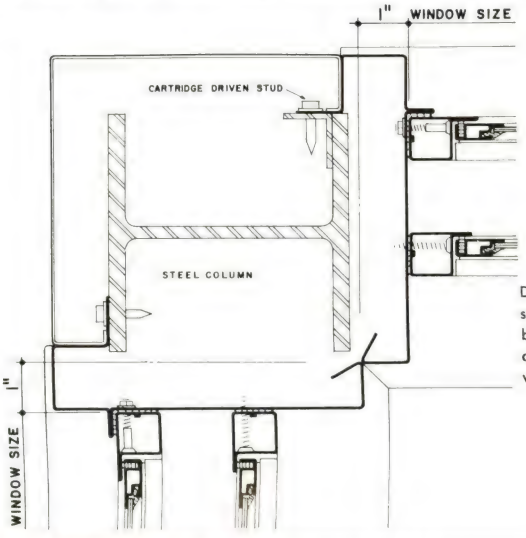


Details of wood trim and structure (not by Rusco) to be determined by the requirements of the individual projects.

WOOD CASING

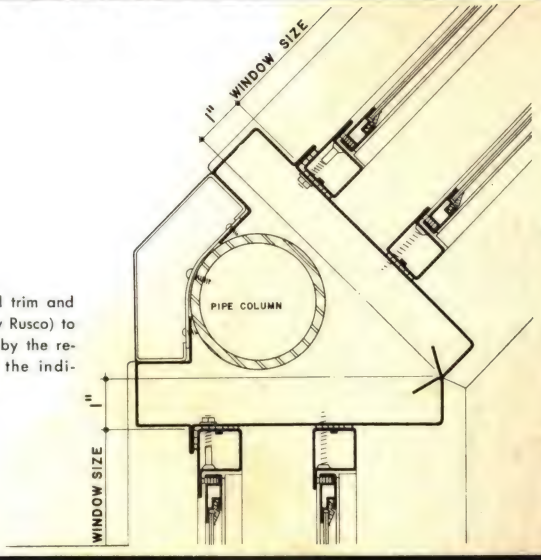


METAL CASING

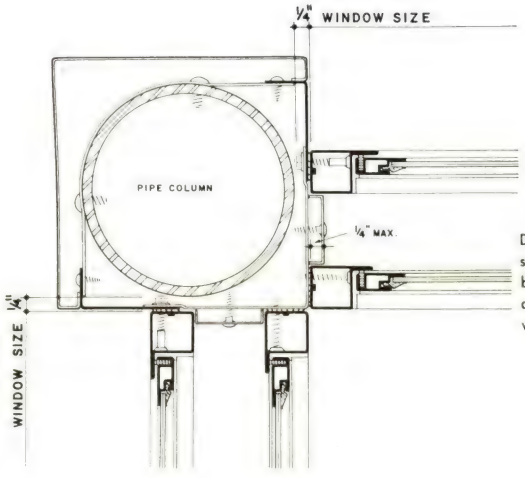


Details of metal trim and structure (not by Rusco) to be determined by the requirements of the individual projects.

METAL CASING

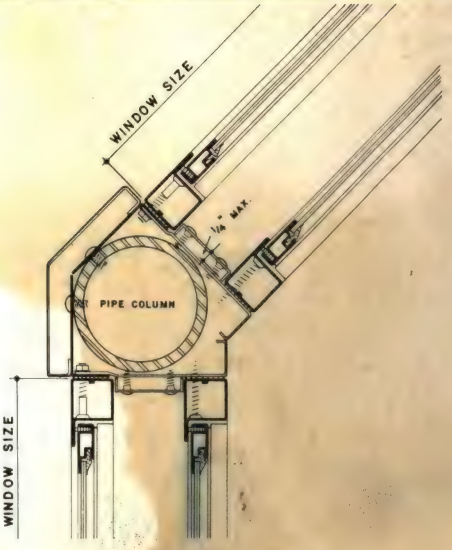


METAL FIN



Details of metal trim and structure (not by Rusco) to be determined by the requirements of the individual projects.

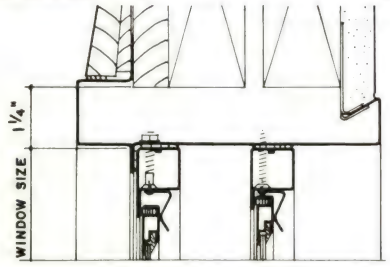
METAL FIN



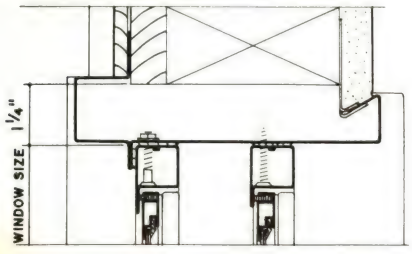
SCALE 3"=1'0" METAL CASING INSTALLATION DETAILS

FRAME-PLASTERED

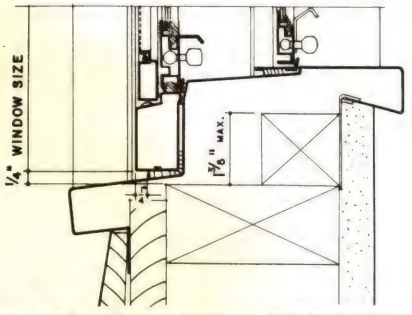
HEAD



JAMB

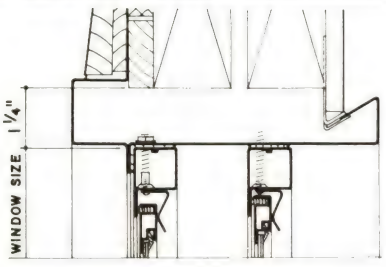


SILL

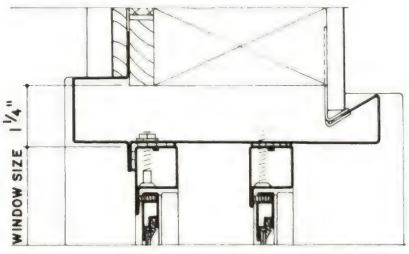


FRAME-DRYWALL

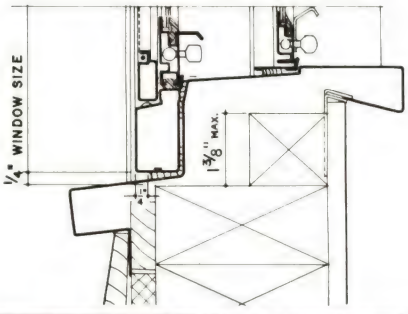
HEAD



JAMB

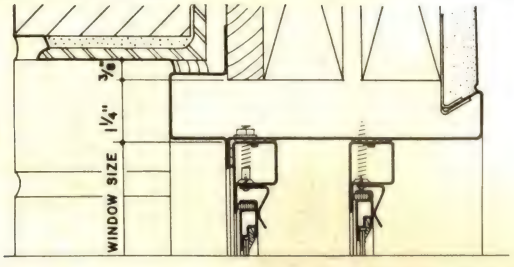


SILL

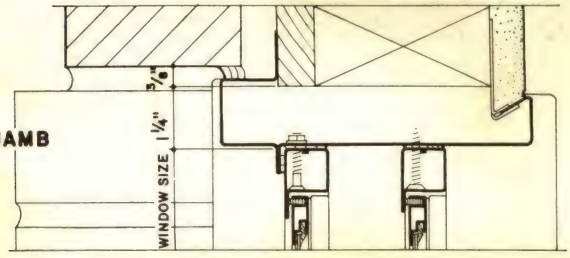


BRICK VENEER-PLASTERED

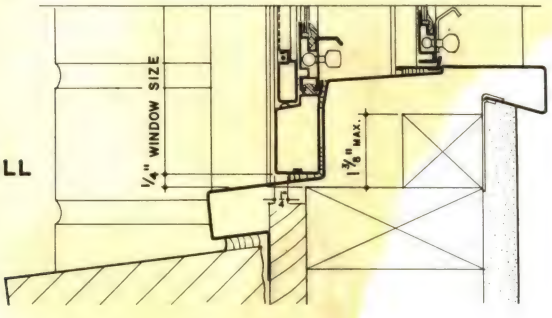
HEAD



JAMB

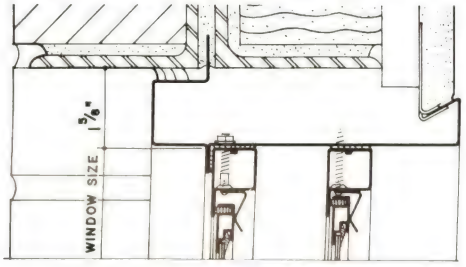


SILL

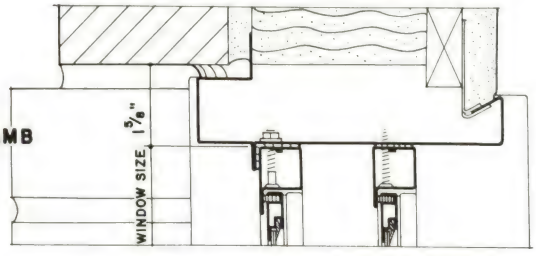


MASONRY-8"-PLASTERED

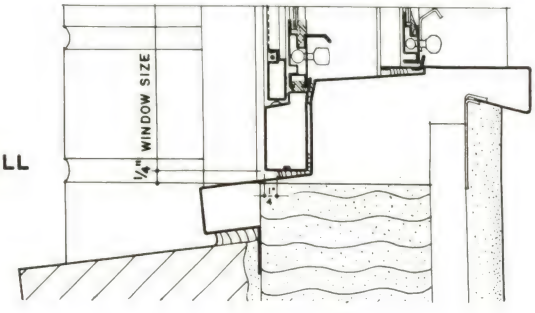
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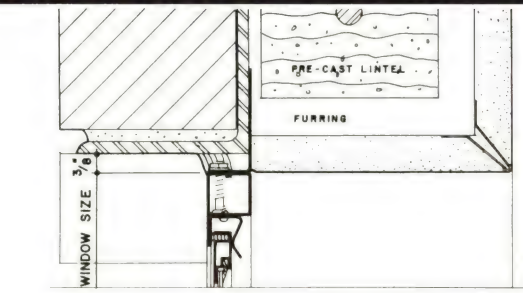


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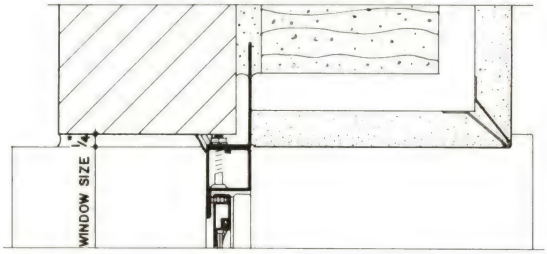


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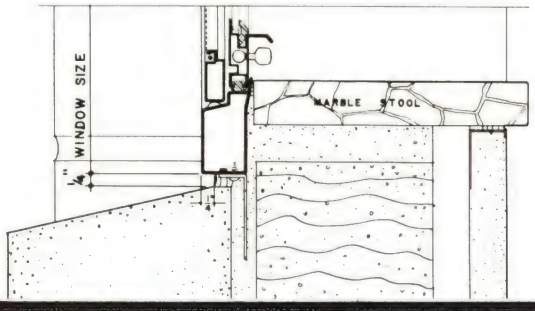
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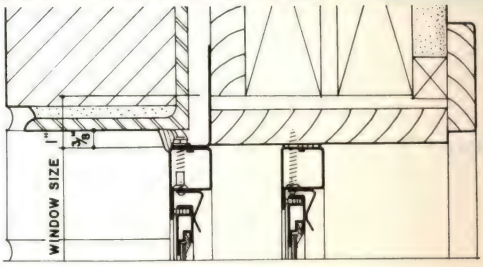


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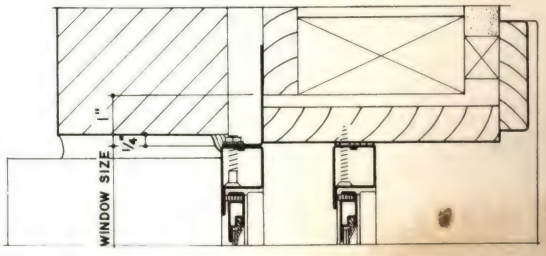


BRICK VENEER-PLASTER-TRIM

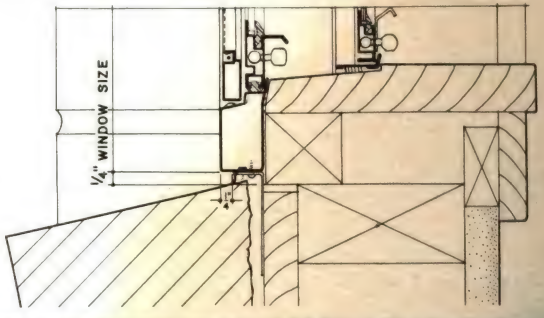
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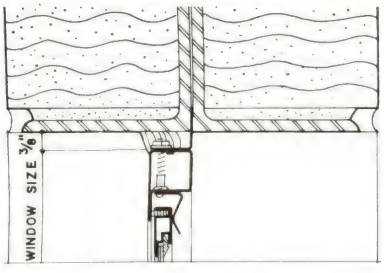


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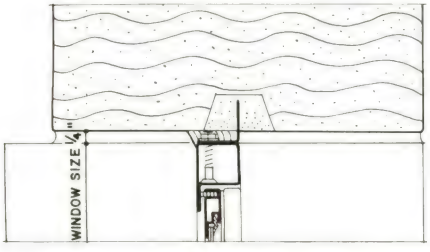


MASONRY-8"-UNFINISHED

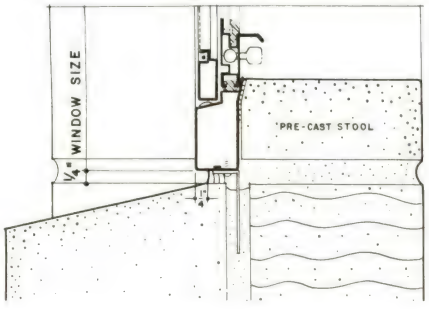
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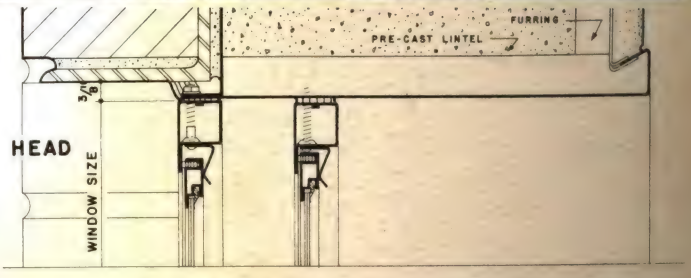


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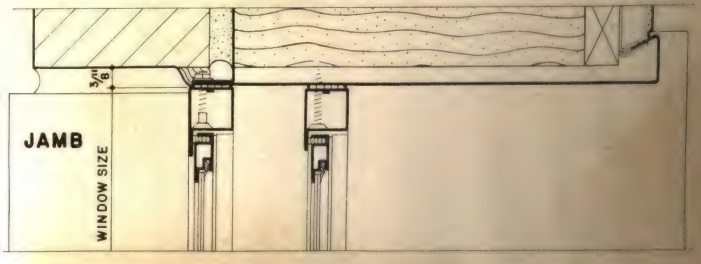


MASONRY 12" VARIABLE CASING

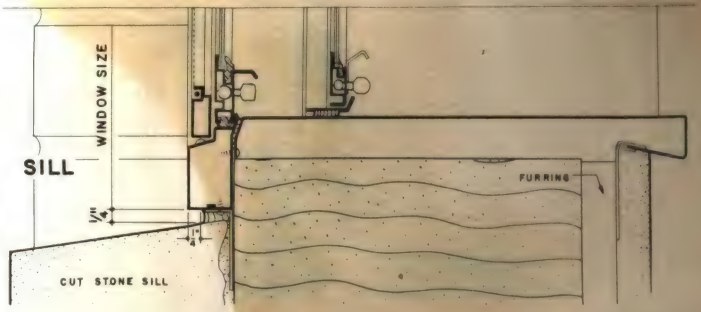
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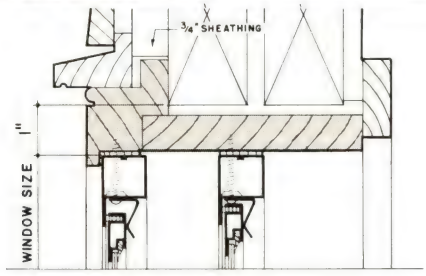
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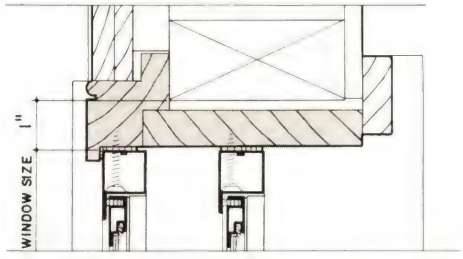
INSTALLATION DETAILS WOOD CASING SCALE 3"=1'0"

FRAME-DRYWALL FINISH

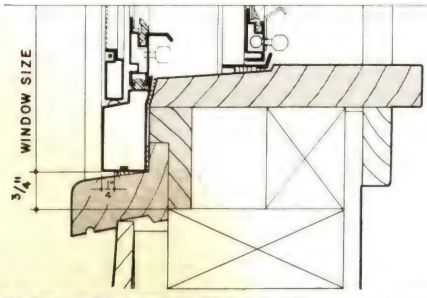
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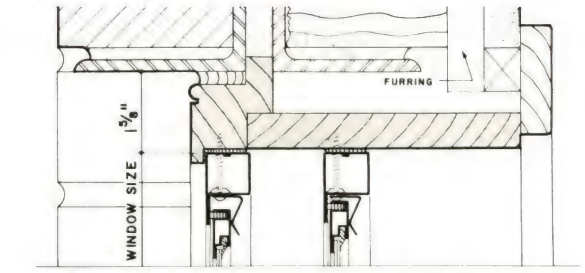


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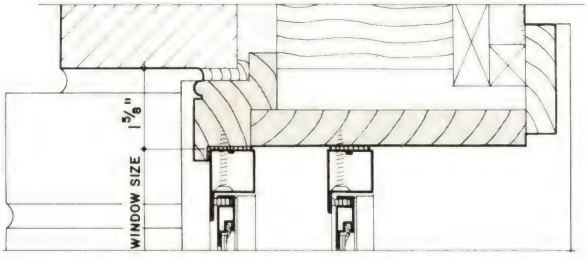


MASONRY 8" PLASTERED

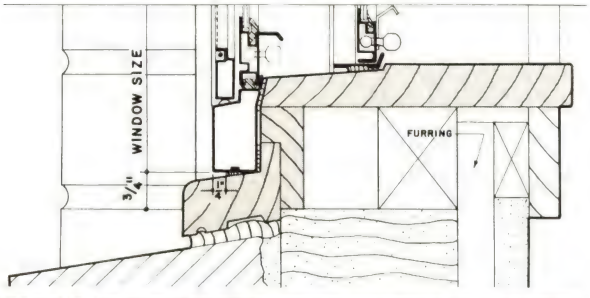
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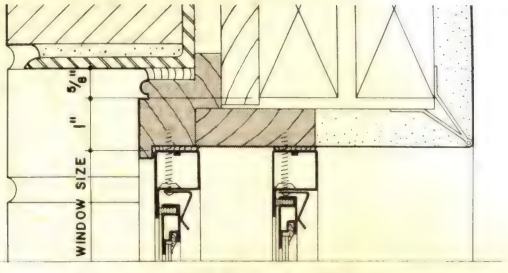


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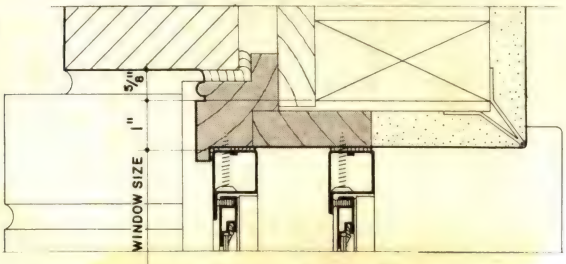


BRICK VENEER-PLASTER RETURN

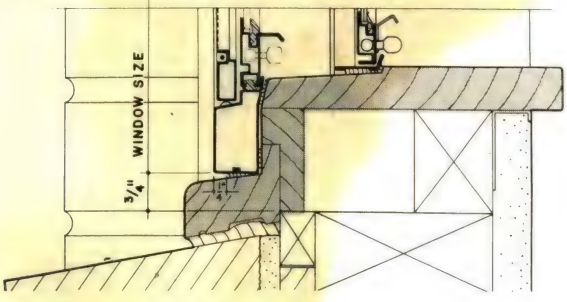
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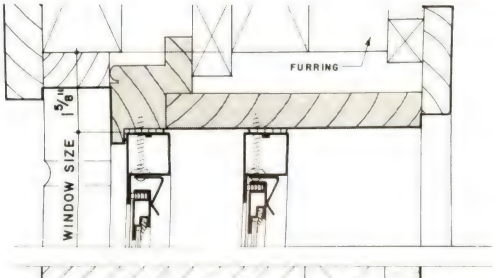


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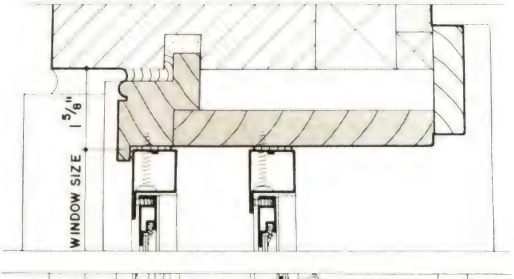


SCR BRICK PLASTERED

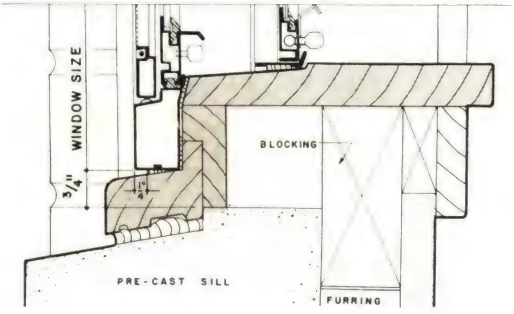
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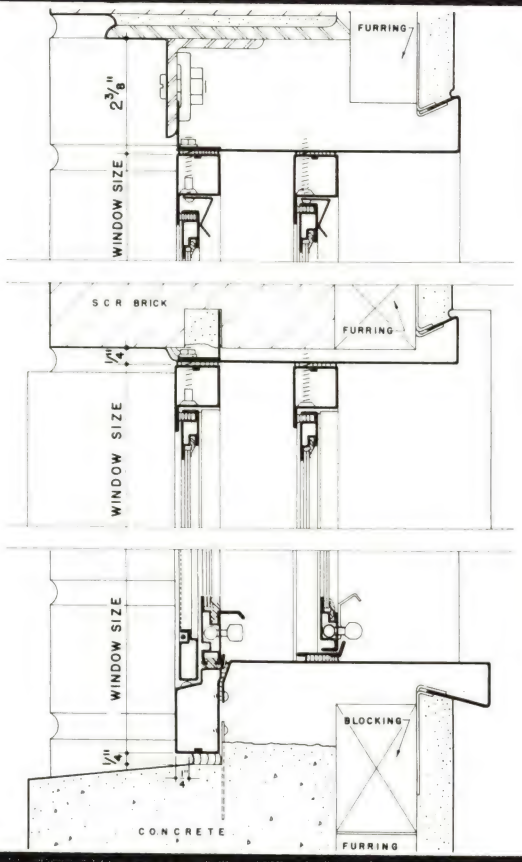
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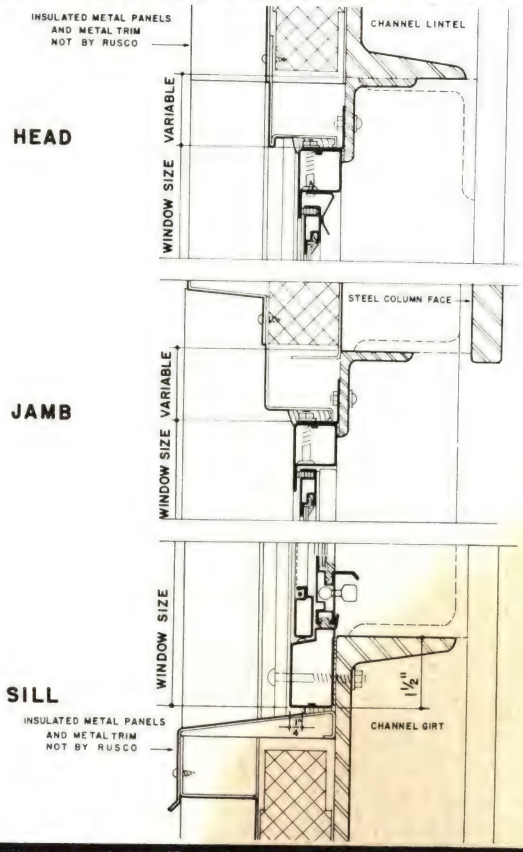
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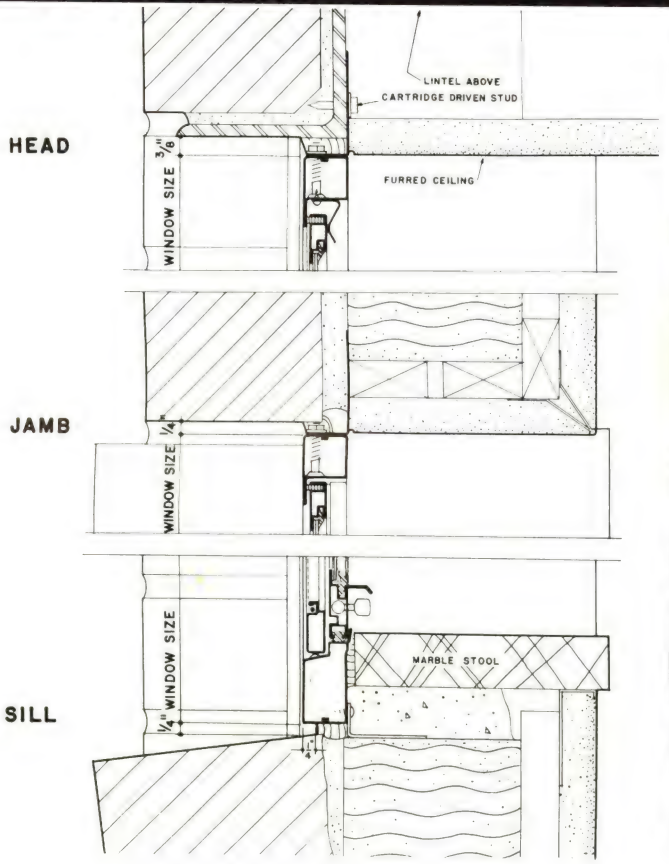
VARIABLE DEPTH CASING-SCR BRICK



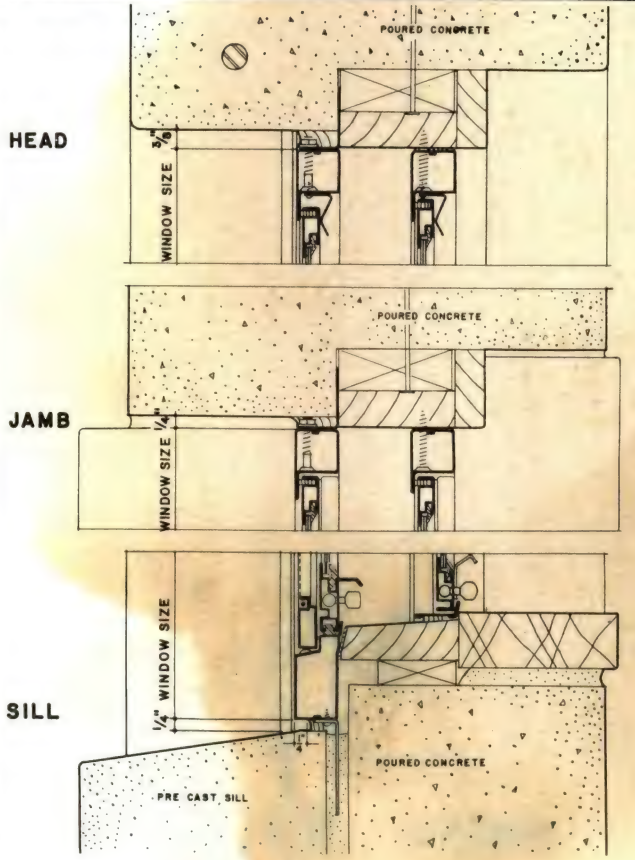
METAL FIN-STEEL CONSTRUCTION



STEEL FIN-MASONRY-8"



STEEL FIN-POURED CONCRETE

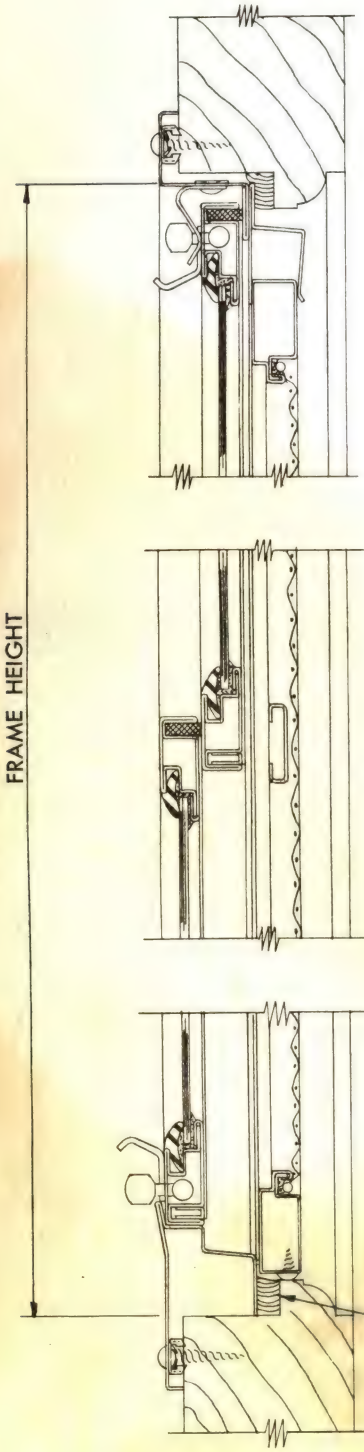


DETAILS WINDO-DOOR UNIT SCALE 3"=1'0"

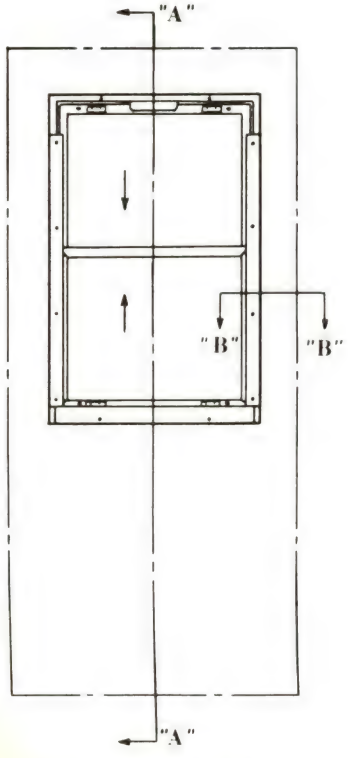
Rusco Windo-Door unit is designed to provide a primary door with light and controlled ventilation qualities.

The Rusco Windo-Door unit is manufactured from the same hot-dipped galvanized steel and factory finished with gray baked-on enamel and of similar construction to Rusco Prime Windows.

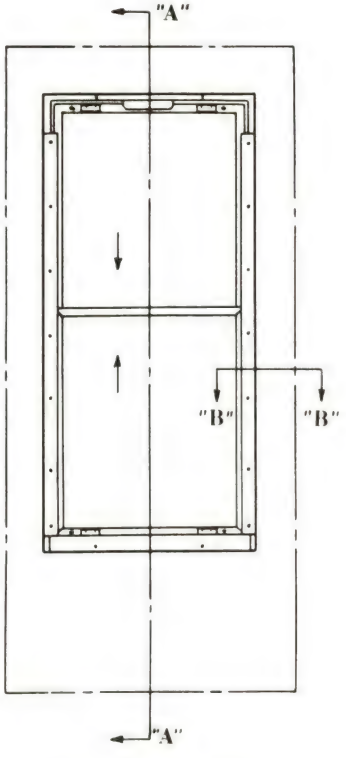
Windo-Door units are available for the two standard types of wood doors in the range of sizes shown below.



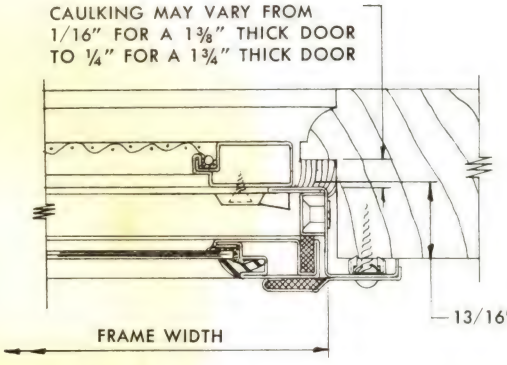
SECTION "A" — "A"



STYLE N.D. 500



STYLE N.D. 635



SECTION "B" — "B"

NOTE:
THIS UNIT MAY BE USED
ON 1⅜" OR 1¾" DOORS

BASED ON COMMERCIAL STANDARDS, (NWMA) NATIONAL WOODWORK MANUFACTURERS ASSOCIATION, THE FRAME SIZES INDICATED WILL FIT STANDARD DOORS AS FOLLOWS:

DOOR STYLE	DOOR SIZE	OPENING SIZE	FRAME SIZE	
			WIDTH	HEIGHT
N.D. 500	2'-8" x 6'-8"	22" x 40"	21-13/16"	39⅞"
N.D. 500	3'-0" x 6'-8"	26" x 40"	25-13/16"	39⅞"
N.D. 500	3'-0" x 7'-0"	26" x 44"	25-13/16"	43⅞"
N.D. 635	2'-6" x 6'-8"	20" x 56"	19-13/16"	55⅞"
N.D. 635	2'-8" x 6'-8"	22" x 56"	21-13/16"	55⅞"
N.D. 635	3'-0" x 6'-8"	26" x 56"	25-13/16"	55⅞"
N.D. 635	3'-0" x 7'-0"	26" x 60"	25-13/16"	59⅞"

SPECIFICATIONS FOR RUSCO PRIME WINDOWS

All windows shall be Rusco Prime Windows of standard type and size, as manufactured by The F. C. RUSSELL Company, Cleveland 1, Ohio

MATERIAL — All frame sections of window frames, glass panels and screen panels shall be of rolled, tubular, lockseal construction formed from No. 24 gauge steel, hot dipped galvanized.

Mullions for use with Types P-11, P-22 and P P windows shall be of the same material as the frame sections. When insulating windows are used, the wood mullion post, which is included, shall be made from toxic-treated clear white pine.

Mullions for use with types P-311 and P-411 windows shall be of rolled, tubular, lockseal construction formed from No. 22 gauge steel, hot dipped galvanized.

Wood Casings shall be made from toxic treated clear white pine.

The metal casing surrounds shall be made from steel, hot dipped galvanized — head and jamb sections of No. 22 gauge and sill and stool sections of No. 18 gauge.

Metal fin surrounds and installation fins shall be made from No. 16 gauge steel, hot dipped galvanized.

Locking mechanism shall be made of stainless steel.

Glass shall be clear, flat drawn, window glass, S. S. B. quality, up to 64* combined inches. Over 64* combined inches and up 110* combined inches, D. S. B. glass is used. Over 110* combined inches, 3/16 crystal sheet is used.

Glazing splines shall be made of vinyl plastic.

Screen cloth shall be 14 — 18 mesh, fiberglass with plastic installation splines.

Weatherstripping shall be the finest grade, resilient, water-repellent, mothproof, wool felt and vinyl plastic.

CONSTRUCTION — Tubular window frames shall be brazed on both sides at all corners. Glass panels shall be brazed on outside at all corners. Screen panel frames shall be assembled with special internal corner reinforcers for rigidity.

* width plus height

FINISH — All metal parts formed from steel, hot dipped galvanized, shall be bonderized to insure proper paint adherence and finished by spraying all exposed surfaces with exterior quality, gray enamel, followed by baking at 350 degrees.

ASSEMBLY — All Prime Window units shall be furnished completely assembled with glazed panels, screen panels, weatherstripping and hardware in place.

When Wood Casings, metal casings or metal fins are used, they shall be furnished with the Prime Window attached complete, with mastic between the window frame and the casing as specified.

When insulating window units are used they shall be furnished completely assembled with glazed panels, weatherstripping and hardware in place, ready for installation at the job. When insulating windows are used with metal casing, they may be furnished attached in place on order.

INSTALLATION — Installation shall be in accordance with manufacturer's instructions. All window units and complete assemblies shall be set true and plumb and secured in place without forcing and without superimposing loads from any source, such as lintel deflection.

CAULKING—All joints between the casing assemblies and masonry construction, and as so shown in the installation details or called for in the manufacturer's instructions, shall be caulked with plastic, non-hardening, non-staining caulking compound by the caulking contractor. Mastic under prime window sill must be kept back from outside face of window ¼" for drainage.

COMPLETION — At completion and before turning over the job to the owner, the builder shall remove all finish protective materials, thoroughly clean all painted and glass surfaces, replace any broken glass or damaged parts and leave all parts in first class operating condition.

OPERATION — All operating panels shall move freely without binding and all operable glass and screen panels shall be easily removable from the inside without tools.

Note: (These specifications will be followed subject to variations in the event emergency limitations are imposed.)

GENERAL RECOMMENDATIONS

The full sized details and installation details shown in the catalog should be studied carefully while determining the installation methods for any job.

The F. C. Russell Co. encourages consultation direct with them or their distributors by architects, owners or contractors concerning the details as shown or any special conditions which may be encountered.

The F. C. Russell Co. recommends the use of their various designs of surrounds as shown in this catalog in order to avoid unsatisfactory installations. Wood casing assemblies may be primed before installation.

It is recommended that the installation of insulating windows be made after plastering and finish painting in all cases, with the possible exception in the instances when steel casings are used.

The ordering designation of Rusco Prime Vertical Slide and Fulvue Windows is similar to that for conventional double hung windows in that the nominal glass size, in inches, of one panel is used; first the horizontal dimension and then the vertical dimension.

The Horizantal Slide Windows and the Vertical Slide Composite Windows should be ordered by the designation indicated below each different type and size.

Consultation with the local Rusco distributor or direct with the F. C. Russell Co. regarding all desired information and assistance in ordering is recommended.

Here's why more Architects Builders & Home Owners Look to **RUSCO**

FOR PRIME WINDOWS

For eighteen straight years RUSCO has been the leader . . . with more "firsts" in window and door design improvements and innovations than any other manufacturer.

RUSCO, and only RUSCO, has the experience, manufacturing skill and exclusive patented features to meet the quality standards set by the ever-expanding building industry.

Every RUSCO product is guaranteed by The F. C. Russell Company—and a nation-wide network of factory-trained RUSCO Distributors and Dealers is always ready to offer the finest service—anywhere!

RUSCO—the greatest name in Combination and Prime Windows—also offers a complete line of companion products for better and more gracious living including: Picture Windo Doors, All Metal Venetian Awnings, Door Canopies and Patio Covers, Glass Jalousie Windows and Doors and a wide choice of window designs for porch enclosures.

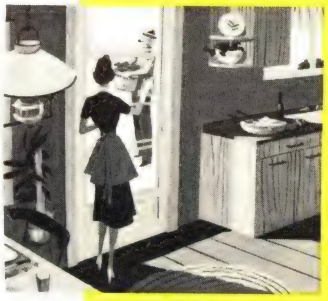
*Write for catalog of this new RUSCO product.



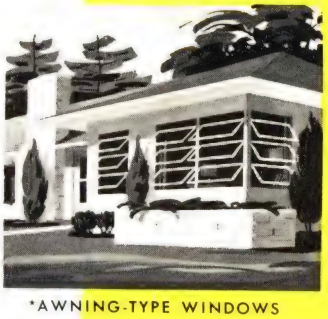
HORIZONTAL SLIDE



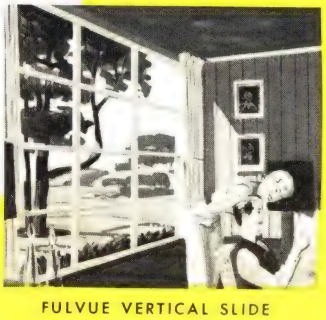
VERTICAL SLIDE



WINDO-DOOR



*AWNING-TYPE WINDOWS



FULVUE VERTICAL SLIDE

THE F. C. RUSSELL COMPANY
1100 Chester Avenue • Cleveland 1, Ohio

Plant Locations:
Cleveland, Ohio Conneaut, Ohio Pandora, Ohio
Columbiana, Ohio Cambridge, Ohio

In Canada:
THE F. C. RUSSELL CO. OF CANADA, LTD.
P. O. Box 97, Station "H" Toronto 13, Ontario, Canada

"Always one step ahead of the weather" with RUSCO

A.I.A. File No. 16-E



TRUSCON

1955

CATALOG

METAL WINDOWS AND DOORS

A.I.A. File No. 16-E

WAREHOUSE STOCK TYPES save time and money

The more popular types and sizes of Truscon's Steel Window and Door products are stocked in 23 widely located warehouses owned and operated by Truscon. Prompt delivery is thus assured of practically any normal requirement for the smaller building projects on which construction gets quickly under way and must continue without costly interruption and delay.

ADVANTAGES OF STOCK SIZES

Unnecessary costs and time-wasting delays can be avoided by using stock size materials whenever possible. Truscon Window sizes, in general, conform to the recommended standards of the Steel Window Institute.

Your overall building costs can be lowered and your buildings made more saleable through the use of quality Truscon steel building materials — available from warehouse stocks.

LARGE DEALER STOCKS

As an added help to speed these steel products on their way, Truscon has supplied many local dealers with stocks of most types of materials.

Truscon's conveniently located supply points . . . both warehouse and dealer . . . will be of special help to you in your construction work. Walls can go up and around windows without delay — because Truscon will have the windows on the job.

STOCK SIZES OF THESE PRODUCTS CARRIED IN TRUSCON WAREHOUSES

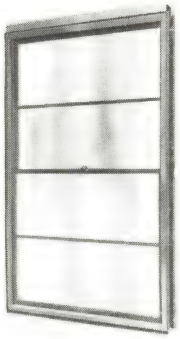
Note: All products are of steel unless otherwise noted.

DOUBLE-HUNG WINDOWS
CASEMENTS (Steel and Aluminum)
AWNING WINDOWS (Aluminum only)
RANCH WINDOWS
ARCHITECTURAL PROJECTED WINDOWS
INTERMEDIATE PROJECTED WINDOWS
COMMERCIAL PROJECTED WINDOWS
SECURITY WINDOWS
UTILITY AND BASEMENT WINDOWS
SCREENS AND STORM SASH
CASINGS, SURROUNDS AND TRIM
LINTELS
RESIDENTIAL DOORS
INDUSTRIAL DOORS
WELDED WIRE FABRIC
PRESSED STEEL INSERTS
CONCRETE REINFORCING BARS
METAL LATH PRODUCTS, CORNER BEADS, CASINGS, METAL ARCHES AND OTHER PLASTERING ACCESSORIES

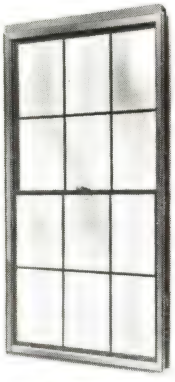


23 Warehouses to give prompt and efficient service

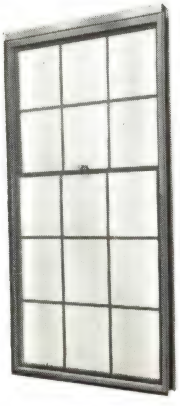
TRUSCON DOUBLE-HUNG STEEL WINDOWS—SERIES 138



"B" Muntin Design



"E" Muntin Design



Colonial Design
(In 5'-5½" Height Only)



Link Residence, E. Belvedere Ave., Baltimore, Md.; Uplands, Inc., Bldr.; Hal A. Miller, Archt.

This outstanding window is an original development by Truscon in answer to the insistent demand for an economically priced steel window in the popular double-hung design. To attain a production volume permitting sale and installation at a price-level comparable to that of the conventional wood window, it was necessary to design and construct special manufacturing equipment capable of high quality fabrication in mass output, with a resulting minimum of manufacturing cost.

The remarkable success attending the marketing of the Series 138 residential design in the years following its introduction in 1938, later led to an expansion of its size range beyond the original limits. It is now available in types and sizes suitable for use in schools, hospitals, office buildings, etc. Also, picture window types and designs with sill ventilators have been added. By the combination of standard types and sizes practically any desired multiple window opening design may be obtained.

In the period following World War II, the steadily expanding demand for this simple, weathertight and convenient product has required an increase of manufacturing facilities in each succeeding year. Now, with practically a 100% mechanized tooling set-up for fabrication, greater production has permitted the cost absorption of a major part of the generally increased labor and material costs. While selling prices have been held to a minimum, added features, including stainless steel weatherstripping, solid bronze hardware, and heavier gauge steel for certain component parts, have been included without commensurate change in price.

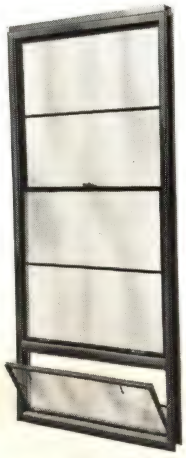
SCREENS AND STORM SASH

(Illustrated on page 13)

Either full or half screens are available in sizes and with provision for installation without additional field work. Storm sash are similarly available. Manufacture of these collateral items in standard sizes only and in unusually large quantities make them available at minimum cost. Installation on the exterior side of the window from a position on the interior affords maximum convenience. Storm sash are glazed with double strength clear glass.



Picture Window with Sill Ventilator



"B" Muntin Design with Sill Ventilator



Multiple Opening O..ained by Assembling Standard Units and Mullions

TRUSCON DOUBLE-HUNG STEEL WINDOWS—SERIES 138

CONSTRUCTION FEATURES

DURABILITY

Sash and frame members are electro-galvanized, bonderized, and primed with one coat of Bakelite (phenol-resin base) paint, oven-baked. 18 gauge throughout except sill of frame which is 16 gauge.

HEAD

Motor-spring type spring balances with stainless steel tapes. Two balances for each sliding sash. Windbreak flange set back to allow room for lintel. Stainless steel weatherstripping attached to frame. 18 gauge frame and sash members.

MEETING RAIL

Interlocking tubular sash rails with stainless steel weatherstripping. Bronze sweep lock and strike. Rustproofed pull-down handle. 18 gauge sash members.

JAMB

Full length stainless steel weatherstripping attached to frame assures weathertightness and also serves as sash way for both upper and lower sash for easier operation. Plaster stop provided on interior and rebate for screens and storm sash on exterior. Deep bead. 18 gauge frame and sash members.

SILL

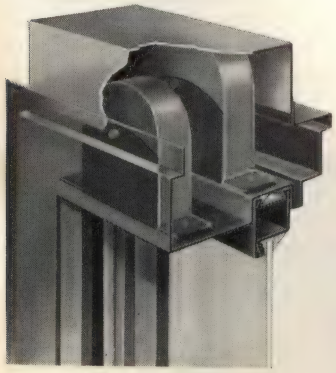
Double step design forms two point weathering contact with sash. Heavy 16 gauge steel for strength and rigidity. Stainless steel weatherstripping attached to sash. Bronze sash lifts.



Pole Socket
P-7701
Furnished on special order for windows shipped from Factory.



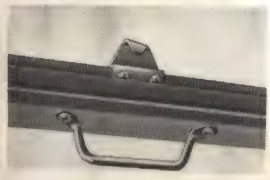
Pole Hook and Pole
P-7318
Furnished at extra cost. Lengths 6'-8'-10'. Bronze hook, steel tube shaft, rubber tip.



Spring Balances

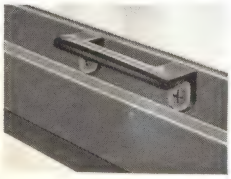


Sweep Lock
P-7330-CB



Lock Keeper
P-7367-R

Pull-Down Handle
P-7281-R

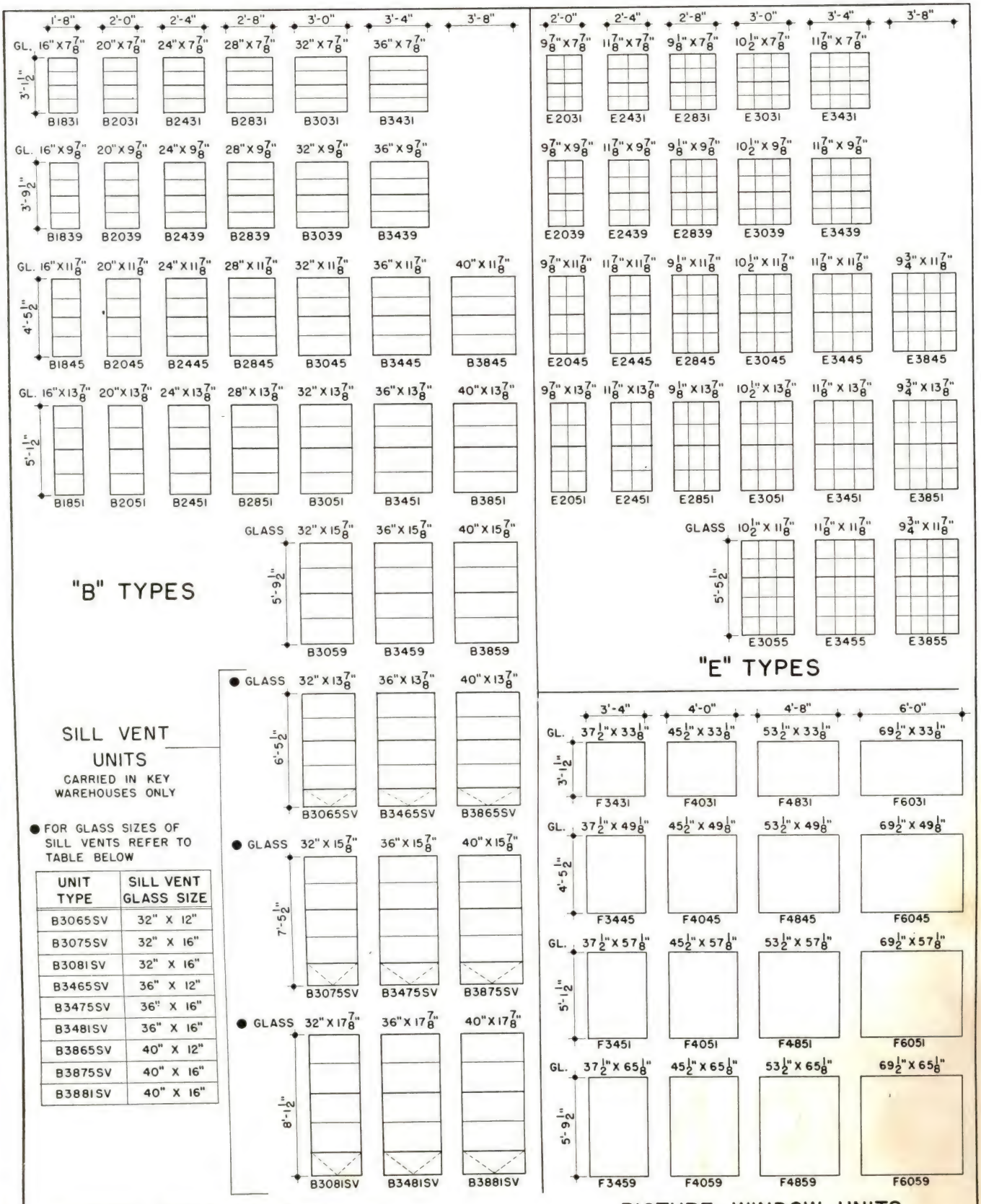


Lift Handle
P-7425-CB



TRUSCON DOUBLE-HUNG STEEL WINDOWS—SERIES 138

TYPES AND SIZES CARRIED IN WAREHOUSE STOCKS



SILL VENT UNITS

CARRIED IN KEY WAREHOUSES ONLY

● FOR GLASS SIZES OF SILL VENTS REFER TO TABLE BELOW

UNIT TYPE	SILL VENT GLASS SIZE
B3065SV	32" X 12"
B3075SV	32" X 16"
B3081SV	32" X 16"
B3465SV	36" X 12"
B3475SV	36" X 16"
B3481SV	36" X 16"
B3865SV	40" X 12"
B3875SV	40" X 16"
B3881SV	40" X 16"

●DIMENSIONS SHOWN ARE WINDOW DIMENSIONS.
●STUD OPENING DIMENSIONS EQUAL WINDOW DIMENSION PLUS 1½" IN WIDTH AND 2¼" IN HEIGHT.

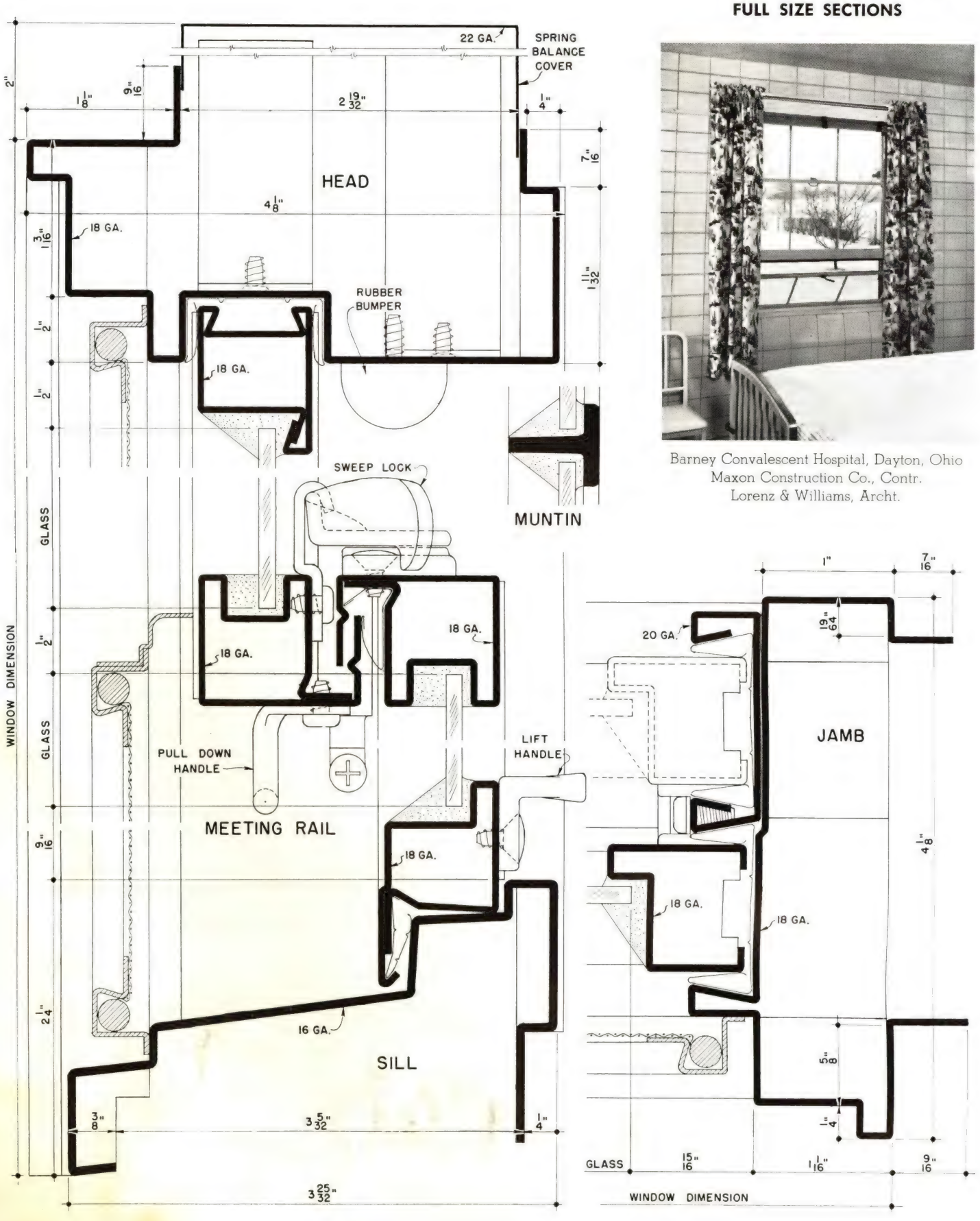
PICTURE WINDOW UNITS

See page 8 for glass thickness and details.

TRUSCON DOUBLE-HUNG STEEL WINDOWS—SERIES 138

FULL SIZE SECTIONS

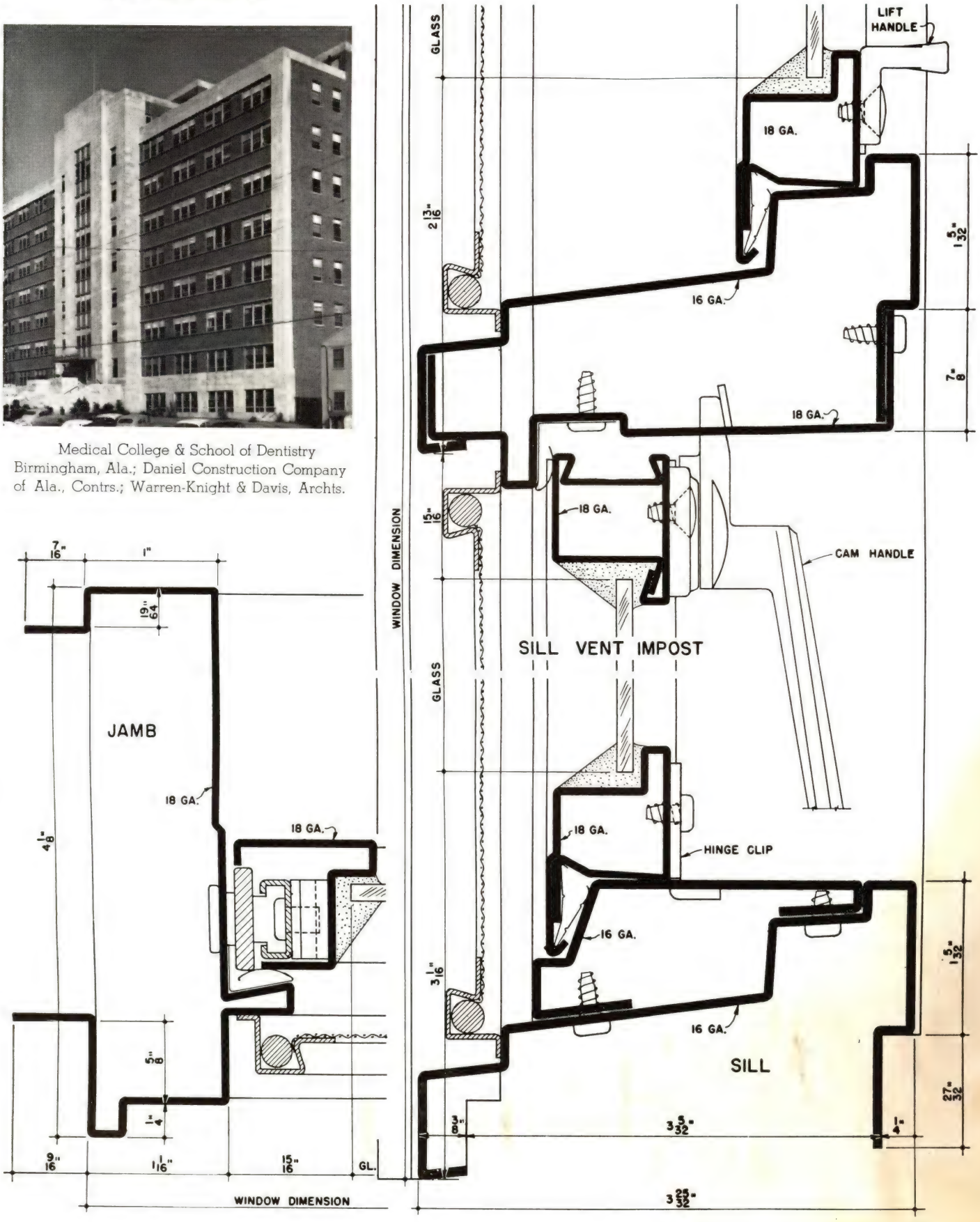
Barney Convalescent Hospital, Dayton, Ohio
Maxon Construction Co., Contr.
Lorenz & Williams, Archt.



TRUSCON DOUBLE-HUNG STEEL WINDOWS—SERIES 138

FULL SIZE SECTIONS

Medical College & School of Dentistry
Birmingham, Ala.; Daniel Construction Company
of Ala., Contrs.; Warren-Knight & Davis, Archts.



TRUSCON DOUBLE-HUNG STEEL WINDOWS—SERIES 138

PICTURE WINDOW UNITS



Picture Window
"F" Types

Series 138 Picture Windows, either with or without sill vents, are available for use in combination with standard double-hung units, or singly. Fabricated from the same basic sections and to the same specifications as the double-hung windows, these picture units round out all normal requirements that may be encountered in Series 138 window installations. Note that maximum widths are 6′-0″ for the full picture units and 4′-0″ for the sill vent types.



Picture Window
with Sill Vent
"F-SV" Types

WAREHOUSE SIZES
"F" TYPES ONLY

Type	Window Dimension	Glass Size
F-3431	3′-4″ x 3′-1½″	37½″ x 33⅛″
F-3445	3′-4″ x 4′-5½″	37½″ x 49⅛″
F-3451	3′-4″ x 5′-1½″	37½″ x 57⅛″
F-3459	3′-4″ x 5′-9½″	37½″ x 65⅛″
F-4031	4′-0″ x 3′-1½″	45½″ x 33⅛″
F-4045	4′-0″ x 4′-5½″	45½″ x 49⅛″
F-4051	4′-0″ x 5′-1½″	45½″ x 57⅛″
F-4059	4′-0″ x 5′-9½″	45½″ x 65⅛″
F-4831	4′-8″ x 3′-1½″	53½″ x 33⅛″
F-4845	4′-8″ x 4′-5½″	53½″ x 49⅛″
F-4851	4′-8″ x 5′-1½″	53½″ x 57⅛″
F-4859	4′-8″ x 5′-9½″	53½″ x 65⅛″
F-6031	6′-0″ x 3′-1½″	69½″ x 33⅛″
F-6045	6′-0″ x 4′-5½″	69½″ x 49⅛″
F-6051	6′-0″ x 5′-1½″	69½″ x 57⅛″
F-6059	6′-0″ x 5′-9½″	69½″ x 65⅛″

NOTE:

Fixed lights may be glazed with single glass up to ¼″ thick or with double glass of 1″ maximum thickness. In the sill vents, glass cannot exceed ¼″ thickness.

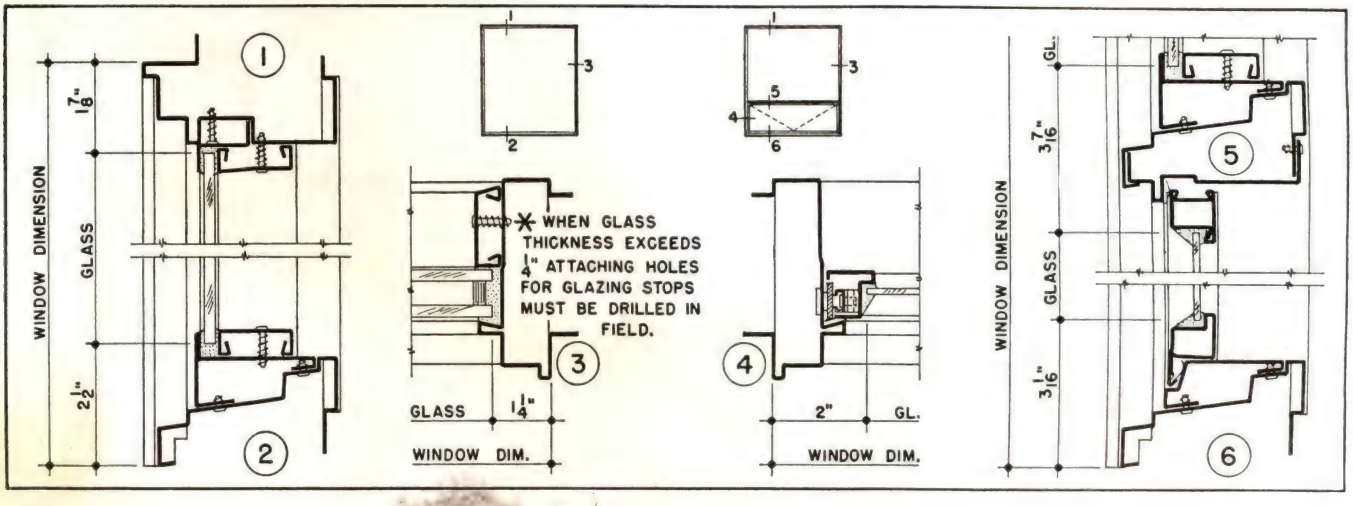
STANDARD SIZES

WIDTHS

Window Dimension	Glass Dimension		
	"F" Types	Sill Vent, "F-SV" Types	
		Fixed Light	Sill Vents
1′-8″	17½″	17½″	16″
2′-0″	21½″	21½″	20″
2′-4″	25½″	25½″	24″
2′-8″	29½″	29½″	28″
3′-0″	33½″	33½″	32″
3′-4″	37½″	37½″	36″
3′-8″	41½″	41½″	40″
4′-0″	45½″	45½″	44″
4′-4″	49½″	.....	.....
4′-8″	53½″	.....	.....
5′-0″	57½″	.....	.....
5′-4″	61½″	.....	.....
5′-8″	65½″	.....	.....
6′-0″	69½″	.....	.....

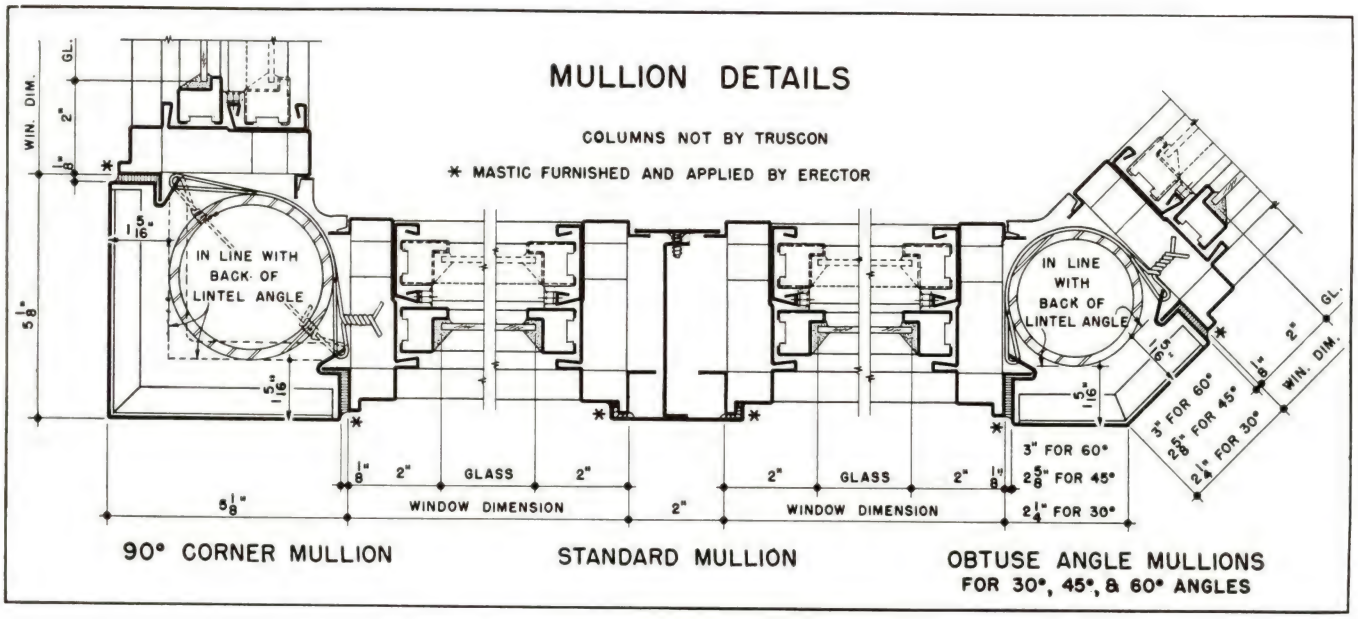
HEIGHTS

3′-1½″	33⅛″	.....	.....
3′-9½″	41⅛″	.....	.....
4′-5½″	49⅛″	33⅛″	12″
5′-1½″	57⅛″	41⅛″	12″
5′-9½″	65⅛″	49⅛″	12″
6′-5½″	73⅛″	57⅛″	12″
7′-5½″	85⅛″	65⅛″	16″
8′-1½″	93⅛″	73⅛″	16″



TRUSCON DOUBLE-HUNG STEEL WINDOWS — SERIES 138

MULLIONS — WINDOW CLEANER ANCHORS

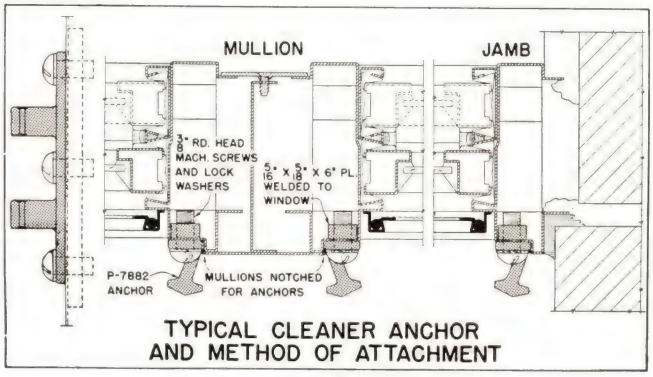


WINDOW CLEANER ANCHORS

In many localities, Window Cleaner Anchors are mandatory for use on windows installed in multi-storied structures. However, state and city building regulations vary widely in regard to the types of anchors permitted and, to a lesser extent, their method of attachment to windows. The detail here shown is acceptable in most areas and is the Truscon standard for use in the Series 138 windows. Other types of anchors are available. The local requirements should be verified with the proper authorities prior to ordering of windows equipped with cleaner bolts.

One pair of cleaner anchors is used on each unit window. They are shipped loose for attachment in the field and are usually located with anchor centerline 44 inches above the sill. The windows must be prepared to receive anchors in the shop. Anchors are attached prior to window installation.

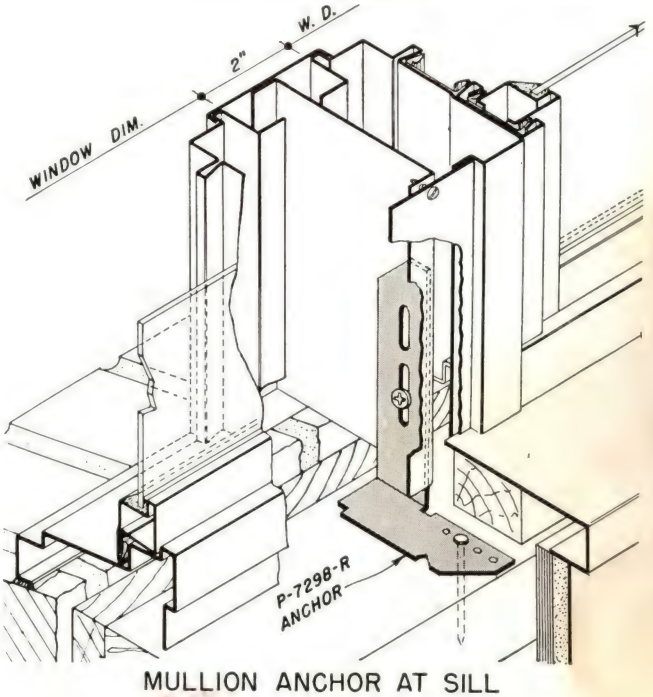
Important — Half screens may be used with any anchor design. Full top hung screens and the combination storm sash and screen arrangement can be used with Truscon's standard anchor but only with a limited few cleaner anchors of other types. This is due to the lack of clearance for attachment and removal of the screens or storm sash combination. The anchor here shown is designed to permit the necessary clearance but possibly may not meet special anchor requirements of some local or state building authorities.



TYPICAL CLEANER ANCHOR AND METHOD OF ATTACHMENT

MULLION ANCHORS

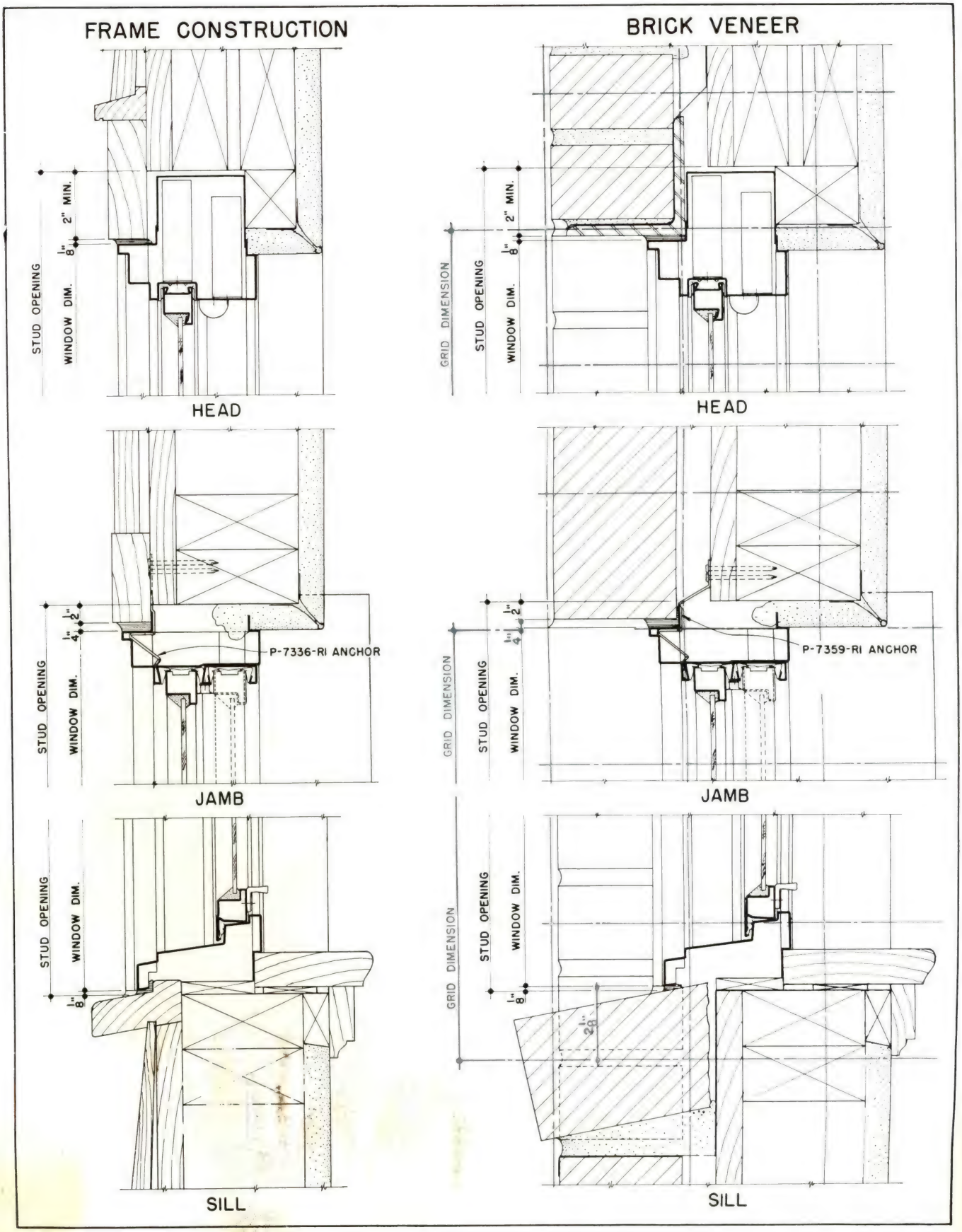
In multiple unit openings, the bottom end of mullion should be secured at sill, when required. Properly secured, the mullion will effectively retain the window units it connects. The same method of anchorage may be used at the head when required. The P-7298-R anchors are attached with nails driven into wood or masonry. See detail at right.



MULLION ANCHOR AT SILL

TRUSCON DOUBLE-HUNG STEEL WINDOWS—SERIES 138

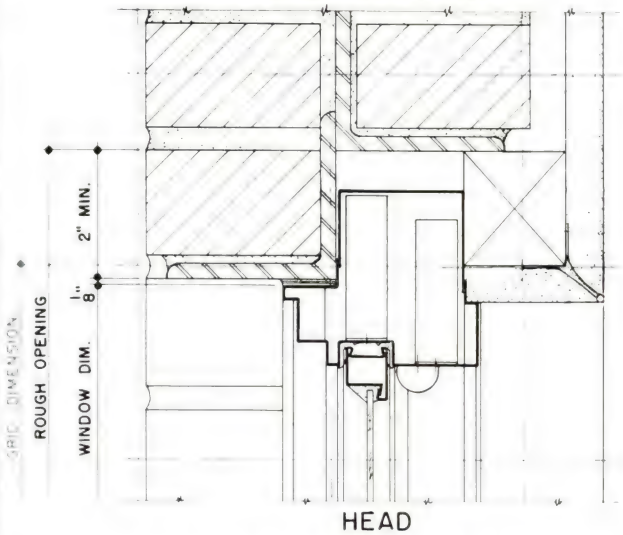
INSTALLATION DETAILS



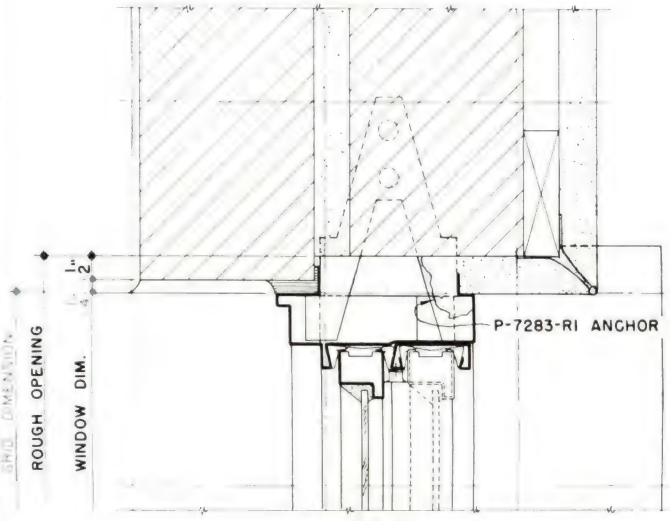
TRUSCON DOUBLE-HUNG STEEL WINDOWS—SERIES 138

INSTALLATION DETAILS

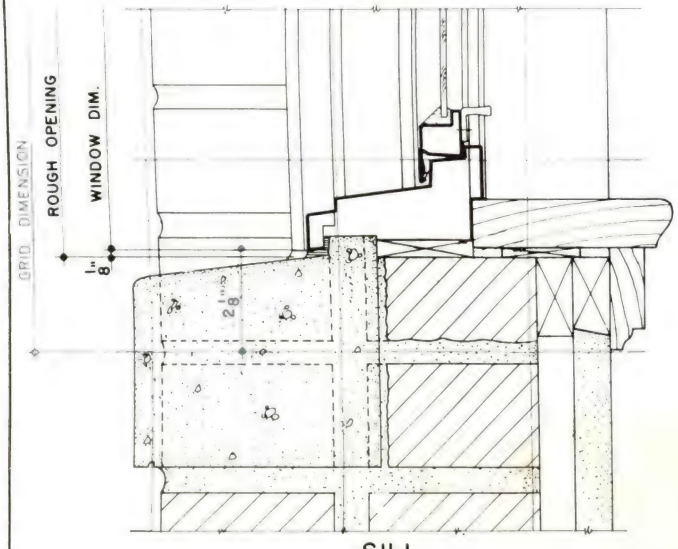
SOLID MASONRY



HEAD

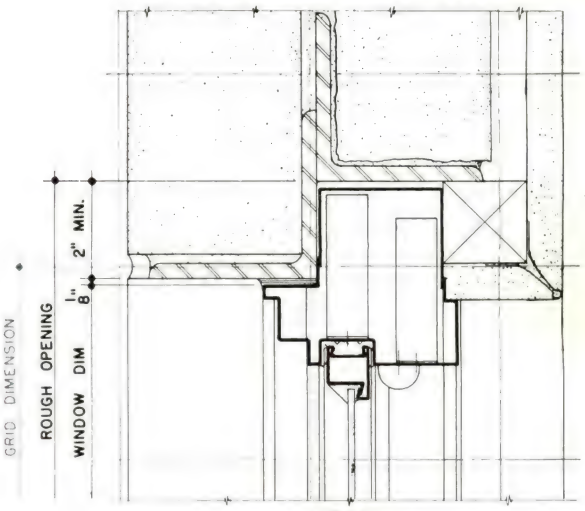


JAMB

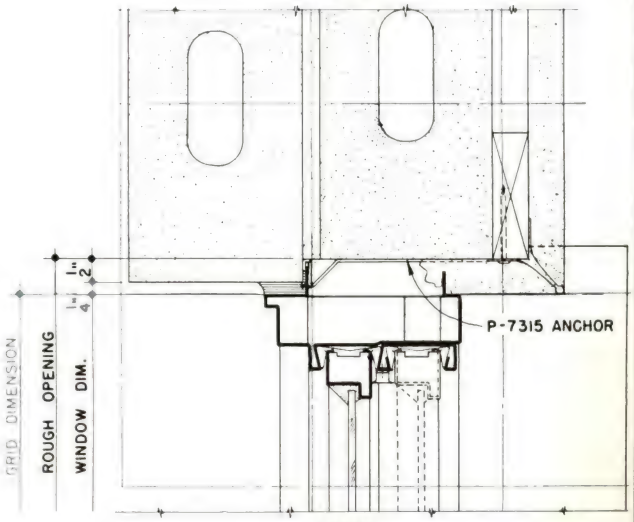


SILL

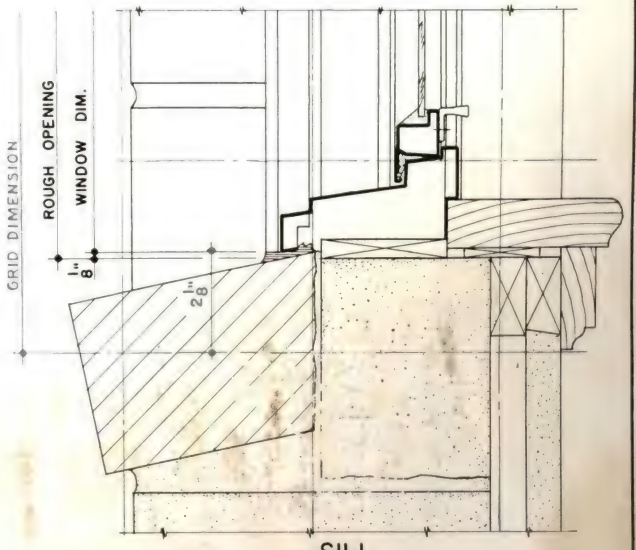
CONCRETE BLOCK



HEAD



JAMB

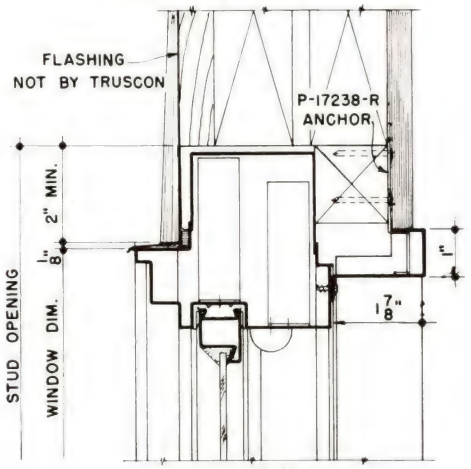


SILL

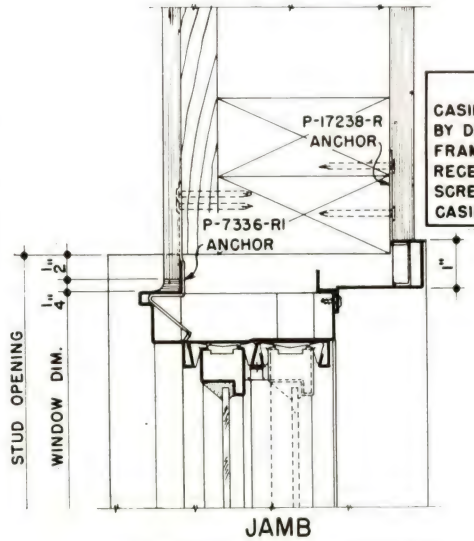
TRUSCON DOUBLE-HUNG STEEL WINDOWS—SERIES 138

INSTALLATION DETAILS

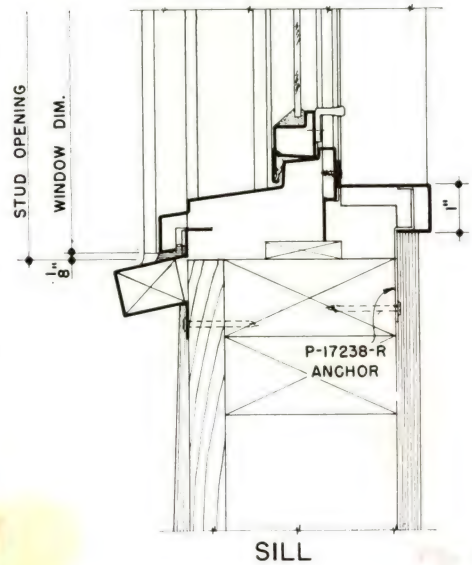
FRAME CONSTRUCTION WITH STEEL TRIM



HEAD



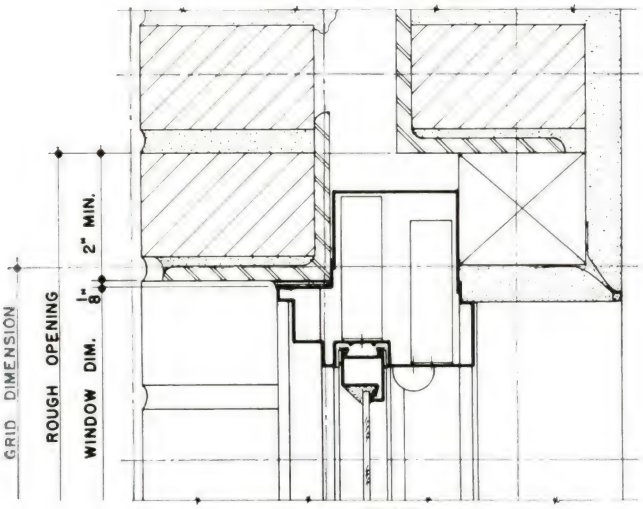
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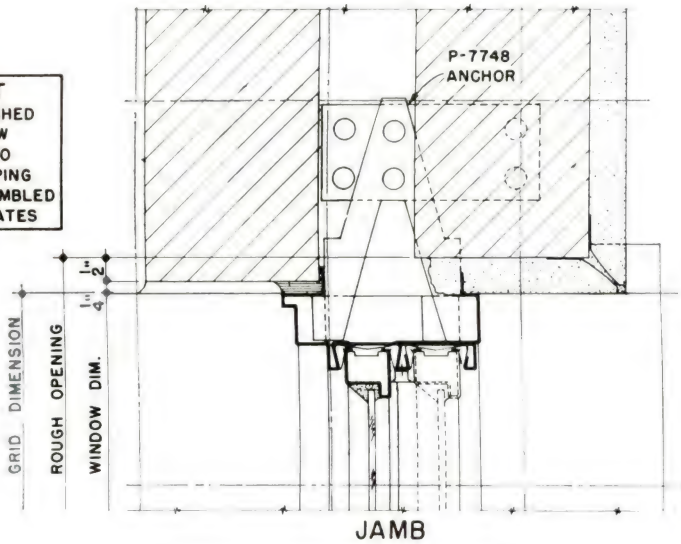
SILL

IMPORTANT
CASINGS ARE ATTACHED BY DRILLING WINDOW FRAMES IN FIELD TO RECEIVE SELF-TAPPING SCREWS USING ASSEMBLED CASINGS AS TEMPLATES

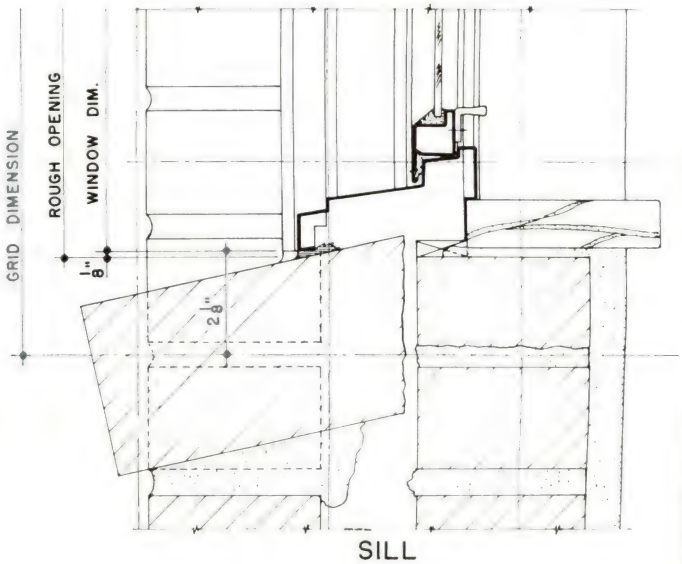
CAVITY WALL



HEAD



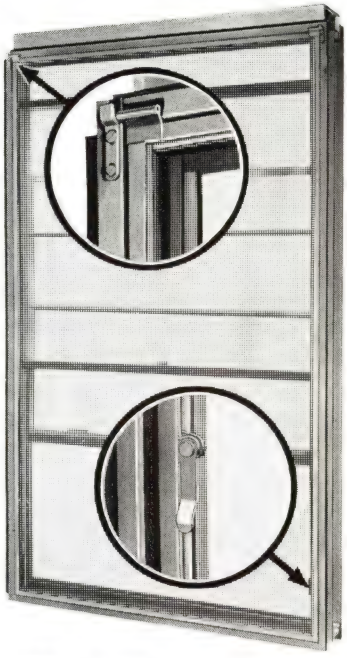
JAMB



SILL

TRUSCON DOUBLE-HUNG STEEL WINDOWS—SERIES 138

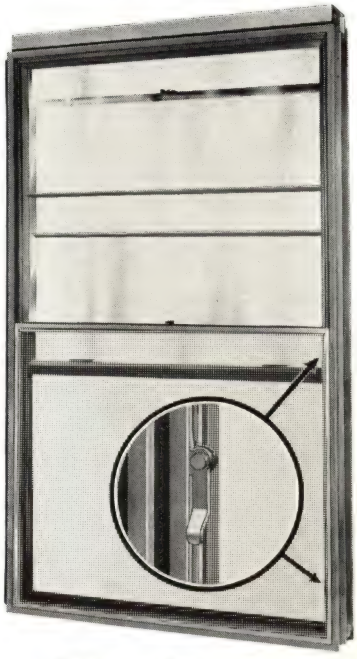
SCREENS AND STORM SASH



TOP HUNG FULL SCREEN

The top hung full screen covers the full window opening and provides protection against insects even when both sash are opened. It is located on the outside and does not interfere with the opening or closing of the sash. Screens for windows over 4'-5½" high have horizontal center braces.

Screen frames are of steel, rewirable, and finished with one coat of baked enamel.



FIXED HALF SCREEN

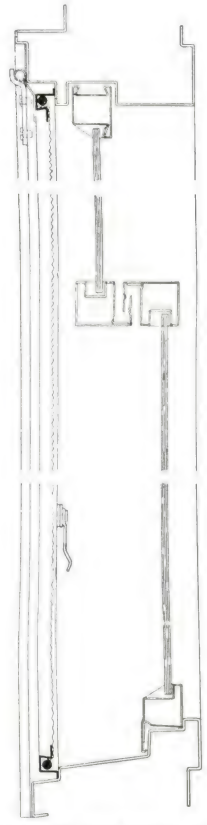
The fixed half screen is more economical than the top hung full screen, but covers the lower sash only. It is located on the outside and does not interfere with the opening or closing of the sash. Easily installed or removed from within the room, this screen is fastened by cam acting latches. The fixed half screen is interchangeable with the bottom panel of the combination storm window.



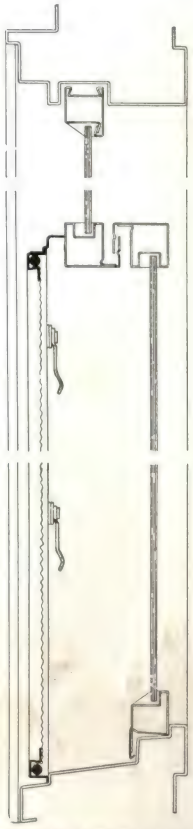
COMBINATION STORM SASH AND SCREEN

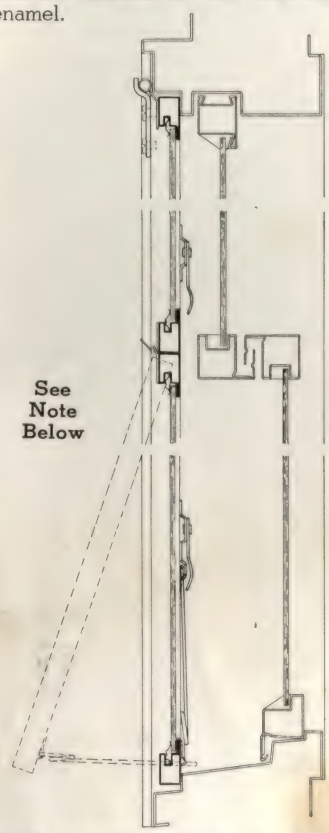
The combination storm window is designed to provide effective insulation during winter and controlled ventilation during summer. It consists of two storm sash panels and one screen panel, the bottom storm panel and the screen being interchangeable. (The screen is the fixed half type illustrated at left.)

Storm panels have steel frames, are glazed with clear double strength glass and are finished in one coat baked enamel.



See Note Below





See Note Below

Note: **WHEN WINDOWS MUST BE EQUIPPED WITH CLEANER ANCHORS, SEE SCREEN RESTRICTIONS ON PAGE 9.**

TRUSCON DOUBLE-HUNG STEEL WINDOWS—SERIES 138

STEEL CASINGS, STOOLS AND SUBSILLS

STEEL CASINGS

(Details shown on opposite page)

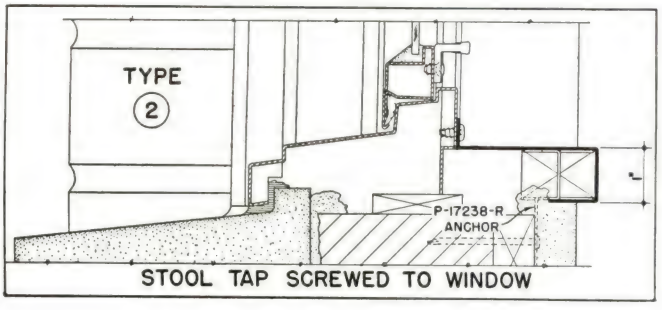
Steel Casings have clearly proven their superiority over the conventional plastered wall construction, both as to first cost and maintenance. This is particularly true on large housing projects where materials and methods promising reduced overall costs are eagerly sought. The 2⅛" and 2⅝" standard depth casings, as shown in the details on the opposite page, are available from key warehouse stocks, in sizes required to fit all stock sizes of Series 138 windows. When required in other casing depths, or for windows other than stocked in warehouses, casings may be ordered from factory. However, the size of such an order must include a total of 300 windows and an average of not less than 50 casings in each different window size ordered.

Truscon casings are manufactured from 18 gauge steel sheet, are accurately formed to size, bonderized and painted after fabrication, and shipped "knocked down." They are designed with a concealed mortise and tenon system of assembly at the corners, and are attached to the windows in the field by means of self-tapping screws, using the casing as a template to drill the screw holes in the windows. Anchors are supplied to hold the inner edges of casings firmly in position. A buttered-on mastic seal is recommended for best results.

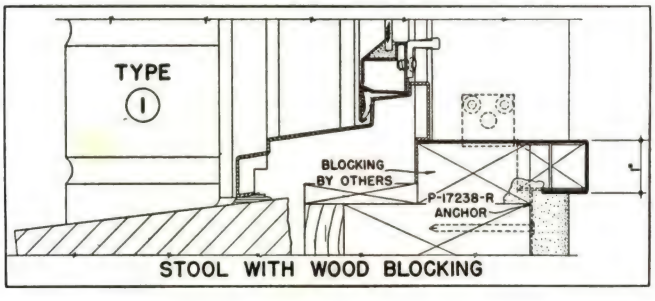
STEEL STOOLS

Steel Stools of 18 gauge material, and in either design shown herewith, are available for use with Series 138 Double-Hung Steel Windows. Stools are available in any normal depth, for shipment from the factory, provided there is required a minimum of 300 stools in not more than three depths.

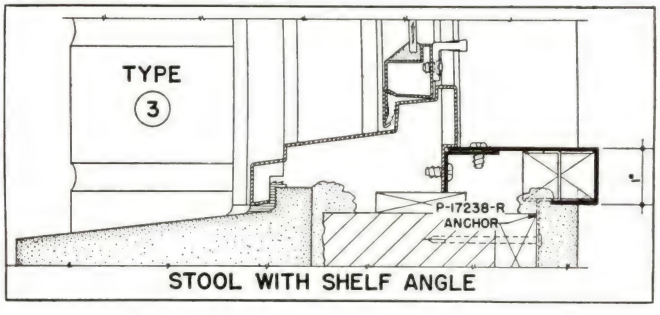
Stools have closed ends, and anchors are provided to support the inside edge. They are attached to the window in the field with self-tapping screws, using the stool as a template to drill the screw holes in the window. Underblocking is recommended with Type 1.



STOOL TAP SCREWED TO WINDOW



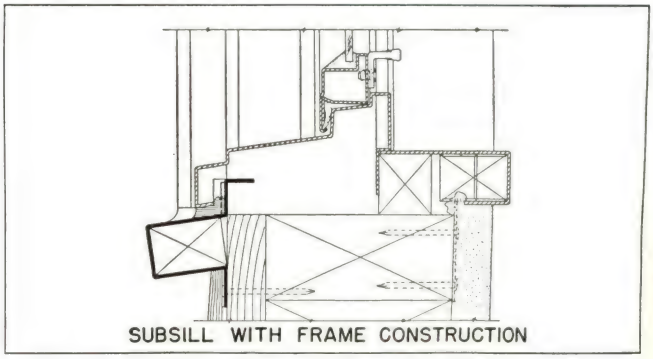
STOOL WITH WOOD BLOCKING



STOOL WITH SHELF ANGLE

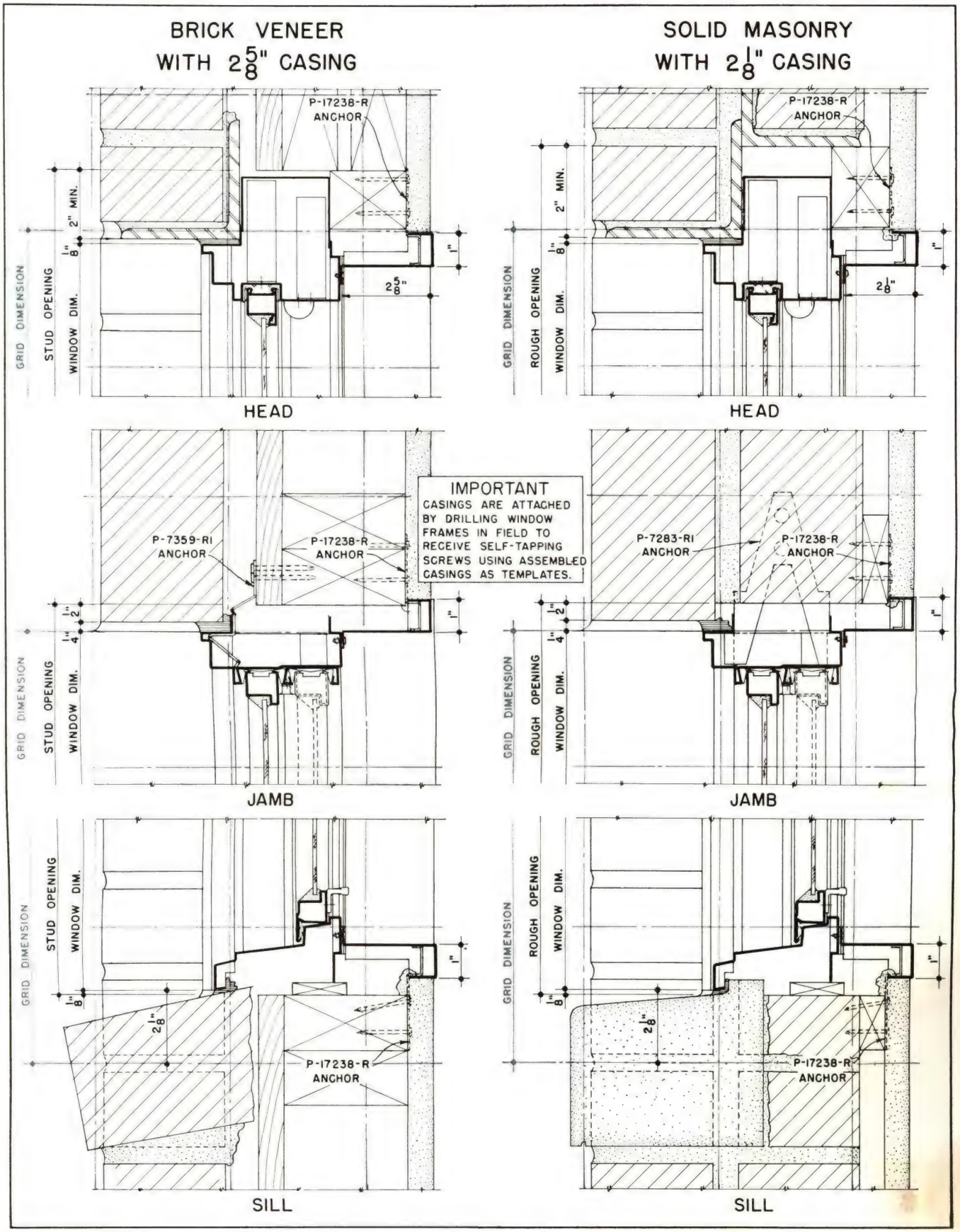
EXTERIOR STEEL SUBSILLS

Steel Subsills find their widest application in conjunction with installations of Series 138 Double-Hung Windows in wood frame construction, replacing the usual wooden sill. Subsills are carried in key warehouses in lengths to fit all stock 138 window widths and a number of twin and triple combinations thereof. They are manufactured of 18 gauge galvanized steel, bonderized and painted two coats of baked-on primer before shipment. Attachment is made with nails or wood screws.


SUBSILL WITH FRAME CONSTRUCTION

TRUSCON DOUBLE-HUNG STEEL WINDOWS — SERIES 138

STEEL CASINGS



TRUSCON DOUBLE-HUNG STEEL WINDOWS — SERIES 138

SPECIFICATIONS

1. Specify—Double-Hung Steel Windows, Series 138 as manufactured by Truscon Steel Division, Republic Steel Corporation, Youngstown, Ohio.

2. Materials—New billet electro-galvanized strip steel of 18 gauge throughout except sill member which shall be of 16 gauge, the parting strips of 20 gauge and the head cover of 22 gauge.

3. Construction—Frame members shall be one piece, cold rolled, and shall run continuous from head to sill and from jamb to jamb. Frame members shall provide a rebate for exterior screens and storm sash. Windbreak flange at head shall be set back ¼" deeper than at jambs to provide space for lintel angle without chipping brick. Sash members shall be of one piece cold rolled tubular shape, not less than ⅞" deep. Corners of frame and of sash shall be telescoped and welded. Frames shall be prepared for standard storm sash and screens, and shall have two drilled holes (1¼" O.C. for No. 8 self-tapping screws) in each upper inside corner for shade brackets. Muntins, when required, shall be hot rolled tees, welded to sash members and with welded cross joints.

4. Weatherstripping—shall be stainless steel and applied to sash at sill and meeting rail, and to frame at head and jambs. Weathering or rubbing blocks shall be attached to the parting strip opposite meeting rail ends. Attaching screws shall be of stainless steel.

5. Sill Vents—(when required) shall be made of cold rolled tubular members matching those in double-hung unit size and construction and shall be built integral with the frame thereof. Stainless steel weatherstripping shall be provided on all four sides.

6. Hardware—Each sash shall be suspended by tapes of stainless steel from two enclosed and removable motor-spring type spring balances designed to properly balance sash when glazed with double strength glass. Balances to be guaranteed against imperfect workmanship and material. Each lower sash shall have a sweep lock and lift handles, one lift for windows less than 2'-8" in width, two lifts for all others. Each upper sash shall have a pull-down handle and sweep lock strike. Lift handles, sweep lock and keeper shall be of bronze, pull-down handle of rustproofed steel. All hardware shall be attached at factory. A bumper shall be attached to frame at head to cushion travel limit of lower sash. Sill vents shall be bottom hinged to open in at top and equipped with two sliding friction arms and a bronze cam acting locking handle, two handles for units 2'-8", and greater, in width.

7. Mullions—Mullions for joining two or more single units in the same opening shall be specially designed to permit rigid assembly and complete weathertightness.

8. Shop Finish—Windows shall be bonderized and finished with a dip coat of gray Bakelite (phenol-resin) paint, oven-baked for one hour at 300 degrees Fahrenheit.

9. Screens—Screens shall be either full top hung or fixed half screens, as specified, and shall be set in the rebate provided in window frame. Screens shall have 18 x 14 mesh bronze or galvanized steel screen cloth and rewirable frames of electro-galvanized steel, bonderized and primed with one coat of enamel, baked on. Horizontal braces shall be furnished at center of full top hung screens for windows over 4'-5½" in height. Screen fittings shall be of a design permitting screens to be installed or removed from within the building.

10. Casings—Casings, where required, shall be formed from 18 gauge, smooth, flat, blue annealed steel sheets. They shall be L shaped with a 1" wide inside face, offset at its outer edge and finishing flush with the plaster. Anchors holding outside edge of casing securely in place shall be furnished and installed on approximately 2'-0" centers around entire perimeter. Corners shall be fitted to a hairline crack with mortise and tenon joints designed for field assembly. Attachment to windows shall be effected with self-tapping screws concealed from view after window assembly is installed. Shop finish shall be the same as specified for windows.

11. Cleaner Anchors—Window cleaner anchors (when required in multi-storied buildings) shall be of forged bronze and shall be attached to jambs of those windows having exterior sill heights more than 7'-0" above finished grade, walks, porches, adjoining roofs, etc. Design and attachment of anchors shall comply with local and state regulations. Provide two cleaner anchors per each single window unit. They shall be centered 44" above the window sill and shipped loose for field attachment before setting of windows. Steel tap holes not less than $\frac{5}{16}$" thick and 6" long shall be welded in shop to the inside face of window casings and anchors shall be attached thereto with not less than three ⅜" diameter round head machine screws to the full thickness of the tap plate. Attaching screws shall be of the same metal alloy as the cleaner anchors.

12. Erection—Windows shall be set plumb and true in opening, securely anchored and held in alignment during construction. The spreader clips at ends of meeting rail shall not be removed until windows are ready for glazing. Contacts between windows and adjacent steel, including mullions, shall be sealed with mastic furnished and applied by the erector.

13. Glazing—(By others). Glazing shall be from the exterior by means of copperclad steel glazing clips and steel sash putty furnished by others; glass shall be not heavier than double strength.

14. Field Painting—See project painting specifications.

15. Caulking—Joints between window frame and masonry shall be carefully caulked by caulking contractor.



Halifax Consolidated School, South Boston, Va.
Stainback & Scribner, Charlottesville, Va., Archts.; J. E. Burton, Contr.

TRUSCON ALUMINUM CASEMENTS



Sizes

Truscon Aluminum Casements are available from warehouse stocks in either modular or regular widths. The height dimension is identical for either type. Modular widths provide the advantages of coordinated modular construction. All windows in 2, 3 and 4 light widths are dimensioned in multiples of sixteen inches, conforming to standard concrete block dimensions.

Modular widths offer approximately 8% additional light area and ventilation per window opening. This feature alone is important as various building codes and Federal Specifications dictate the minimum acceptable glass area for a given room area.

Regular width aluminum casements are also available from warehouse stock. Regular sizes conform to the standard width and height dimensions of steel casement windows.

The Truscon Aluminum Residential Casement is presented as an aluminum window with a plus value. From the depth of sections, through the hinge design, to its final hardware, the factor of quality was considered of prime importance in the production of this aluminum window.

Construction — Heavy extruded aluminum sections are used throughout. All corners of both frame and ventilator are electronically fused on flash welders and milled to a smooth finish. The extra heavy 1 1/8" deep ventilator section provides the rigidity required to adequately stiffen the ventilator.

The aluminum hinge is a truss type to insure maximum strength and still retain the slim architectural lines so popular in properly designed steel and aluminum casements. No carbon steel, with or without protective coatings, is used in the manufacture of these Aluminum Casements. Such accessories as the operator guide channels and the locking handle keepers are all of stainless steel.

Hardware — Roto operators are of a die-cast aluminum and are buffed to a satin sheen before the clear preservative lacquer is applied. Also available at a reduced cost are roto operators manufactured of die-cast zinc with a baked on coat of aluminum paint.

Screens and Storm Sash — Truscon aluminum casement screens and storm sash are made specifically for these windows. Installation is on the inside by means of swivel clips.

SPECIFICATIONS

1. Specify — Aluminum Residential Casements as furnished by Truscon Steel Division, Republic Steel Corporation, Youngstown, Ohio.

2. Material — All members shall be of solid extruded aluminum alloy 63S-T5, not less than 1 3/32" deep with the ventilator member being not less than 1 1/8" deep and 3/16" in web thickness (commercial tolerances observed).

3. Construction — All corners of frame and ventilator bars shall be electronically fused on flashwelders and milled to a smooth finish.

4. Finish — After fabrication, the windows shall be chemically cleaned and receive a dip coat of metha-crylate lacquer.

5. Hardware — The roto operator housing and handle shall be of aluminum die-cast material with a heavy aluminum operating arm. The housing and handle shall be brushed to a smooth finish and a clear lacquer applied. Guides, guide buttons and keepers for locking handles shall be of stainless steel.

The locking handle shall be of zinc die-cast material, with a clear coat of lacquer applied.

Fins of hot galvanized steel shall be furnished (at extra cost) where detailed, attached with aluminum bolts and nuts.

6. Screens — Screens shall be of aluminum throughout and be wired with an 18 x 14 mesh screen cloth.

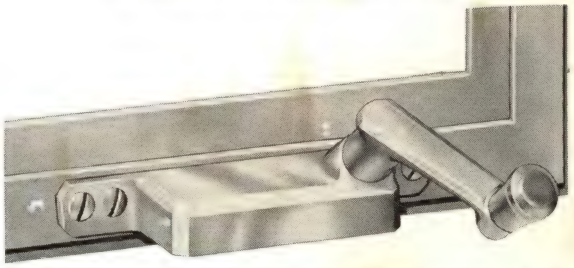
7. Erection — All openings shall be squared before installation of the windows. Windows shall be promptly cleaned of all wet plaster, mortar or cement.

8. Glazing — Windows shall be outside glazed with glazing clips and metal sash putty. All glazing and glazing materials will be furnished by others.

See page 20 for installation details.



Truss type aluminum hinge with stainless steel pin



Polished aluminum die cast roto operator with aluminum arm and stainless steel accessories

TRUSCON ALUMINUM CASEMENTS

MODULAR SIZES

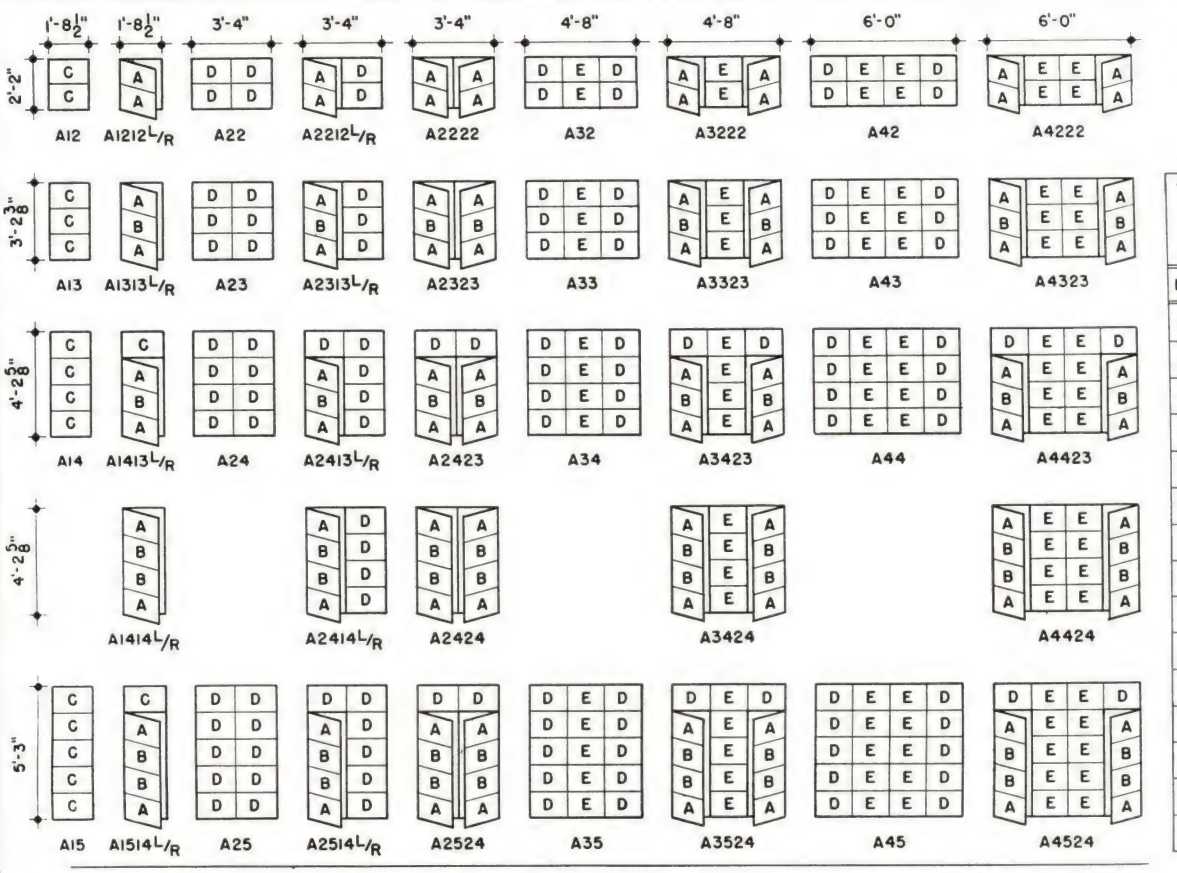
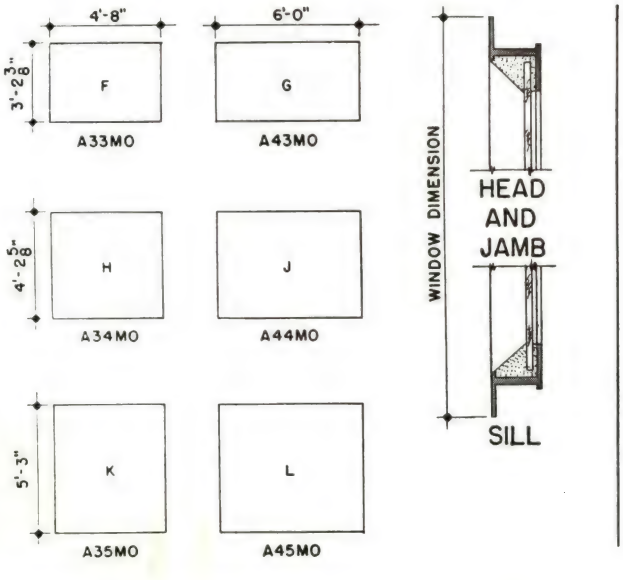


TABLE OF GLASS SIZES

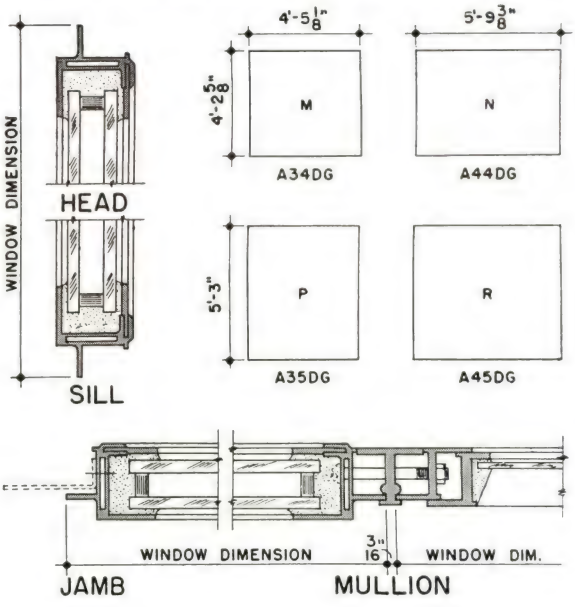
MK.	SIZE
A	$17\frac{3}{16}$" X $11\frac{1}{4}$"
B	$17\frac{3}{16}$" X 12"
C	$18\frac{1}{2}$" X 12"
D	$18\frac{7}{8}$" X 12"
E	$15\frac{11}{16}$" X 12"
F	54" X $36\frac{7}{16}$"
G	70" X $36\frac{7}{16}$"
H	54" X $48\frac{3}{4}$"
J	70" X $48\frac{3}{4}$"
K	54" X $61\frac{1}{16}$"
L	70" X $61\frac{1}{16}$"
M	$50\frac{3}{8}$" X $47\frac{3}{4}$"
N	$66\frac{5}{8}$" X $47\frac{3}{4}$"
P	$50\frac{3}{8}$" X $60\frac{1}{8}$"
R	$66\frac{5}{8}$" X $60\frac{1}{8}$"

PICTURE WINDOWS - SINGLE GLASS



PICTURE WINDOWS - DOUBLE GLASS

FOR STOCK SIZE DOUBLE INSULATING GLASS



- DIMENSIONS SHOWN ARE WINDOW DIMENSIONS.
- ELEVATIONS ARE SHOWN AS VIEWED FROM THE OUTSIDE. HAND OF CASEMENTS IS DETERMINED BY LOCATION OF HINGES AS VIEWED FROM THE OUTSIDE.
- SINGLE GLASS PICTURE WINDOWS ARE SHIPPED ASSEMBLED.
- DOUBLE GLASS ("DG") UNITS ARE SHIPPED KNOCKED DOWN FOR FIELD ASSEMBLY.
- "DG" PICTURE WINDOW UNITS ACCOMODATE 1" THICK STANDARD SIZE INSULATING GLASS.
- FOR STUD OPENING OR ROUGH OPENING SIZES USE WINDOW DIMENSIONS SHOWN AND ADD $1\frac{1}{2}$" IN WIDTH AND $1\frac{1}{2}$" IN HEIGHT.

TRUSCON ALUMINUM CASEMENTS

REGULAR — TYPES AND SIZES

(Window types shown on this page fit standard steel casement opening sizes)

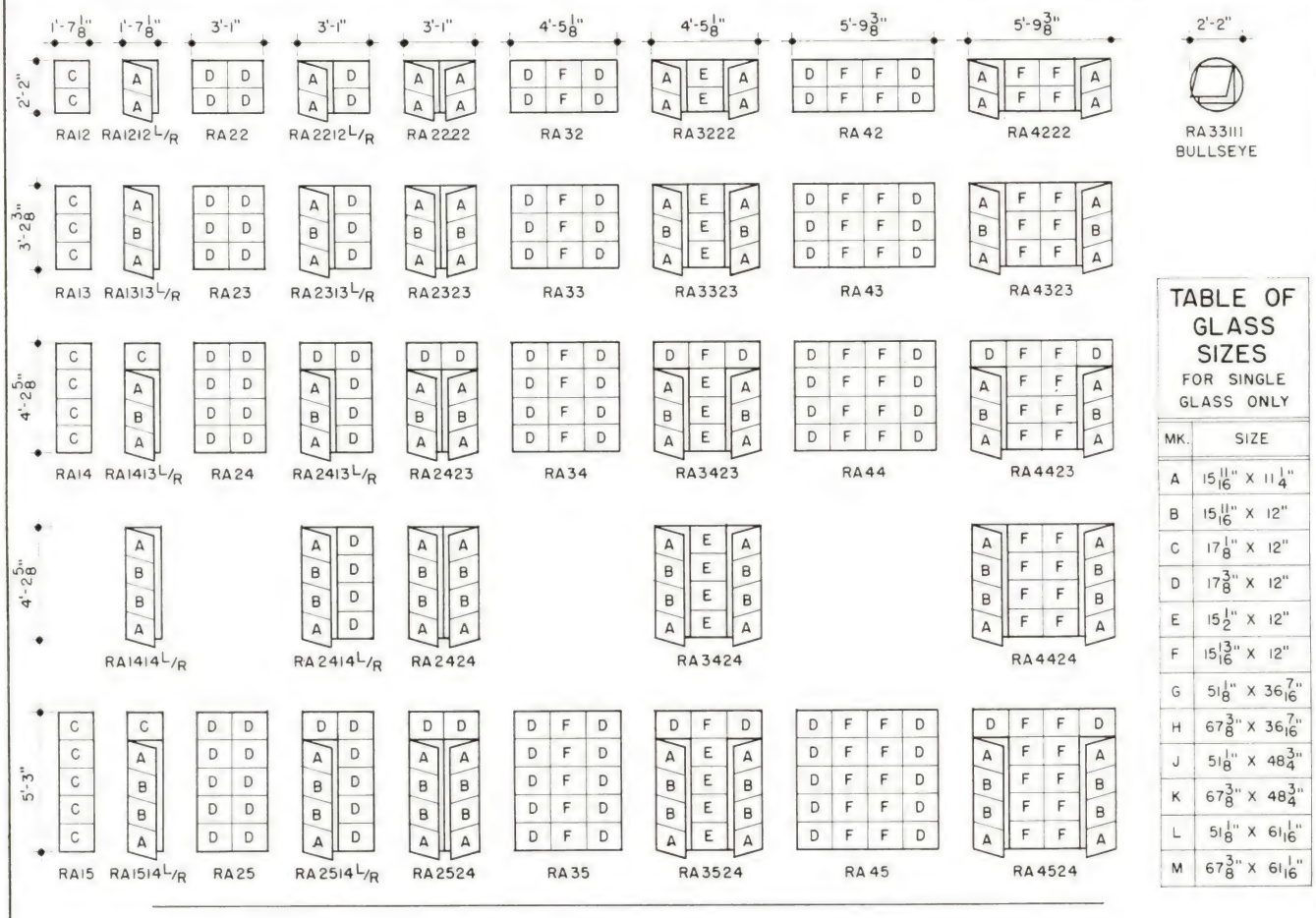
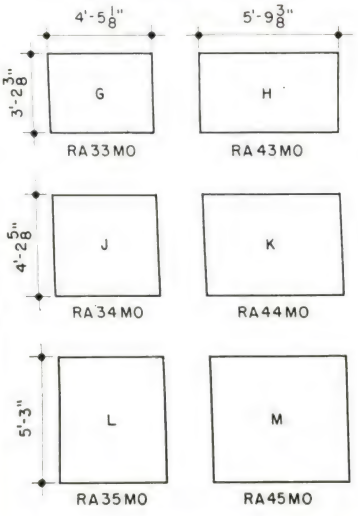


TABLE OF GLASS SIZES
FOR SINGLE GLASS ONLY

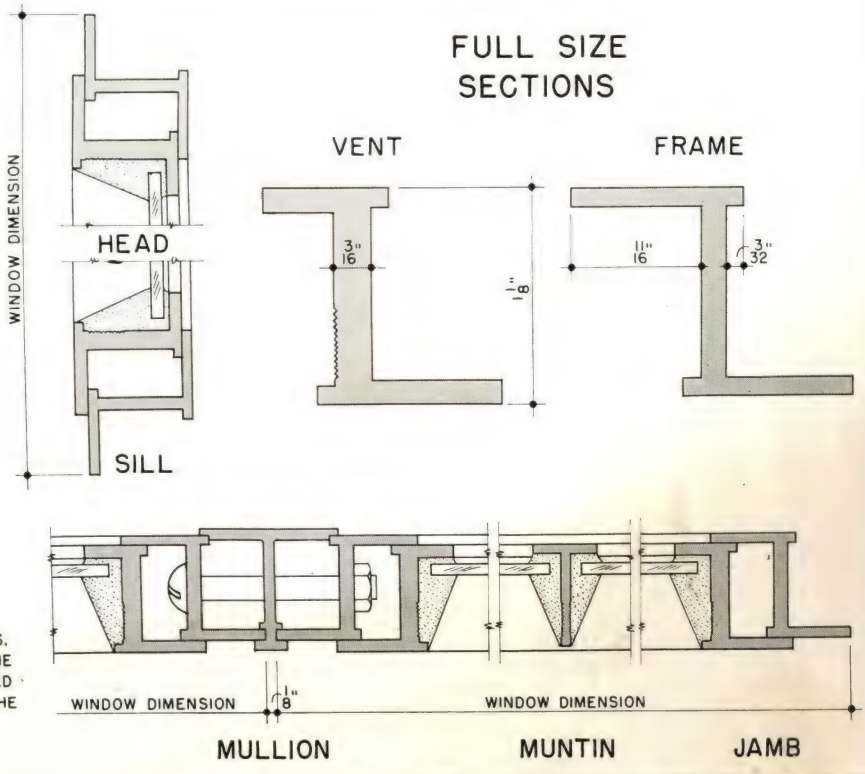
MK.	SIZE
A	15 11/16" X 11 1/4"
B	15 11/16" X 12"
C	17 1/8" X 12"
D	17 3/8" X 12"
E	15 1/2" X 12"
F	15 13/16" X 12"
G	51 1/8" X 36 7/16"
H	67 3/8" X 36 7/16"
J	51 1/8" X 48 3/4"
K	67 3/8" X 48 3/4"
L	51 1/8" X 61 1/16"
M	67 3/8" X 61 1/16"

PICTURE WINDOW UNITS



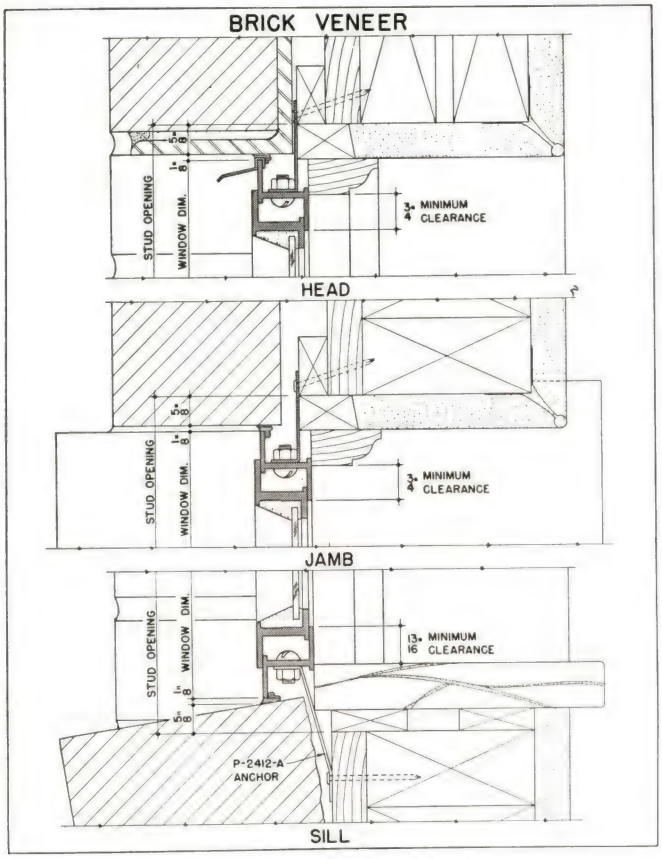
- DIMENSIONS SHOWN ARE WINDOW DIMENSIONS.
- ELEVATIONS ARE SHOWN AS VIEWED FROM THE OUTSIDE. HAND OF CASEMENTS IS DETERMINED BY LOCATION OF HINGES AS VIEWED FROM THE OUTSIDE.

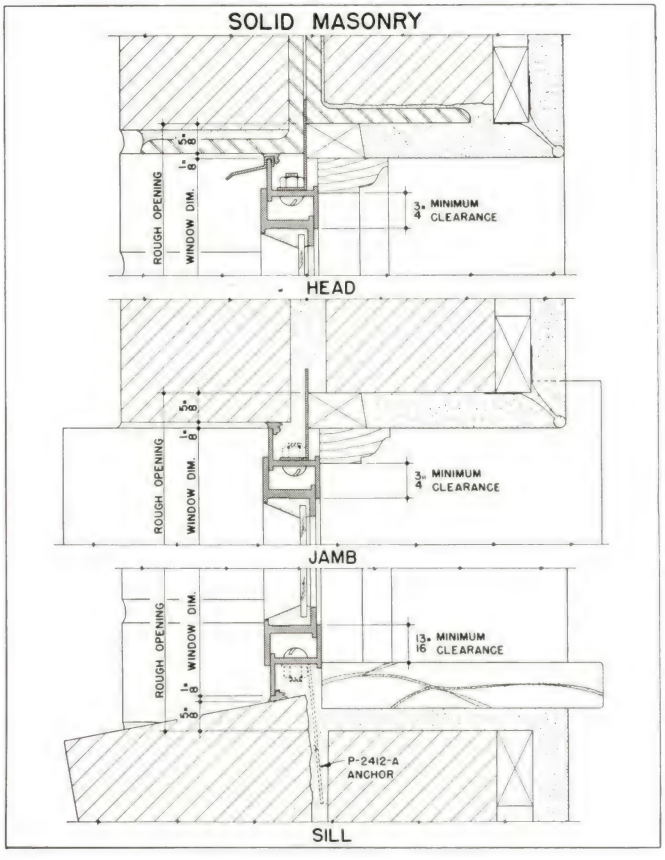
FULL SIZE SECTIONS

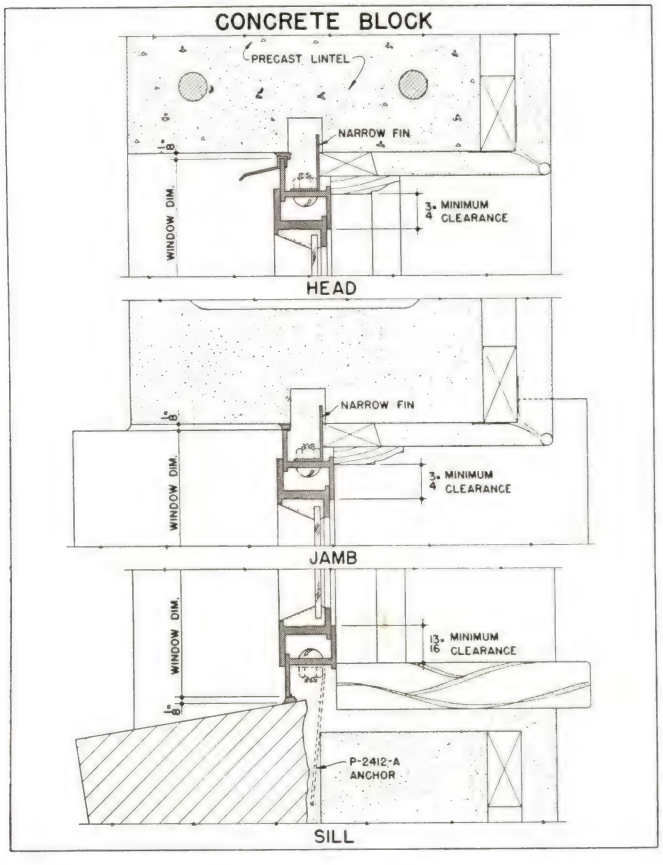


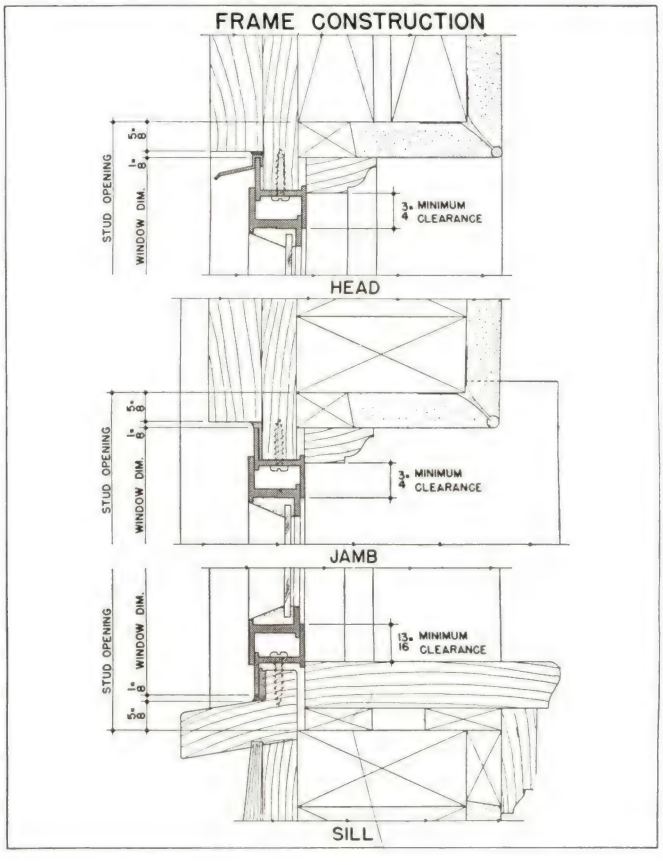
TRUSCON ALUMINUM CASEMENTS

INSTALLATION DETAILS









TRUSCON ALUMINUM AWNING WINDOWS



GENERAL DESCRIPTION

The Truscon Aluminum Awning Window, one of the latest additions to Truscon's unmatched line of metal windows, is equally suited to residences, schools or hospitals; wherever the maximum in light and ventilation is required.

MODULAR OR REGULAR SIZES

Truscon Aluminum Awning Windows are manufactured and warehoused in Modular Sizes. All window widths are multiples of 16" to conform to standard concrete block or modular brick dimensions. Modular widths offer approximately 8% greater light and ventilating area per window opening together with substantial on-the-job construction savings.

Truscon Aluminum Awning Windows are also manufactured and warehoused in Regular Sizes conforming to the standard width and height dimensions of steel casement windows.

CONSTRUCTION

Heavy extruded aluminum sections having a minimum frame depth of 1⅞" are used in the construction of Truscon Aluminum Awning Windows. The combined weight of the frame and ventilator is almost one pound per lineal foot (jamb section .625 lb. per ft., ventilator section .354 lb. per ft.).

Ventilators are designed to permit the washing of the window, including the top ventilator, from the inside of the building.

Perfect weathertight operation is assured by the vinyl plastic weatherstripping which completely seals the entire perimeter of all ventilators when they are closed. Window sections are designed to provide two metal to metal contact points plus the third vinyl plastic contact. Thus, the ventilator is triple sealed to assure complete weather protection.

PACKAGING

All windows in warehouse stocks are packed in heavy cartons for complete protection during shipment and storage on the job site.

FINISHING PROCESS

After fabrication, all windows are chemically cleaned and etched in a weak hot acid bath followed by a dip coat of metha-crylate lacquer. This process results in a clean window with a smooth, even satin appearance. The lacquer coating protects the window from plaster and mortar stains.

When specified on quantity orders, Truscon will furnish a standard anodized finish at additional cost.

SCREENS AND STORM SASH

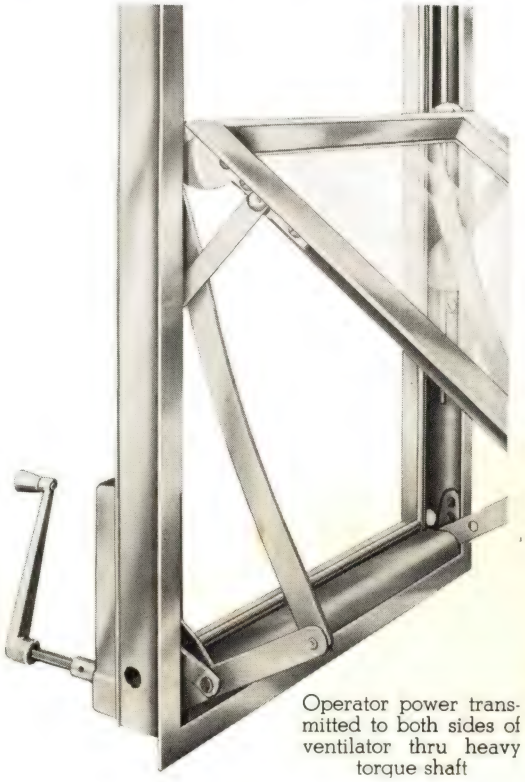
Screens and storm sash are available for Truscon Aluminum Awning Windows. Both are installed on the inside of the window by means of simple attaching clips.

OPERATING HARDWARE

Truscon is offering an exclusive operating mechanism that is unmatched for its positive action and sturdy design. The operator is constructed with cut-steel, case-hardened, operating gears that are designed to last the life of the building.

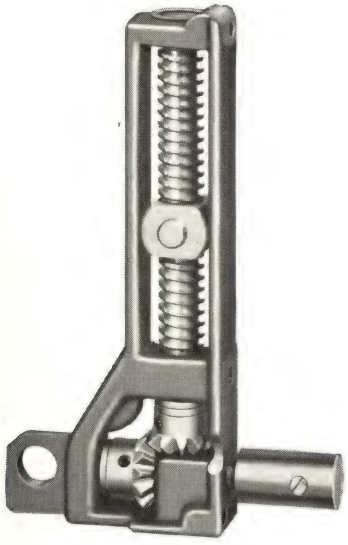
In Truscon's operator design, the power applied to the operator is transmitted equally to each side of the ventilator through a heavy cadmium plated steel torque shaft. With a fully equalized opening force applied to each side of the ventilators, glass breakage is eliminated and a long life of trouble-free operation is assured.

All ventilators are equipped with life time, self-lubricating nylon sliding shoes and are controlled by heavy aluminum swing arms. The linkage controlling the ventilators is concealed within the jambs safe from the weather, and out of sight. The windows leave the factory with all operating hardware installed and all windows adjusted for perfect operation.



Operator power transmitted to both sides of ventilator thru heavy torque shaft

TRUSCON ALUMINUM AWNING WINDOWS



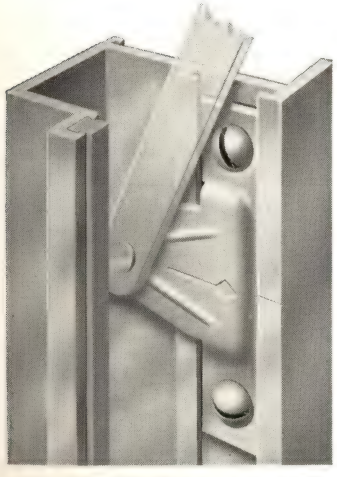
Cut-steel, case-hardened operator gears

OPERATOR FEATURES

The operator on Truscon Aluminum Awning Windows is built on the power principle of the common automobile jack. The gears of this operator are cut-steel, case-hardened. The use of such hardened operating gears permits the ventilators to be closed to the full point of resistance without the danger of undue wear or stripping of the operator mechanism. This is of particular advantage in schools and public buildings where people use unnecessary energy when opening or closing windows. With Truscon's cut-steel, case-hardened gears the possibility of shearing gear teeth is eliminated. The windows are shipped from the factory with the operating hardware installed and protected by a heavy aluminum housing.

EASY ADJUSTMENT

All windows are shipped with hardware installed and ventilators adjusted for perfect operation. No field adjustment is normally required. If necessary, due to rough handling during transportation, adjustment is accomplished by means of the small adjusting block shown in the accompanying illustration. There is one such block for each side of each ventilator.



Adjusting block

MAXIMUM SIZES

Through many years of window experience Truscon has learned that for satisfactory window operation it is very necessary to stay within certain specified limitations. To exceed these limitations is to jeopardize the quality and function of the window.

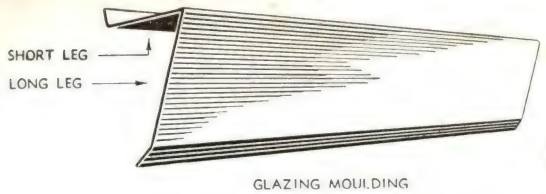
Through experiments with the aluminum window sections of the depth and weight used for this type of window, Truscon has established the following recommended limitations. For operation from a single operator, the maximum window width shall be 4'8", and the maximum window height shall be 8'1⅝". Truscon does not recommend the manufacture of aluminum awning windows exceeding either of these dimensions.

It is suggested that the architect, for purposes of economy, maintain standard window heights as detailed in this catalog. This permits the use of standard operating linkage. It is recommended further that widths detailed in this catalog also be used where possible. However, if it is absolutely necessary, the widths may be varied slightly and still maintain satisfactory window operation.

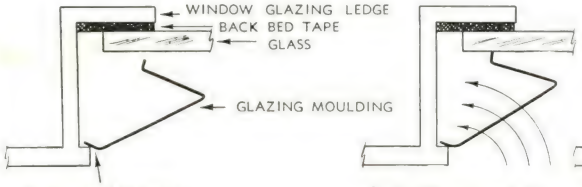
GLAZING

Truscon Aluminum Awning Window ventilators are designed for outside glazing with either single leg glazing clips and metal sash putty or with aluminum glazing moulding. The latter feature permits the glazing of the aluminum awning window without the use of any putty. A back bed tape is furnished together with mitered aluminum glazing strips cut to length and ready to be quickly snapped into place after the tape is applied and the glass is set. Moulding is furnished at extra cost.

Maximum glass thicknesses are ⅛" with aluminum glazing moulding and ½" with glazing clips and putty.



GLAZING MOULDING



1. Insert this edge of long leg.

2. Apply pressure in this direction

3. Back lip of moulding snaps under glass

TRUSCON ALUMINUM AWNING WINDOWS

SPECIFICATIONS

1. **Specify** — Aluminum Awning Windows as furnished by Truscon Steel Division, Republic Steel Corporation, Youngstown, Ohio.

2. **Material** — All members shall be of solid extruded 63S-T5 aluminum alloy. Overall depth of the frame shall be a minimum of 1 7/8". Overall depth of ventilator sections shall be 1". Combined weight of frame and ventilator shall be not less than 0.975 pounds per foot. The torque bar shall be of steel, cadmium plated. All operating arms, bolts, pins, rivets, etc., shall be either aluminum alloy or stainless steel.

3. **Construction** — All corners of frame and ventilators shall be neatly formed, coped to a true fit and mortise and tenon riveted. All weathering contacts shall be sealed tightly when vents are in a closed position by use of vinyl plastic weatherstripping, shop installed in interlocking grooves extruded in the aluminum section. Weatherstripping shall be continuous and concealed from the weather. All ventilators shall operate in such manner as to permit easy washing of the exterior surface from inside of the building.

4. **Finish** — After fabrication, all windows shall be chemically cleaned and etched in a weak hot acid bath, followed by a dip coat of metha-crylate lacquer.

5. **Hardware** — The worm and gear type operator shall be shop attached. Gears shall be cut-steel, case-hardened, and protected by a heavy aluminum housing. Self lubricating nylon bearings shall be used for the sliding hardware in the window jambs.

Push bar operators, where specified, in place of worm and gear type, shall be of a design that will permit operation of the ventilators without interference with standard fixed screens. Operation shall be through the window jambs in such a manner that ventilators can be closed by means of interior control. The push bar mechanism shall securely maintain ventilators in any open position and shall provide a positive locking action in the closed position.

6. **Hopper Ventilators** — Hopper ventilators shall be furnished as an integral part of the window. Two locking handles shall be provided on all windows exceeding 2'8" in width. Hinges shall be not less than 3 3/4" in length with three hinges provided for all windows over 3'4" in width. Weatherstripping shall be installed around the ventilator perimeter. Operating arms shall be equipped with friction shoes to hold the ventilator open at any desired angle.

7. **Operation** — Power from the operator shall be transferred equally to both sides of the ventilator by means of a heavy torque shaft. This shaft shall be completely protected by a removable aluminum cover. A reverse pivot action in the ventilators shall function just prior to the completion of the closing cycle and shall exert an additional pressure on both sides of the ventilator. This additional force shall seal the ventilator tight against the frame member and its weatherstripping without the use of any auxiliary latches or keepers.

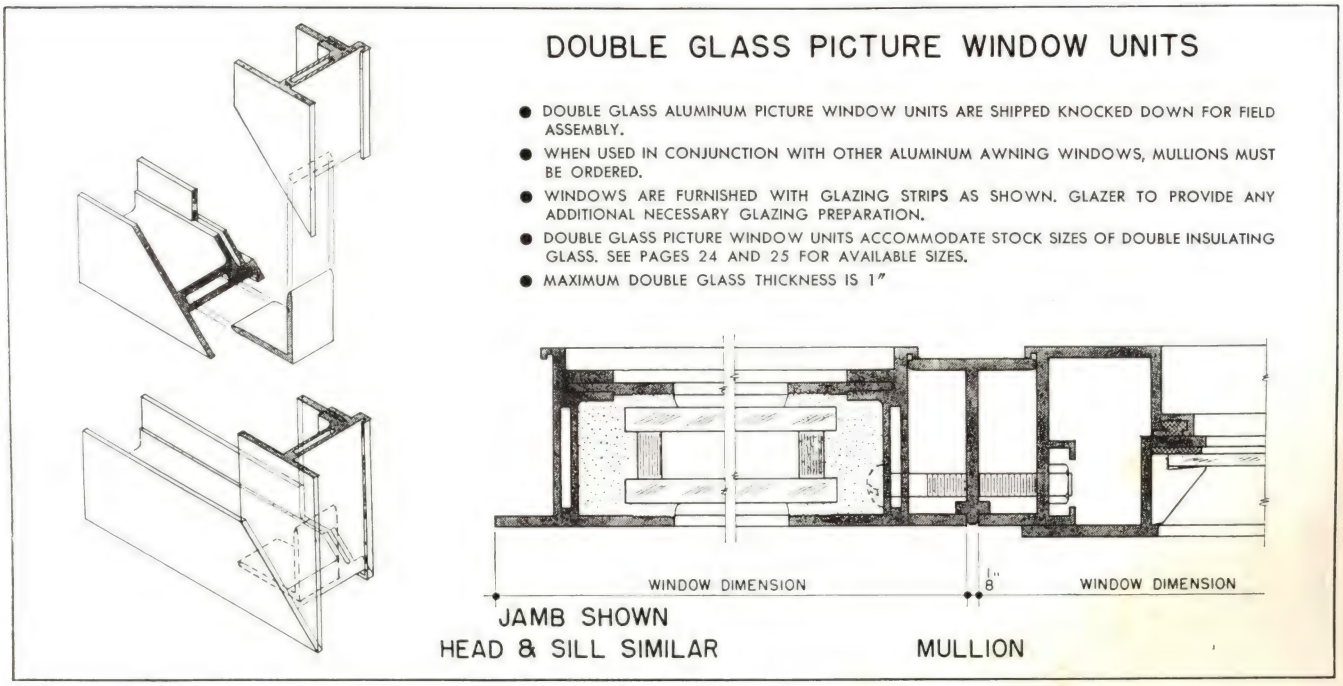
8. **Packaging** — All windows shall be protected during shipment and storage by heavy corrugated cardboard cartons, two windows per carton.

9. **Fins** — (Optional at extra cost). 18 gauge hot galvanized steel fins shall be furnished where detailed. Necessary aluminum bolts and nuts shall be furnished.

10. **Screens** — Screens shall be of aluminum throughout and shall be wired with an 18 x 14 mesh screen cloth.

11. **Erection** — All openings shall be accurately squared and plumbed before installation of the window. All wet plaster, mortar or cement shall be promptly cleaned from all window surfaces. Window adjustment shall be checked before glazing.

12. **Glazing** — Windows shall be designed for glazing from the outside. Glazing may be accomplished by the use of glazing clips and metal sash putty, or by means of a backbed tape and mitered, cut to length, snap in aluminum glazing moulding. Glazing moulding is furnished at small additional cost when specified. Picture window units requiring double insulating glass shall be inside glazed.



DOUBLE GLASS PICTURE WINDOWS

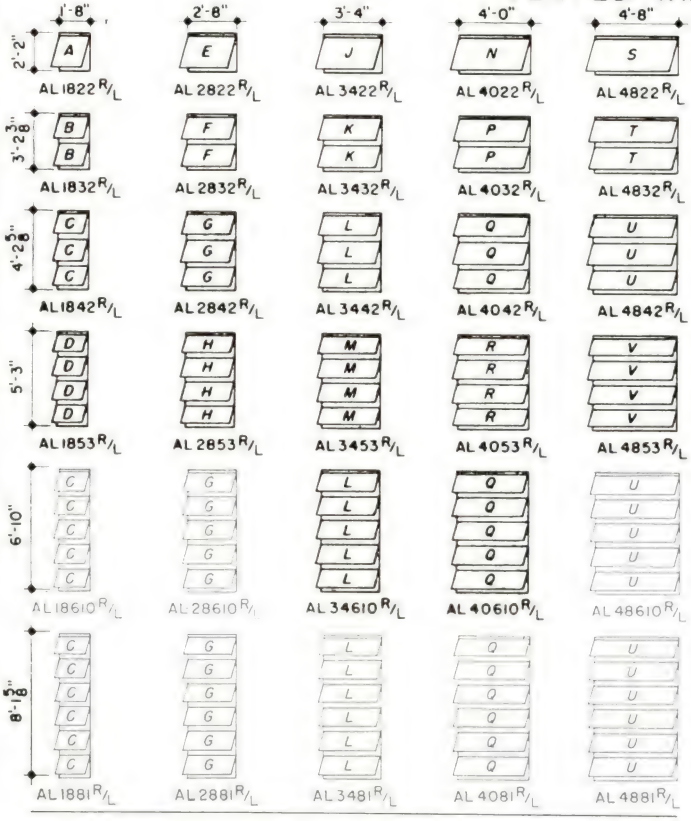
The Truscon Double Glass Picture Window units are designed to permit the installation of the large sheets of double insulating glass from *inside* the building. This glazing provision is important on either single or multi-story buildings.

Window types shown on pages 24 and 25 accommodate standard stock sizes of double insulating glass.

TRUSCON ALUMINUM AWNING WINDOWS

MODULAR TYPES AND SIZES

VENTED WINDOWS

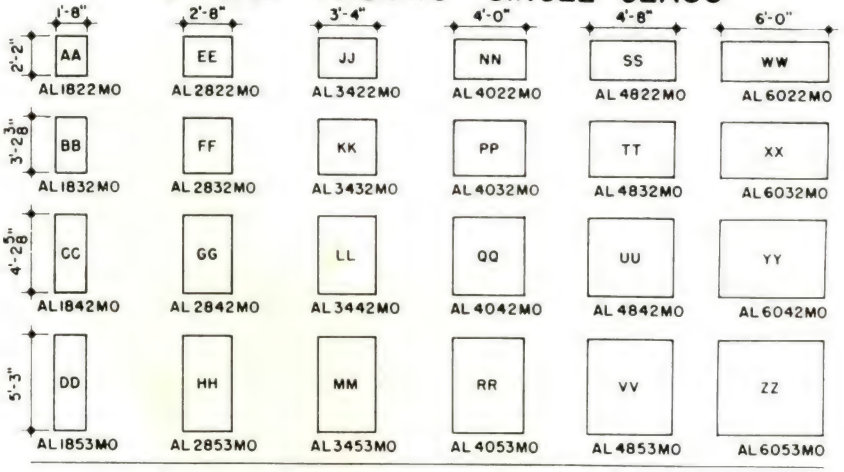


IMPORTANT—
HAND OF WINDOW IS DETERMINED BY LOCATION OF OPERATOR WHEN VIEWED FROM INSIDE.

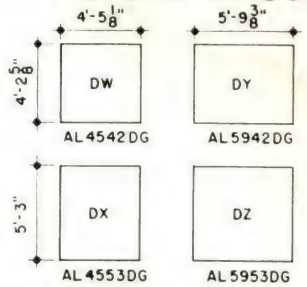
NOTES

- DIMENSIONS SHOWN ARE WINDOW DIMENSIONS.
- WINDOWS ARE SHOWN AS VIEWED FROM THE OUTSIDE.
- VENTED WINDOWS AND SINGLE GLASS PICTURE WINDOWS ARE OUTSIDE GLAZED.
- PICTURE WINDOWS ARE SHIPPED KNOCKED DOWN FOR FIELD ASSEMBLY.
- FOR STUD OPENING OR ROUGH OPENING SIZES USE WINDOW DIMENSIONS SHOWN AND ADD $1\frac{1}{2}$" IN WIDTH AND $1\frac{1}{2}$" IN HEIGHT.
- WAREHOUSE TYPES INCLUDE ONLY UNITS PRINTED IN BLACK WITH VENTILATOR ARRANGEMENT EXACTLY AS SHOWN. STANDARD OPERATING HARDWARE IS ATTACHED IN THE SHOP. WINDOWS ARE PREPARED FOR INTERIOR SCREENS.
- FACTORY SHIPMENT TYPES INCLUDE ALL WINDOWS SHOWN ON THIS PAGE. FOR UNITS WITH SILL VENTILATORS AND FIXED VENTILATORS, REFER TO PAGE 28.
- FIXED UNITS WITH MUNTIN BARS. FIXED UNITS IN SAME SIZES AS SHOWN FOR VENTED UNITS, AND DIVIDED INTO THE SAME NUMBER OF LIGHTS BY HORIZONTAL "T" MUNTIN BARS, ARE AVAILABLE FROM FACTORY ONLY. THESE UNITS ARE ASSEMBLED.
- COMBINATION FIXED AND VENTED UNITS. SEE PAGE 28.

PICTURE WINDOWS - SINGLE GLASS



PICTURE WINDOWS - DOUBLE GLASS



- SIZES OF DOUBLE GLASS PICTURE WINDOWS ARE BASED UPON USE OF STOCK SIZE INSULATING GLASS.
- DOUBLE GLASS UNITS ARE GLAZED FROM THE INSIDE.

TABLE OF GLASS SIZES

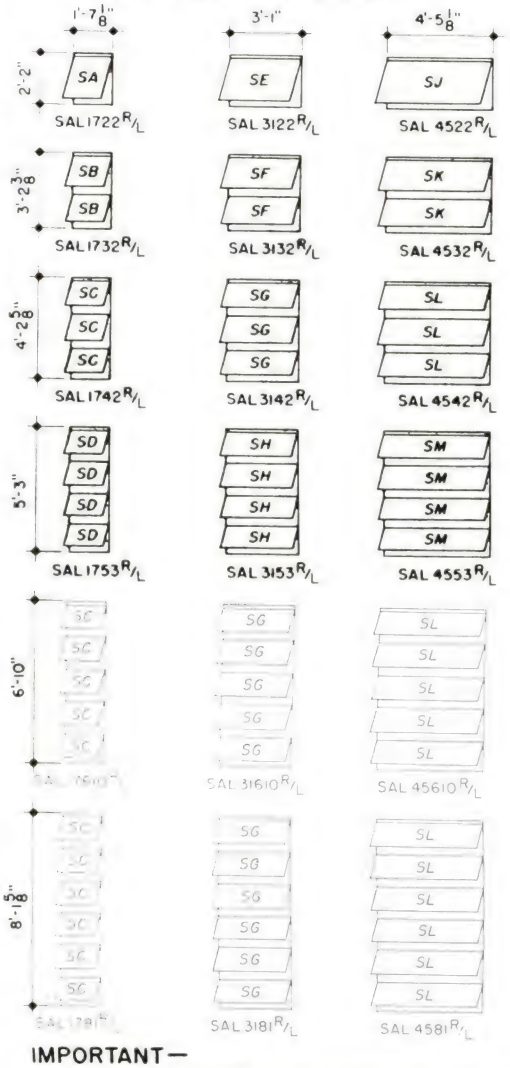
MK.	SIZE	MK.	SIZE
A	16" X $21\frac{5}{16}$"	EE	30" X 24"
B	16" X $16\frac{5}{16}$"	FF	30" X $36\frac{3}{8}$"
C	16" X $14\frac{9}{16}$"	GG	30" X $48\frac{5}{8}$"
D	16" X $13\frac{3}{4}$"	HH	30" X 61"
E	28" X $21\frac{5}{16}$"	JJ	38" X 24"
F	28" X $16\frac{5}{16}$"	KK	38" X $36\frac{3}{8}$"
G	28" X $14\frac{9}{16}$"	LL	38" X $48\frac{5}{8}$"
H	28" X $13\frac{3}{4}$"	MM	38" X 61"
J	36" X $21\frac{5}{16}$"	NN	46" X 24"
K	36" X $16\frac{5}{16}$"	PP	46" X $36\frac{3}{8}$"
L	36" X $14\frac{9}{16}$"	QQ	46" X $48\frac{5}{8}$"
M	36" X $13\frac{3}{4}$"	RR	46" X 61"
N	44" X $21\frac{5}{16}$"	SS	54" X 24"
P	44" X $16\frac{5}{16}$"	TT	54" X $36\frac{3}{8}$"
Q	44" X $14\frac{9}{16}$"	UU	54" X $48\frac{5}{8}$"
R	44" X $13\frac{3}{4}$"	VV	54" X 61"
S	52" X $21\frac{5}{16}$"	WW	70" X 24"
T	52" X $16\frac{5}{16}$"	XX	70" X $36\frac{3}{8}$"
U	52" X $14\frac{9}{16}$"	YY	70" X $48\frac{5}{8}$"
V	52" X $13\frac{3}{4}$"	ZZ	70" X 61"
AA	18" X 24"	DW	$50\frac{3}{8}$" X $47\frac{3}{4}$"
BB	18" X $36\frac{3}{8}$"	DX	$50\frac{3}{8}$" X $60\frac{1}{8}$"
CC	18" X $48\frac{5}{8}$"	DY	$66\frac{5}{8}$" X $47\frac{3}{4}$"
DD	18" X 61"	DZ	$66\frac{5}{8}$" X $60\frac{1}{8}$"

TRUSCON ALUMINUM AWNING WINDOWS

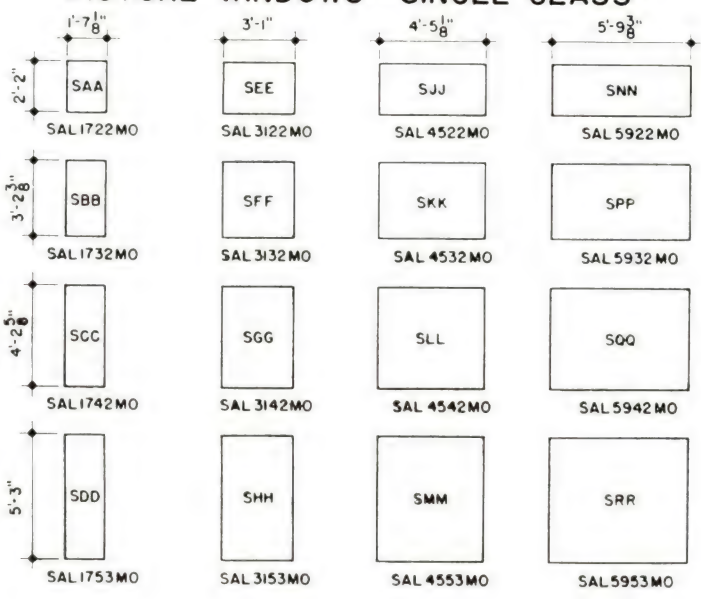
REGULAR TYPES AND SIZES

(Window types shown on this page fit standard steel casement opening sizes)

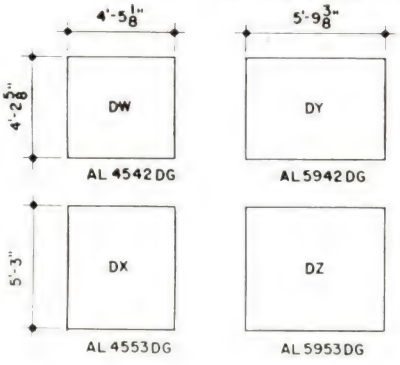
VENTED WINDOWS



PICTURE WINDOWS - SINGLE GLASS



PICTURE WINDOWS - DOUBLE GLASS



- SIZES OF DOUBLE GLASS PICTURE WINDOWS ARE BASED UPON USE OF STOCK SIZE INSULATING GLASS.
- DOUBLE GLASS UNITS ARE GLAZED FROM THE INSIDE.

IMPORTANT—
HAND OF WINDOW IS DETERMINED BY LOCATION OF OPERATOR WHEN VIEWED FROM THE INSIDE.

NOTES

- DIMENSIONS SHOWN ARE WINDOW DIMENSIONS.
- WINDOWS ARE SHOWN AS VIEWED FROM OUTSIDE.
- VENTED WINDOWS AND SINGLE GLASS PICTURE WINDOWS ARE OUTSIDE GLAZED.
- PICTURE WINDOWS ARE SHIPPED KNOCKED DOWN FOR FIELD ASSEMBLY.
- FOR STUD OPENING OR ROUGH OPENING SIZES USE WINDOW DIMENSIONS SHOWN AND ADD $1\frac{1}{2}$" IN WIDTH AND $1\frac{1}{2}$" IN HEIGHT.
- WAREHOUSE TYPES INCLUDE ONLY UNITS PRINTED IN BLACK WITH VENTILATOR ARRANGEMENT EXACTLY AS SHOWN. STANDARD OPERATING HARDWARE IS ATTACHED IN THE SHOP. WINDOWS ARE PREPARED FOR INTERIOR SCREENS.
- FACTORY SHIPMENT TYPES INCLUDE ALL WINDOWS SHOWN ON THIS PAGE. FOR UNITS WITH SILL VENTILATORS AND FIXED VENTILATORS, REFER TO PAGE 28.
- FIXED UNITS WITH MUNTIN BARS. FIXED UNITS IN SAME SIZES AS SHOWN FOR VENTED UNITS, AND DIVIDED INTO THE SAME NUMBER OF LIGHTS BY HORIZONTAL "T" MUNTIN BARS, ARE AVAILABLE FROM FACTORY ONLY. THESE UNITS ARE ASSEMBLED.
- COMBINATION FIXED AND VENTED UNITS. SEE PAGE 26.

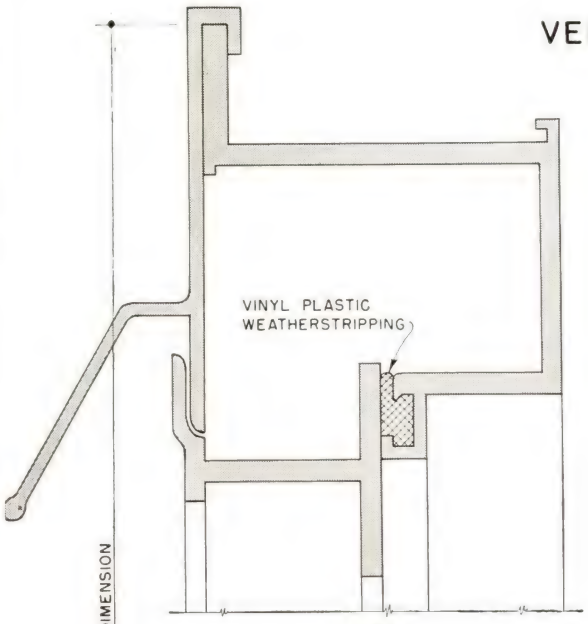
TABLE OF GLASS SIZES

MK.	SIZE	MK.	SIZE	MK.	SIZE
SA	$15\frac{1}{8}$" X $21\frac{5}{16}$"	SM	$49\frac{1}{8}$" X $13\frac{3}{4}$"	SLL	$51\frac{1}{8}$" X $48\frac{5}{8}$"
SB	$15\frac{1}{8}$" X $16\frac{5}{16}$"	SAA	$17\frac{1}{8}$" X 24"	SMM	$51\frac{1}{8}$" X 61"
SC	$15\frac{1}{8}$" X $14\frac{9}{16}$"	SBB	$17\frac{1}{8}$" X $36\frac{3}{8}$"	SNN	$67\frac{3}{8}$" X 24"
SD	$15\frac{1}{8}$" X $13\frac{3}{4}$"	SCC	$17\frac{1}{8}$" X $48\frac{5}{8}$"	SPP	$67\frac{3}{8}$" X $36\frac{3}{8}$"
SE	33" X $21\frac{5}{16}$"	SDD	$17\frac{1}{8}$" X 61"	SQQ	$67\frac{3}{8}$" X $48\frac{5}{8}$"
SF	33" X $16\frac{5}{16}$"	SEE	35" X 24"	SRR	$67\frac{3}{8}$" X 61"
SG	33" X $14\frac{9}{16}$"	SFF	35" X $36\frac{3}{8}$"	DW	$50\frac{3}{8}$" X $47\frac{3}{4}$"
SH	33" X $13\frac{3}{4}$"	SGG	35" X $48\frac{5}{8}$"	DX	$50\frac{3}{8}$" X $60\frac{1}{8}$"
SJ	$49\frac{1}{8}$" X $21\frac{5}{16}$"	SHH	35" X 61"	DY	$66\frac{5}{8}$" X $47\frac{3}{4}$"
SK	$49\frac{1}{8}$" X $16\frac{5}{16}$"	SJJ	$51\frac{1}{8}$" X 24"	DZ	$66\frac{5}{8}$" X $60\frac{1}{8}$"
SL	$49\frac{1}{8}$" X $14\frac{9}{16}$"	SKK	$51\frac{1}{8}$" X $36\frac{3}{8}$"		

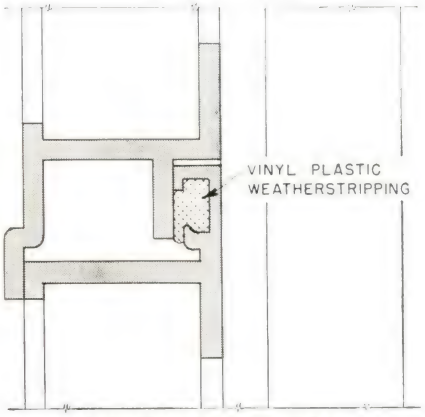
TRUSCON ALUMINUM AWNING WINDOWS

FULL SIZE SECTIONS

VENTED WINDOW SECTIONS

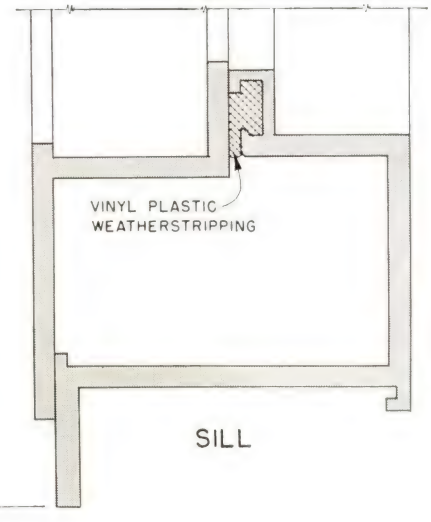


HEAD

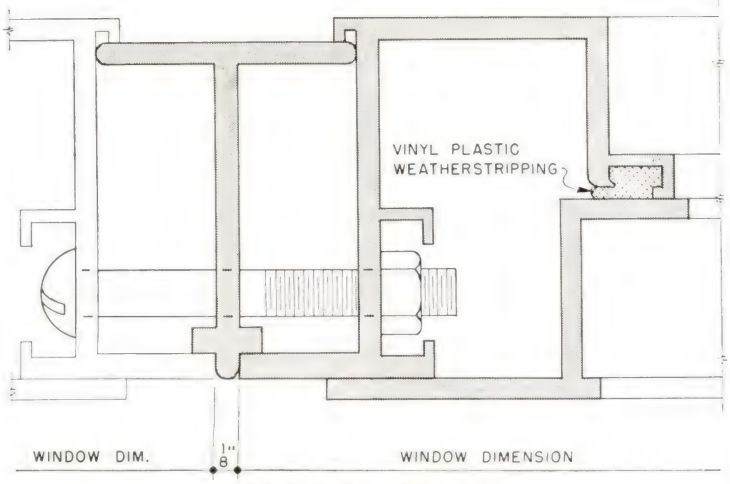


INTERMEDIATE RAIL

WINDOW DIMENSION



SILL

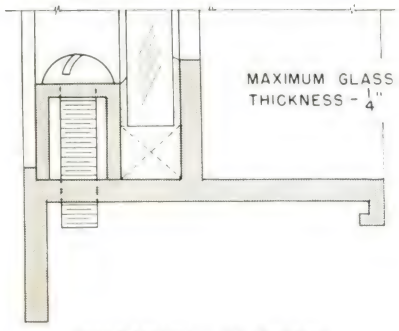


JAMB AND MULLION

PICTURE WINDOW SECTIONS



PUTTY GLAZED

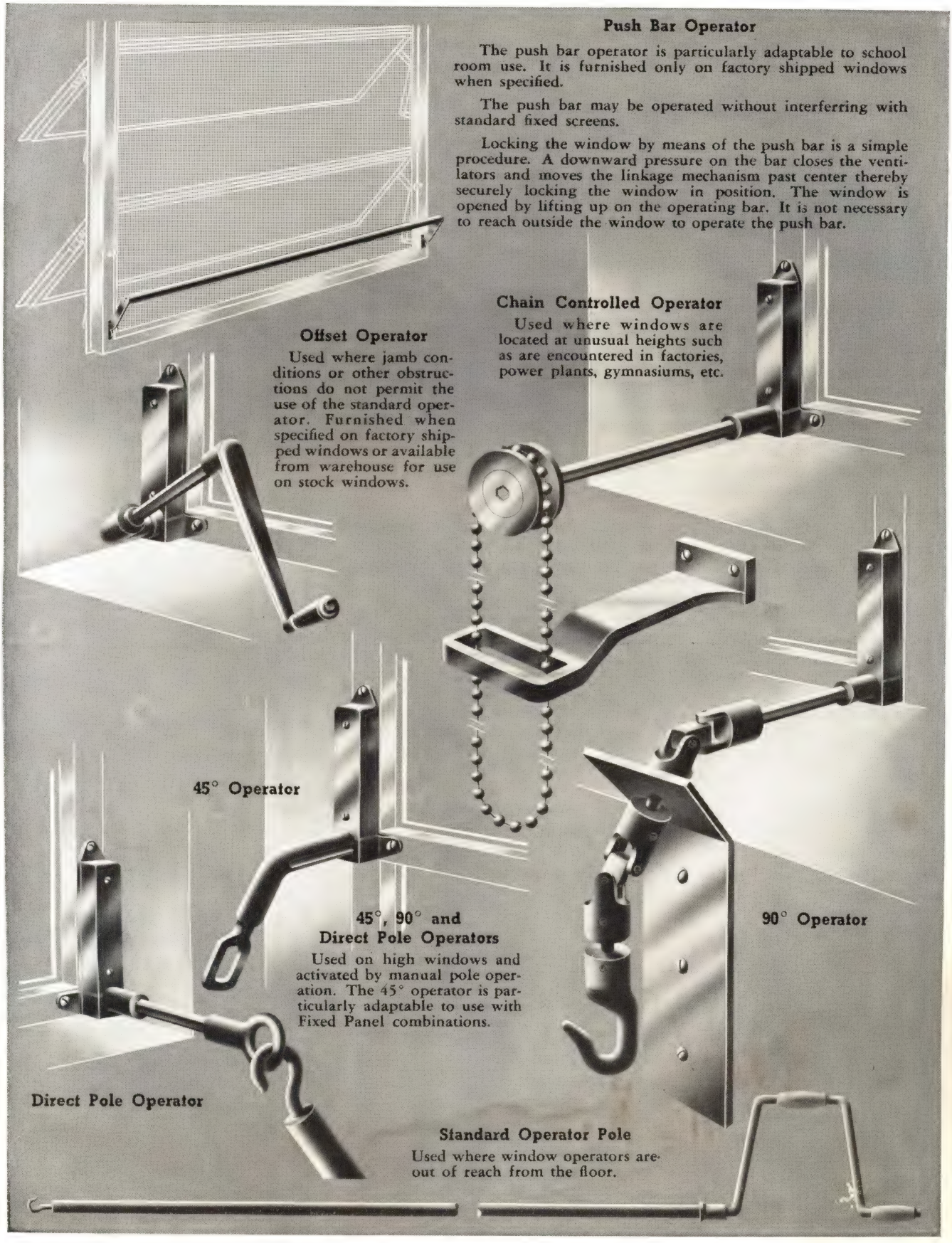


CHANNEL GLAZED

Picture windows with horizontal muntin bars or glazing channel are available from factory only.

TRUSCON ALUMINUM AWNING WINDOWS

SPECIAL OPERATORS



Push Bar Operator

The push bar operator is particularly adaptable to school room use. It is furnished only on factory shipped windows when specified.

The push bar may be operated without interferring with standard fixed screens.

Locking the window by means of the push bar is a simple procedure. A downward pressure on the bar closes the ventilators and moves the linkage mechanism past center thereby securely locking the window in position. The window is opened by lifting up on the operating bar. It is not necessary to reach outside the window to operate the push bar.

Chain Controlled Operator

Used where windows are located at unusual heights such as are encountered in factories, power plants, gymnasiums, etc.

Offset Operator

Used where jamb conditions or other obstructions do not permit the use of the standard operator. Furnished when specified on factory shipped windows or available from warehouse for use on stock windows.

45° Operator

90° Operator

45°, 90° and Direct Pole Operators

Used on high windows and activated by manual pole operation. The 45° operator is particularly adaptable to use with Fixed Panel combinations.

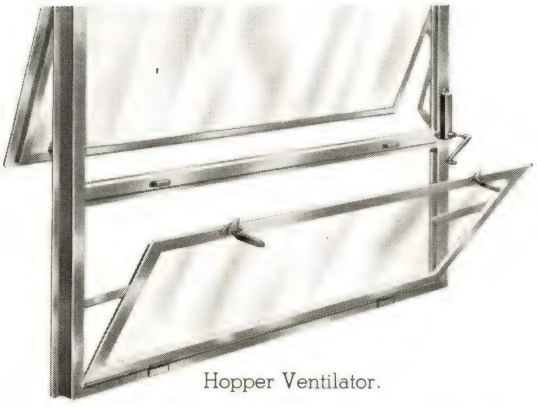
Direct Pole Operator

Standard Operator Pole

Used where window operators are out of reach from the floor.

TRUSCON ALUMINUM AWNING WINDOWS

HOPPER VENTILATORS—FIXED PANEL COMBINATIONS



Hopper Ventilator.

HOPPER VENTILATORS

Awning windows can be furnished with a bottom hinged inward opening hopper ventilator, available from factory only. Overall window heights are the same as those shown on pages 24 and 25. The hopper ventilator replaces a standard down and out ventilator in either the modular width or regular width window. If desired, the hopper ventilator can be manufactured as a separate window unit.

Two locking handles are provided on all hopper ventilators where the window width exceeds 2'8". Hardware is shop attached. Three hinges are provided on all hopper ventilators where the window width exceeds 3'4". Each hinge is a heavy extrusion not less than 3⅜" in length.

The ventilator is completely weatherstripped around the entire perimeter. Friction shoes on the operating arms hold the ventilator open in any position.

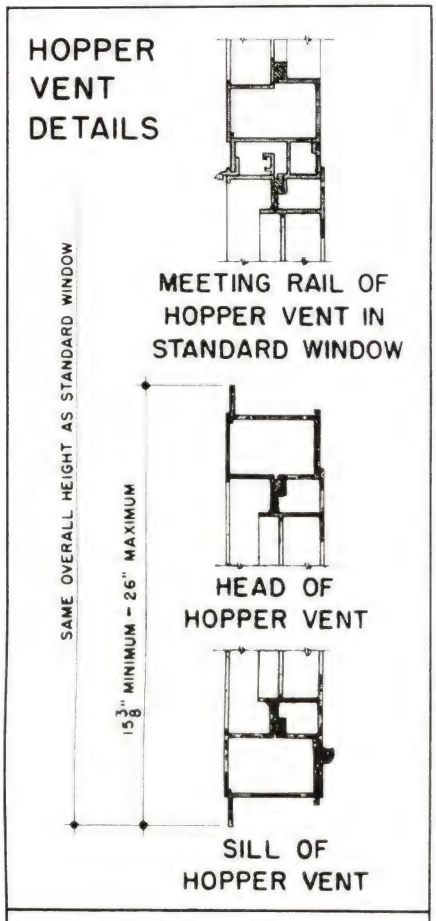
Screens are available for the hopper ventilator and are installed on the outside of the window by means of two sill clips and a continuous interlocking head member. Installation may be made from inside the room.

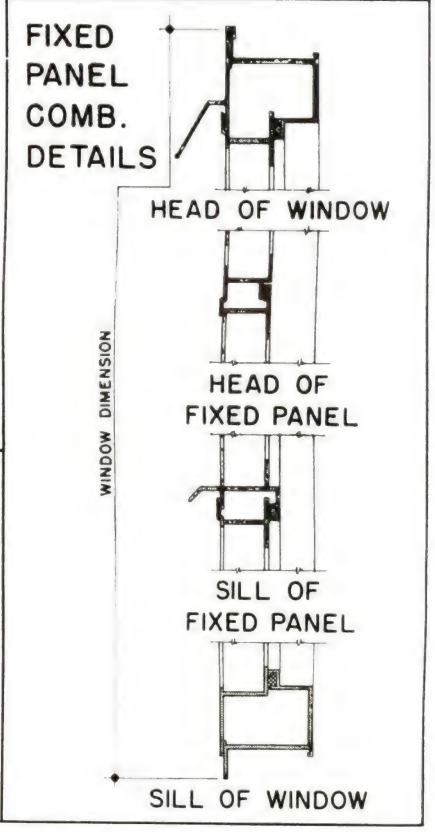
FIXED PANEL COMBINATIONS

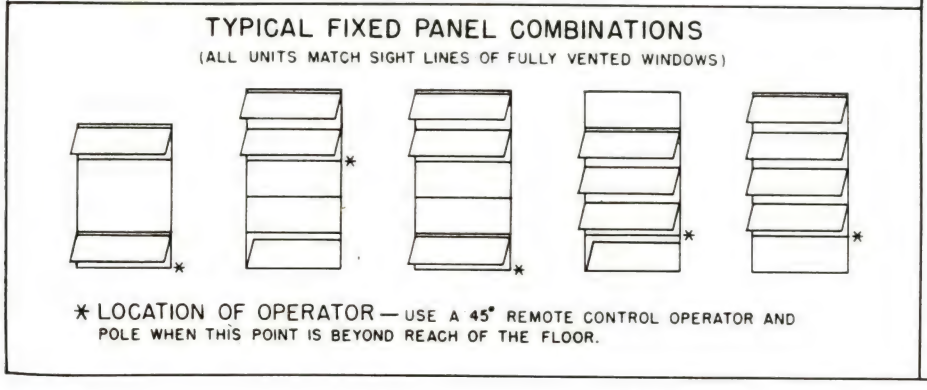
Custom built windows can be furnished with one or more ventilators fixed provided standard overall window heights are used. The sight lines of ventilated units are maintained at all jambs and meeting rails. Hopper ventilators can be furnished when required. Fixed panels are actually ventilators bolted into position in order to achieve the same appearance as a ventilated window except that the fixed panel may be any number of ventilators high. For fully fixed windows where sight lines are not required, see notes on pages 24 and 25 concerning available types.

It is not necessary to fix any ventilators because of operator limitations. The window sections and operator are sufficiently strong to allow 100% ventilation in all window openings shown in this catalog.

Where the bottom down and out ventilator is beyond reach from the floor it is necessary to use a 45 degree operator as shown on page 27. The torque bar for the down and out ventilators is always located at the bottom rail of the lowest down and out ventilator.



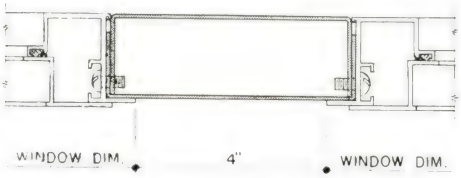




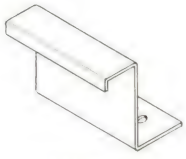
TRUSCON ALUMINUM AWNING WINDOWS

SPECIAL MULLION DETAILS

MULLION DETAILS



4" STANDARD MULLION

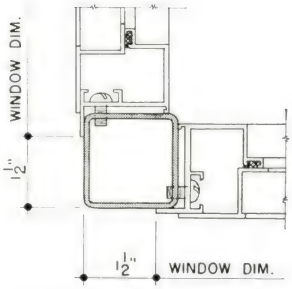


ANCHOR
(HEAD AND SILL)

4" STANDARD MULLION
- INSIDE MULLION CHANNEL DRILLED AND TAPPED TO RECEIVE $\frac{1}{4}$"-20 X $\frac{1}{2}$" R. H. M. S.
- INSTALL ANCHOR AT HEAD AND AT SILL OF MULLION.
- FACTORY SHIPMENT ONLY.

CORNER MULLION
- 2" X 2" TUBE DRILLED AND TAPPED TO RECEIVE $\frac{1}{4}$"-20 X $\frac{1}{2}$" R. H. M. S.
- INSTALL ANCHOR AT HEAD AND AT SILL OF MULLION.
- WAREHOUSE SHIPMENT.

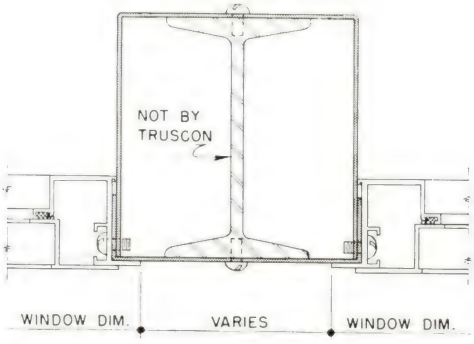
STRUCTURAL MULLIONS
- DIMENSIONS DETERMINED BY JOB REQUIREMENTS.
- USE $\frac{1}{4}$"-20 X $\frac{1}{2}$" STAINLESS STEEL R. H. M. S. TO ATTACH MULLION COVER PLATES TO STRUCTURAL STEEL MEMBERS.
- MULLION COVER PLATES TO BE DRILLED AND TAPPED IN FIELD.
- FACTORY SHIPMENT ONLY.



CORNER MULLION

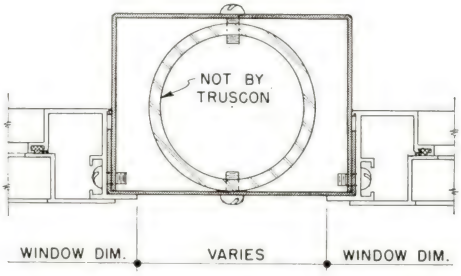


ANCHOR
(HEAD AND SILL)

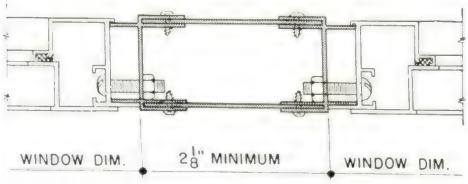


STRUCTURAL MULLION

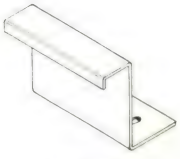
NOTE:
- ALL FORMED MULLION PLATES AND FLAT PLATES ARE 0.091" THICK ALUMINUM.



STRUCTURAL MULLION



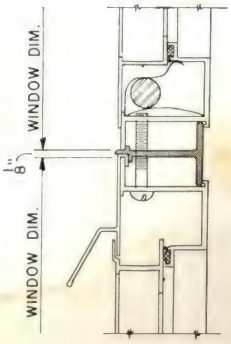
ADJUSTABLE MULLION



ANCHOR
(HEAD AND SILL)

ADJUSTABLE MULLION
- ATTACH EXTRUDED MULLION SECTIONS TO JAMBS OF EACH WINDOW BEFORE INSTALLATION.
- WIDTH OF FLAT PLATES IS DETERMINED BY JOB REQUIREMENTS.
- PLATES FURNISHED CUT TO SIZE.
- SECURE FLAT PLATES TO MULLION SECTIONS BY STAINLESS STEEL SELF-TAPPING SCREWS. DRILL AND INSTALL IN FIELD.
- INSTALL ANCHOR AT HEAD AND AT SILL OF MULLION.
- FACTORY SHIPMENT ONLY.

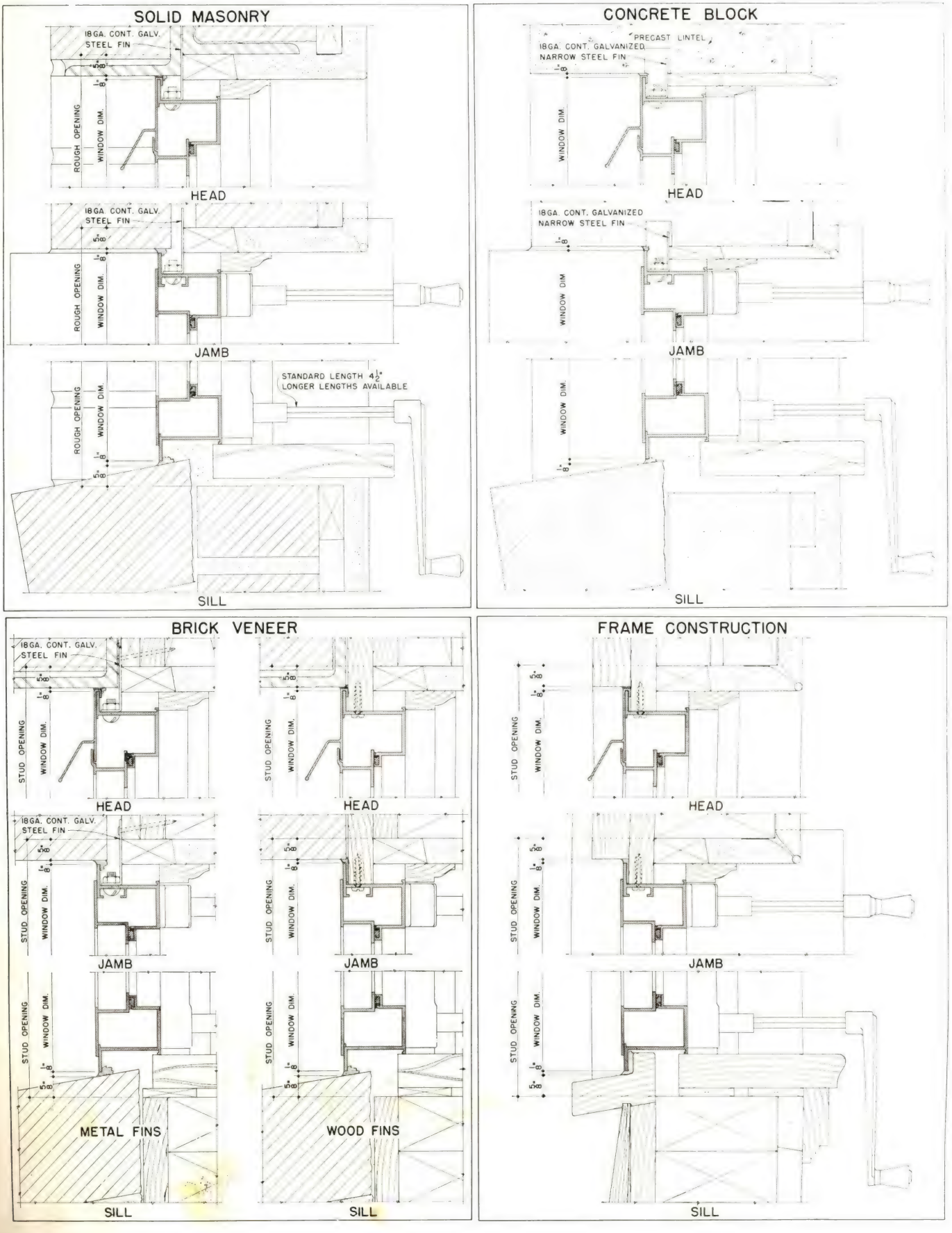
HORIZONTAL MULLION
- SILL MEMBER OF UPPER VENTED WINDOW TO BE DRILLED AND TAPPED IN FIELD TO RECEIVE $\frac{1}{4}$"-20 X $1\frac{11}{16}$" R. H. M. S. (CUT STANDARD 2" LONG SCREW TO REQUIRED LENGTH.)
- WAREHOUSE SHIPMENT.



HORIZONTAL MULLION

TRUSCON ALUMINUM AWNING WINDOWS

INSTALLATION DETAILS



TRUSCON

Residential

STEEL CASEMENTS

Truscon Residential Casements are offered in the three different classifications depicted at right. These windows are manufactured from 1″ sections of heavier than average weight and include many features not usually found in windows of this classification.

Superior design, heavy sections, substantial hardware, highly mechanized line production and nation-wide warehouse distribution offer features and service that are highly important to the Architect, Builder and Owner.

When deciding upon a source of supply for this popular type of window, attention is called to the extra value included in the Residential Casement as produced by Truscon.

Refer to full size section below for further interesting information.

Steel Stools — See page 39.
Complete Trim — See pages 40 and 41.
Steel Casings — See pages 42 and 43.
Steel Surrounds — See pages 44 and 45.
Casement Doors — See page 34.
Specifications — See page 46.



ROTO CASEMENTS

Types and Sizes on page 33.



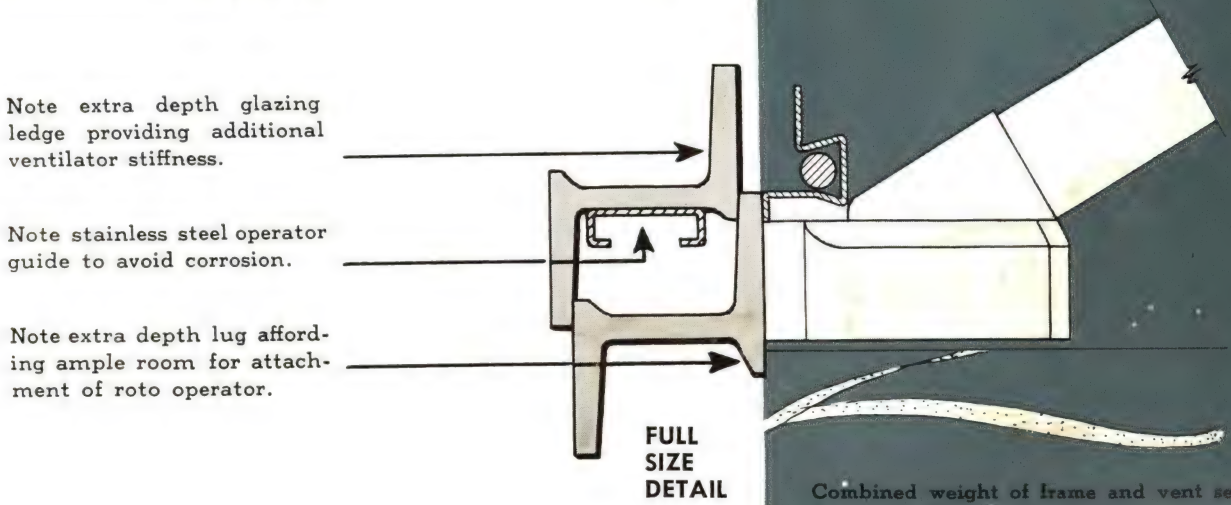
SIMPLEX CASEMENTS WITH SILL VENT

See page 35.



RANCH WINDOW

Types and Sizes on page 37.



FULL SIZE DETAIL

Combined weight of frame and vent section is 2.3 lbs. per linear foot. Depth of each section is 1″.

TRUSCON RESIDENTIAL STEEL CASEMENTS — SERIES 5



Fleishman Residence, Strathmore Park, Baltimore, Md.
Fenton & Litchtig, Archt.; Talles Construction Co., Bldr.

Truscon Residential Casements are equipped with Roto Operators which open or close the ventilators without the necessity of moving the screen or storm sash. The ventilators are held securely in any open position. The concealed-latch locking handles provide positive cam action, drawing the ventilators tightly closed and weathertight. Casements are tapped to receive screens and storm sash.

In ventilated units, all glass can be washed from the interior side.

Casements are bonderized as standard practice and given one prime coat of gray Bakelite (phenol-resin) base paint, oven-baked, at Youngstown factory.

SCREENS

Truscon Casement Screens are made especially for these windows and are attached to the inside of the window. They do not interfere with the ventilator opening or closing movement. They may be conveniently and quickly installed or removed. Since it is not necessary to move the screen to operate the casement, there is no interference with curtains, draperies or shades.

STORM SASH

Truscon Storm Sash are made especially for these windows and meet the growing demand for heat conservation in winter months and for all-season service in air conditioned homes. They are glazed with double strength clear glass.

Integral ventilators permitting controlled ventilation may be had when so specified. We recommend that at least one storm sash in each room be equipped with a ventilator.



ROTO OPERATOR

P-4580 — R. H. P-4581 — L. H.

(P-4581 — L. H. shown)

Underscreen type, an exclusive Truscon design, sturdy in construction, attractive in appearance





R.H. L.H.

LOCKING HANDLES

P-3333 — R. H.

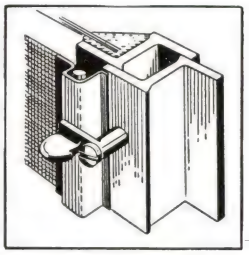
P-3334 — L. H.

Standard is die-cast material with bronze lacquer finish



P-4841-S

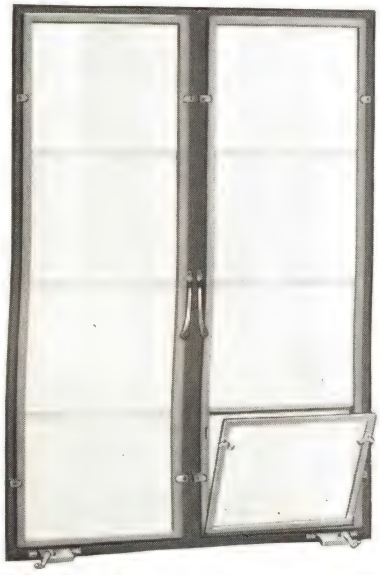
For use with venetian shades. Standard is steel stamping with bronze lacquer finish.



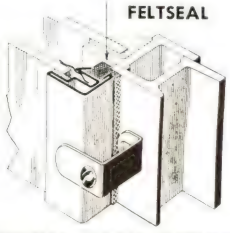
Cam acting screen clip. Two clips used at each side of screen frame.



SCREEN FOR RESIDENTIAL CASEMENT



STORM SASH FOR RESIDENTIAL CASEMENT

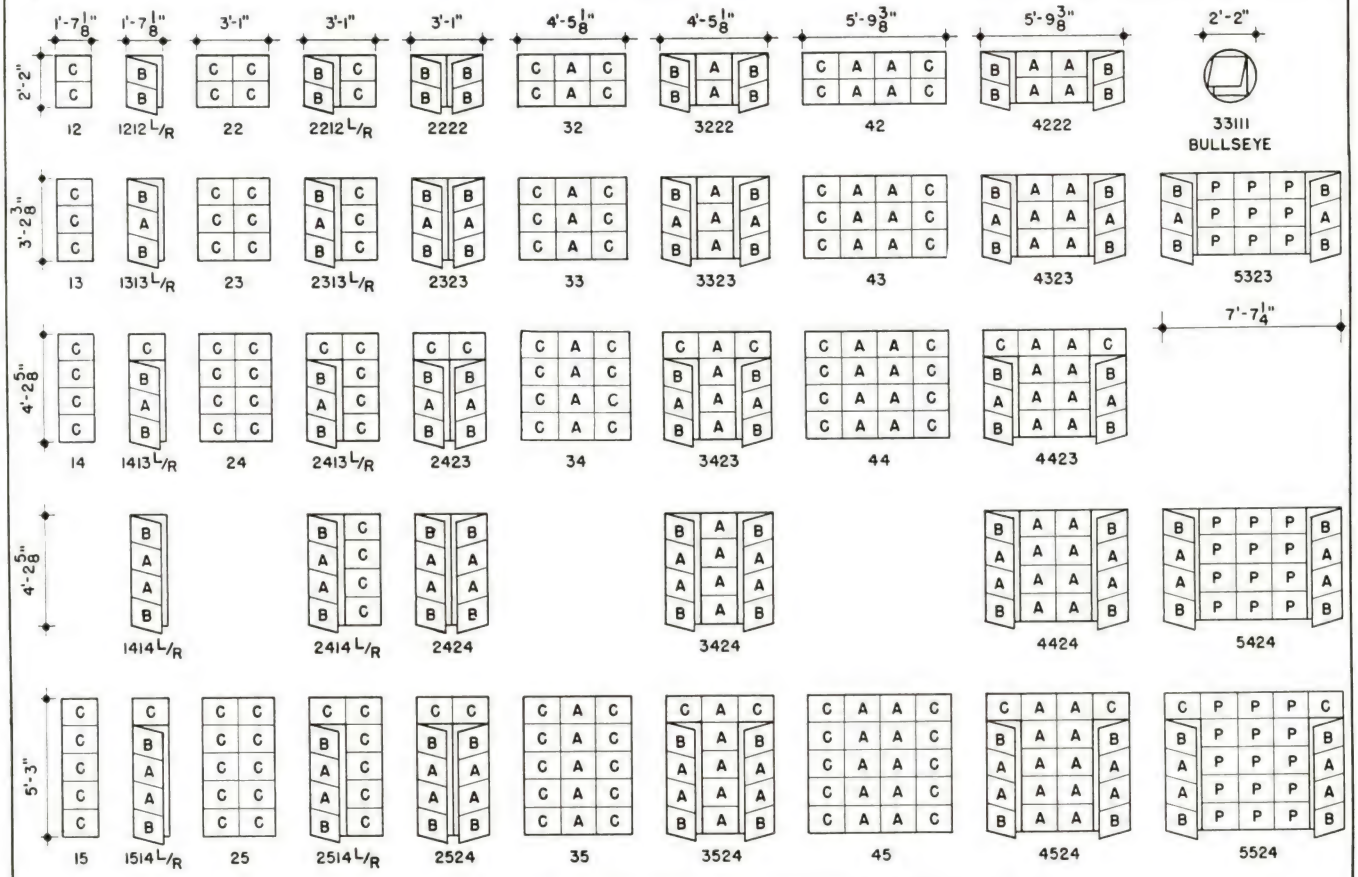


STORM SASH DETAIL

TRUSCON RESIDENTIAL STEEL CASEMENTS — SERIES 5

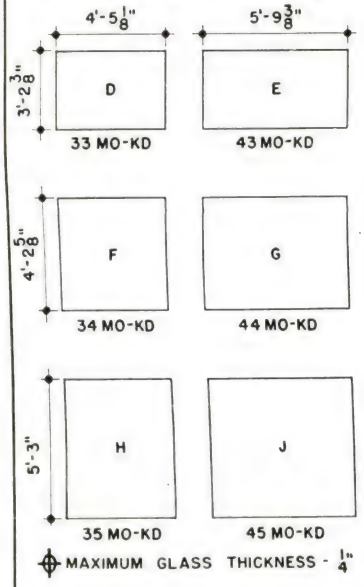
TYPES AND SIZES

All types and sizes shown hereon are carried in stock east of the Rocky Mountains. For special Pacific Coast sizes, refer to the Home Office.

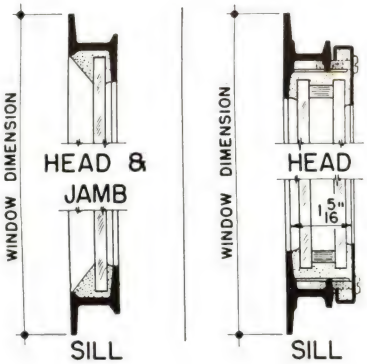


PICTURE WINDOW UNITS

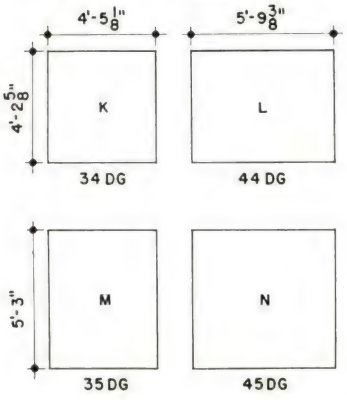
OUTSIDE PUTTY GLAZED TYPES FOR USE WITH SINGLE GLASS



MAXIMUM GLASS THICKNESS - 1/4"



INSIDE GLAZED TYPES FOR USE WITH STOCK SIZE DOUBLE GLASS



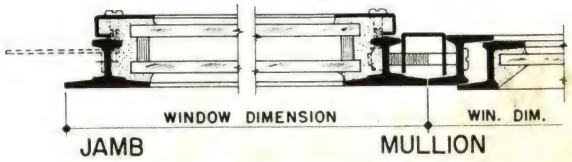


TABLE OF GLASS SIZES

MK	SIZE
A	16" X 12"
B	16" X 11 1/4"
C	17 3/8" X 12"
D	51 1/8" X 36 3/8"
E	67 3/8" X 36 3/8"
F	51 1/8" X 48 5/8"
G	67 3/8" X 48 5/8"
H	51 1/8" X 61"
J	67 3/8" X 61"
K	50 3/8" X 47 3/4"
L	66 5/8" X 47 3/4"
M	50 3/8" X 60 1/8"
N	66 5/8" X 60 1/8"
P	17 3/4" X 12"

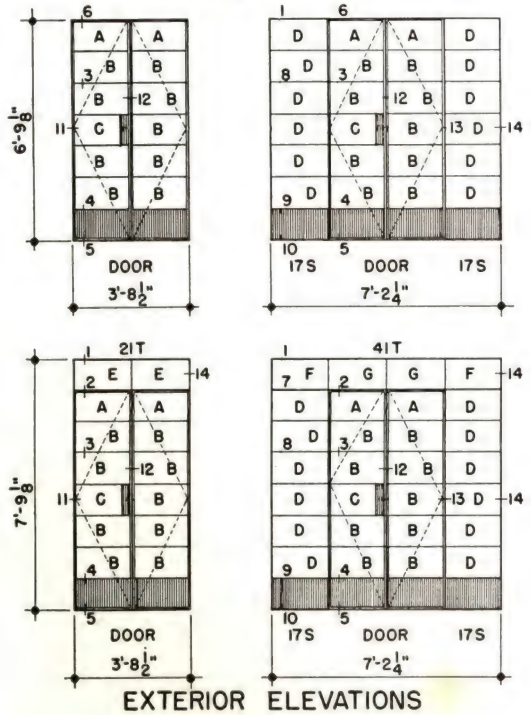
- "KD" PICTURE WINDOW UNITS ARE SHIPPED KNOCKED DOWN FOR FIELD ASSEMBLY.
- DIMENSIONS SHOWN ARE WINDOW DIMENSIONS.
- ELEVATIONS ARE SHOWN AS VIEWED FROM THE OUTSIDE. HAND OF CASEMENTS IS DETERMINED BY LOCATION OF HINGES AS VIEWED FROM THE OUTSIDE.
- FOR STUD OPENING OR ROUGH OPENING SIZES USE WINDOW DIMENSIONS SHOWN AND ADD 1 1/2" IN WIDTH AND 1 1/2" IN HEIGHT.

TRUSCON RESIDENTIAL STEEL CASEMENT DOORS

TYPES AND SIZES—INSTALLATION DETAILS

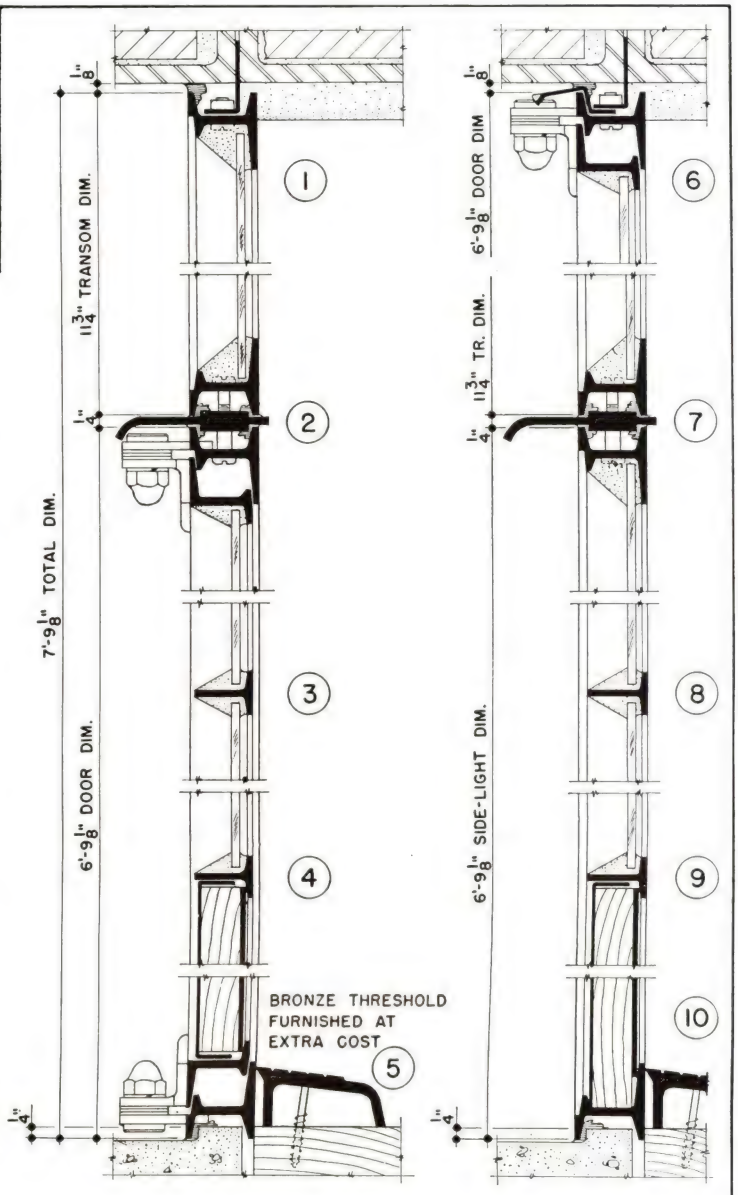
The Truscon Residential Casement Door, transoms and sidelights are made of intermediate casement sections. The door is designed and weathered to open outward only and is equipped with mortise cylinder-lock hardware having solid bronze handles on the active leaf, concealed bronze top and bottom bolts on the inactive leaf, and three friction hinges on each leaf. The lock is operated by key from the outside and by thumb turn from the inside. A bronze threshold for use inside the door is available as an extra. Openings with sidelights and/or transoms are shipped unassembled. Casement Doors are primarily intended for use in conjunction with steel window installations in residences and apartments. They will be found best suited for openings to porches, sun rooms and in similar locations. This type of door is not considered practical for use as an entrance door. All units shown below are carried in warehouse stocks.

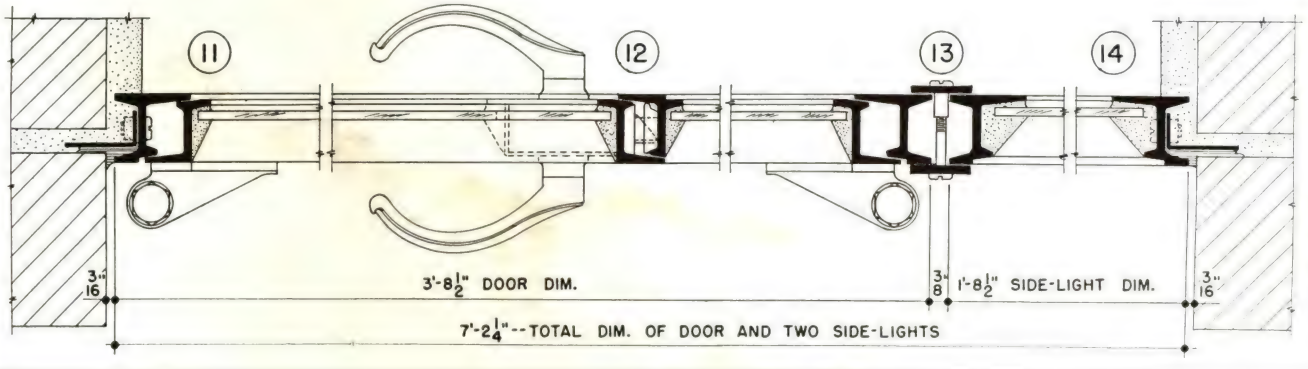
WAREHOUSE STOCK UNITS



EXTERIOR ELEVATIONS

GLASS SIZES					
A	19⅞" X 10⅝"	C	17½" X 11⅝"	E	21⅛" X 10⅛"
B	19⅞" X 11⅝"	D	18⅝" X 11⅝"	F	19 9/16" X 10⅛"
		G	22 1/16" X 10⅛"		



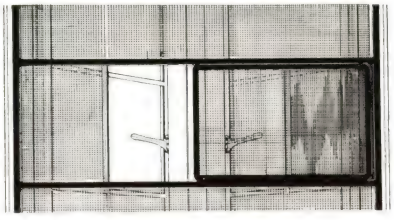


TRUSCON SIMPLEX STEEL CASEMENTS

For Large Housing Projects



Simplex Casement with integrally built picture window



WICKET SCREEN
Panel open to give access to locking handle



Simplex Casement with Sill Ventilator



Solid Bronze Cam Acting Locking Handles P-17235LH (illustrated above) P-17234RH

Truscon Simplex Casements are available in the same window opening sizes as listed on preceding pages for the standard Roto design, provided that not less than 300 window units are included in any single order, with an average of not less than 50 units for each different type required.

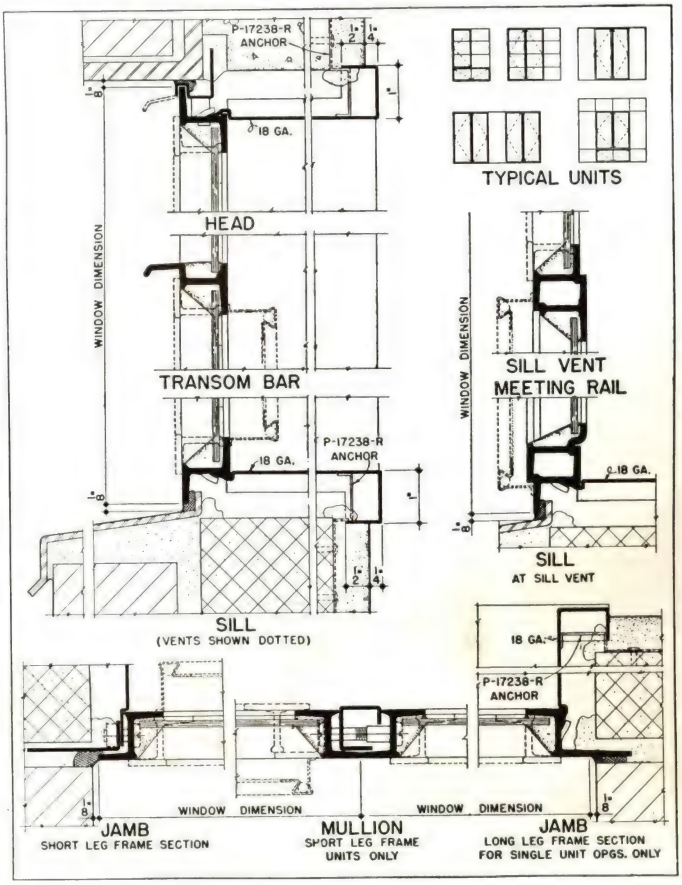
Simplex Casements provide a simple, rugged, trouble-proof installation and are the most economical window for the larger building projects. Constructed of the same sectional shapes and in the same dimensions as standard sill operator types, they differ only in the hardware and screening, being equipped with friction hinges and cam acting handles attached to vents. Screens are sliding wicket type.

In order to more closely fit into the architectural requirements on specially designed multiple residential projects, a number of features not offered with standard Residential Casements are available. Among them are integrally constructed tilt-in sill vents, variations in the ventilator arrangement, long-leg head and jamb members to eliminate attached fins, and steel casings to fit any depth of wall thickness (see details below). Casings eliminate the expense of corner beads, stools, and the plastering of returns at head and jambs. In addition, they minimize maintenance cost arising through the frequent necessity of plaster repairs around window openings on rental housing projects.

Simplex Casements are strongly recommended for consideration on the larger residential projects in any geographical location. A fifteen year record of bids submitted by contractors on numerous public and private projects clearly shows that overall cost per window opening is lower than that obtainable with any other window design. Maintenance costs on this simple window are low.



Knickerbocker Homes, Elmont, L.I., N. Y.
Alex Muss & Lee Schoenfield, Contr.; Oscar Silverstone, Archt.





Tollgate Project, Owings Mills, Md.
Precision Builder Homes, Inc., Bldrs.



Tollgate Project, Owings Mills, Md.
Precision Builder Homes, Inc., Bldrs.



Truscon Ranch Type Steel Window Installation

TRUSCON
STEEL RANCH WINDOWS

Architectural Adaptability — The Ranch Window still further expands Truscon's unmatched line of steel residential window products. Incorporated in this new and attractive design are features particularly suited to one story home construction in the widely popular ranch house style.

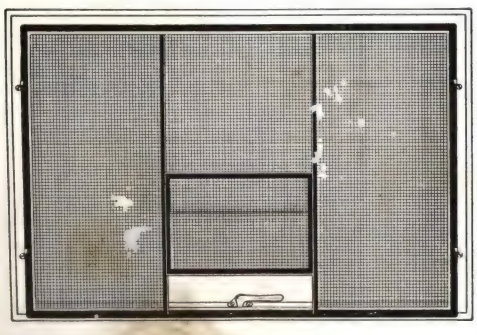
Special Features — The Ranch Window in the larger sizes provides an attractive living room picture window which, when viewed from the outside, tends to minimize the "wide open" effect characteristic of a large undivided glass area. The medium size units fit very conveniently into window openings for dining rooms, dens and libraries. In the smaller units, the windows are admirably suited for sleeping rooms where privacy, effective ventilation in inclement weather and maximum utilization of wall space for furniture arrangement are of primary importance.

Sturdy Design and Welded Construction — The window frames are constructed of specially rolled, extra heavy steel sections, one inch in depth. All joints and corners are securely welded to form strong integrally built frames and ventilators — thus permanently guaranteeing avoidance of distortion under any normal usage.

Convenient Ventilation — Ventilators are of the awning type, hinged at the top to swing outward at the bottom. The degree of opening is controlled by two adjustable sliding friction stays, one in each jamb and both completely concealed when the vent is in a closed position. The cam acting locking handle is of solid bronze. Screens, if desired, are of the vertically sliding wicket type.

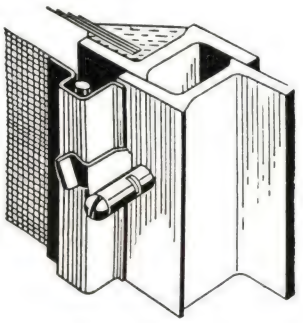
Insulating Glass Available in Standard Sizes — Special attention is called to the availability of standard size Thermopane glass in ½" thickness for both the fixed (36" x 24") and ventilator (34 11/16" x 22 11/16") lights. The use of insulating glass in colder areas economically overcomes the storm sash problem.

Available from Warehouse or Factory — Truscon Ranch Windows are available from key warehouse stocks. The proven economies of volume production in standard types are reflected in the selling prices. Factory shipment will be made of units with vents located other than standard provided that no two vents are positioned vertically adjacent to each other in the same unit.



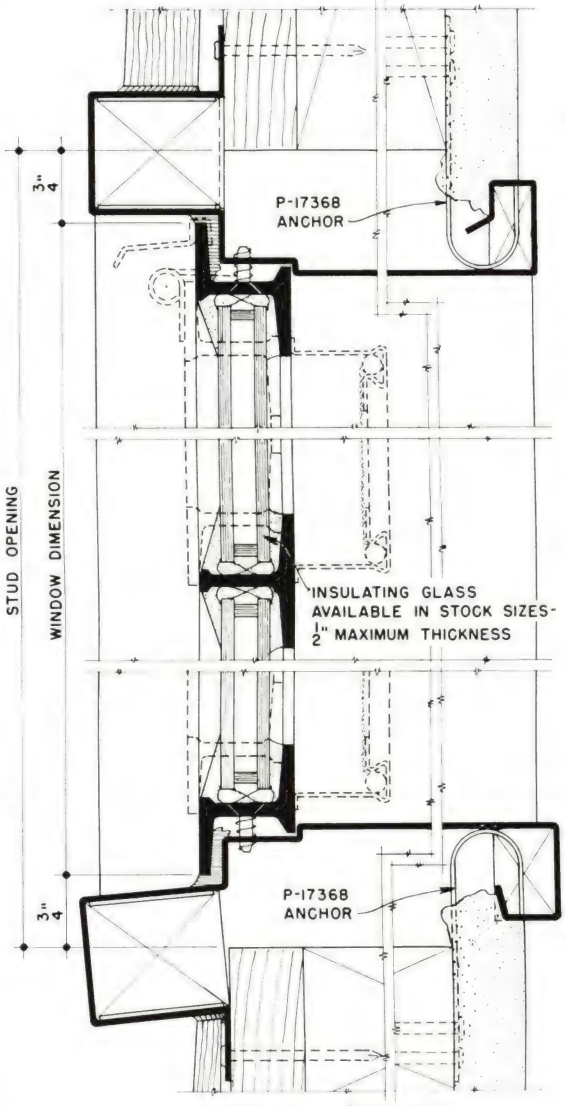
← Truscon's specially designed, close-fitting insect screen with its vertically sliding wicket permits convenient access to the solid bronze locking handle to open or close the ventilator. Effective screening and adequate ventilation in either fair or inclement weather is assured at all times.

→ Note that the screen is installed on the interior side of the glass, eliminating deterioration from weather and providing uniform outside appearance of glass area. Four swinging clips permit simple removal of the screen for window washing or winter storage. Screen cloth is bronze.

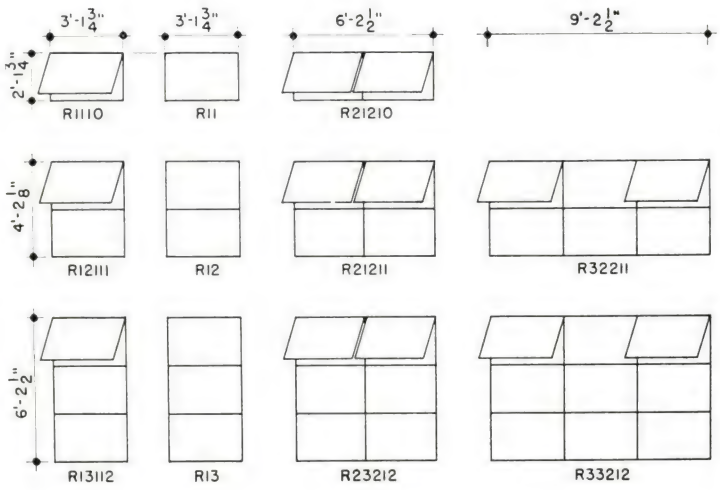


TRUSCON STEEL RANCH WINDOWS

TYPES AND SIZES CARRIED IN WAREHOUSE STOCK

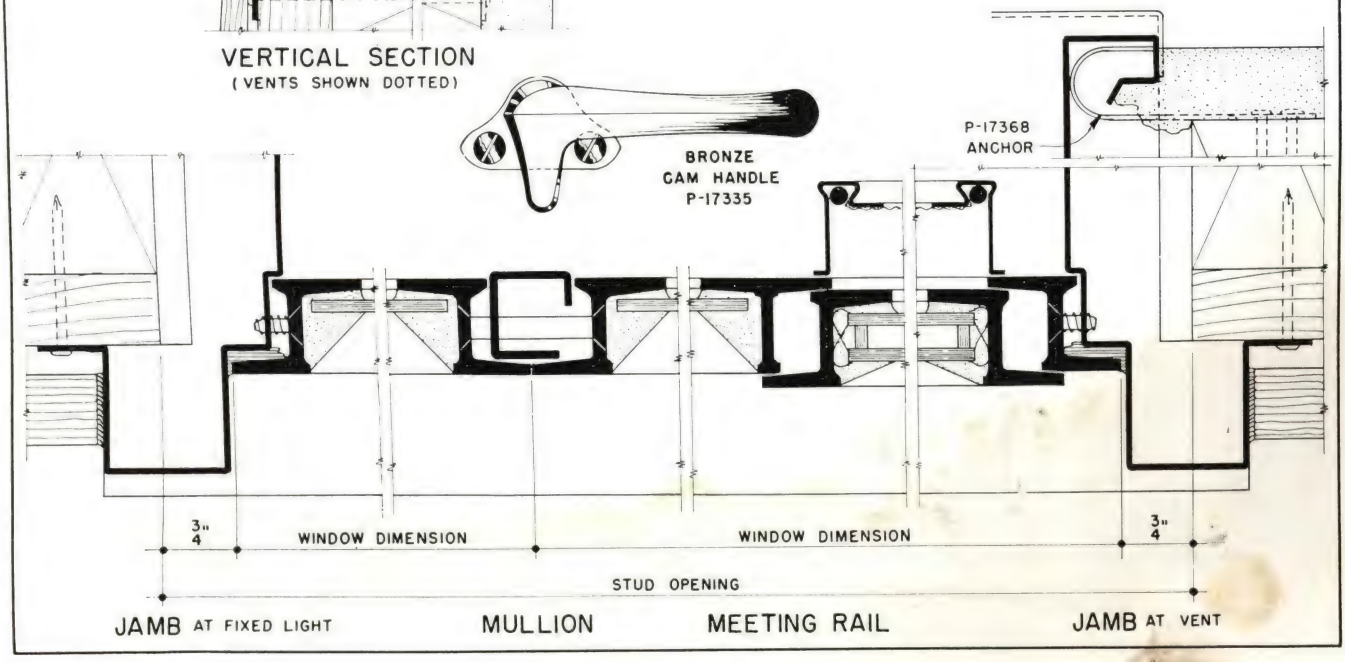


VERTICAL SECTION
(VENTS SHOWN DOTTED)



- ON FACTORY SHIPMENT, VENTILATORS MAY BE SUBSTITUTED FOR ANY FIXED LIGHT EXCEPT THAT NO TWO VENTILATORS MAY BE DIRECTLY ONE ABOVE THE OTHER.
- "COMPLETE STEEL TRIM" SHOWN IS OPTIONAL AT EXTRA COST. REFER TO STEEL CASEMENT INSTALLATION DETAILS SHOWN ELSEWHERE FOR INSTALLING WINDOWS WITH SURROUNDS, CASINGS, ETC.
- DIMENSIONS SHOWN ABOVE ARE WINDOW DIMENSIONS.
- FOR STUD OPENING OR ROUGH OPENING SIZES, USE WINDOW DIMENSIONS SHOWN AND ADD 1 1/2" IN WIDTH AND 1 1/2" IN HEIGHT.

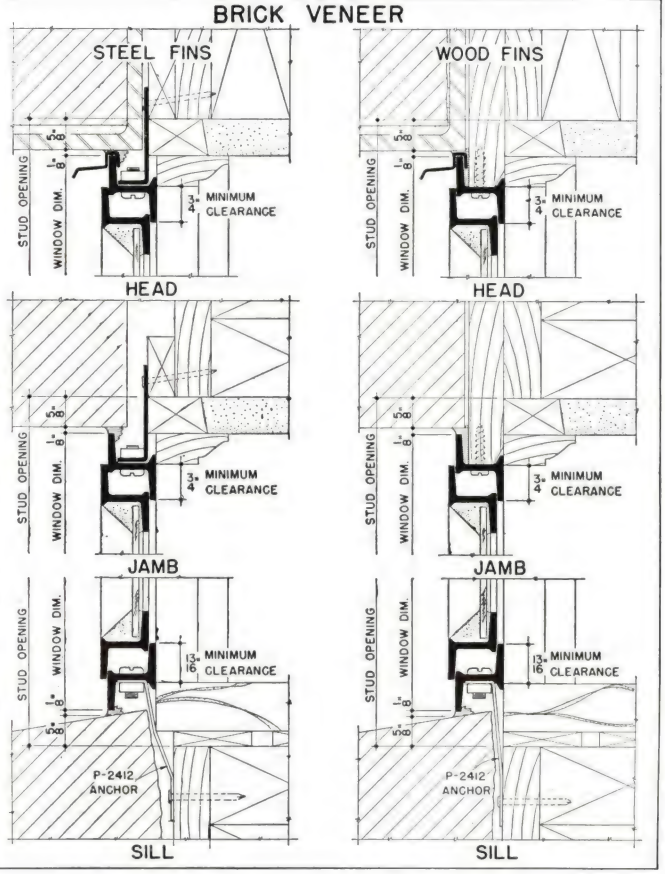
- GLASS SIZES –
  FIXED LIGHTS – 36" X 24"
  VENTILATORS – 34 11/16" X 22 11/16"



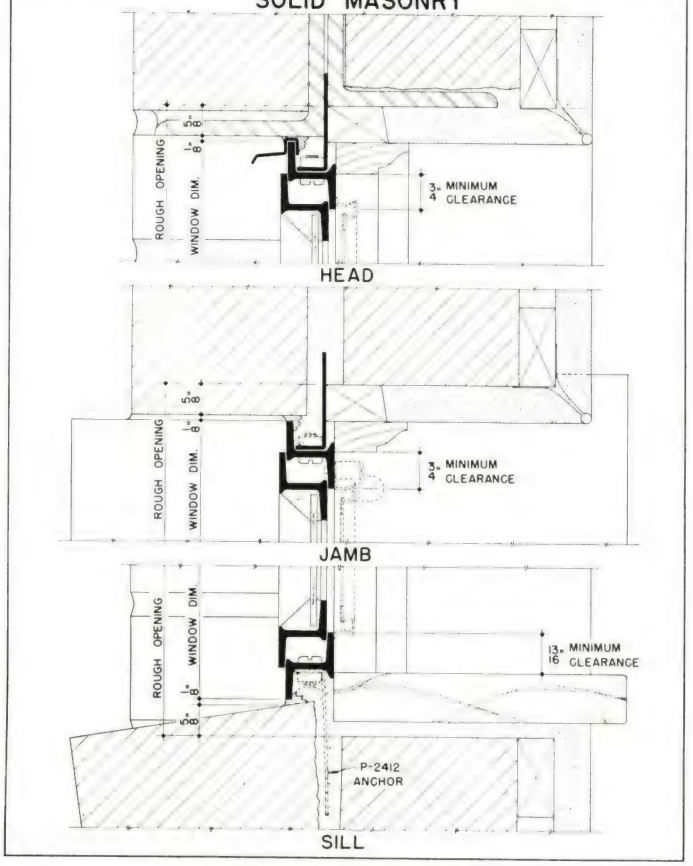
TRUSCON RESIDENTIAL STEEL CASEMENTS—SERIES 5

INSTALLATION DETAILS (Additional Details Shown on Pages 40, 43 and 45)

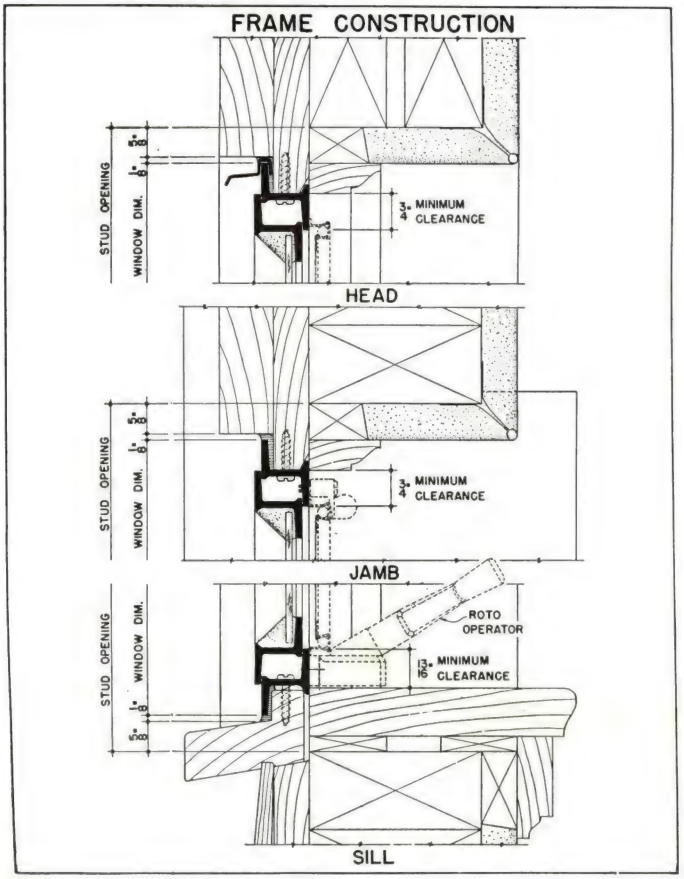
BRICK VENEER



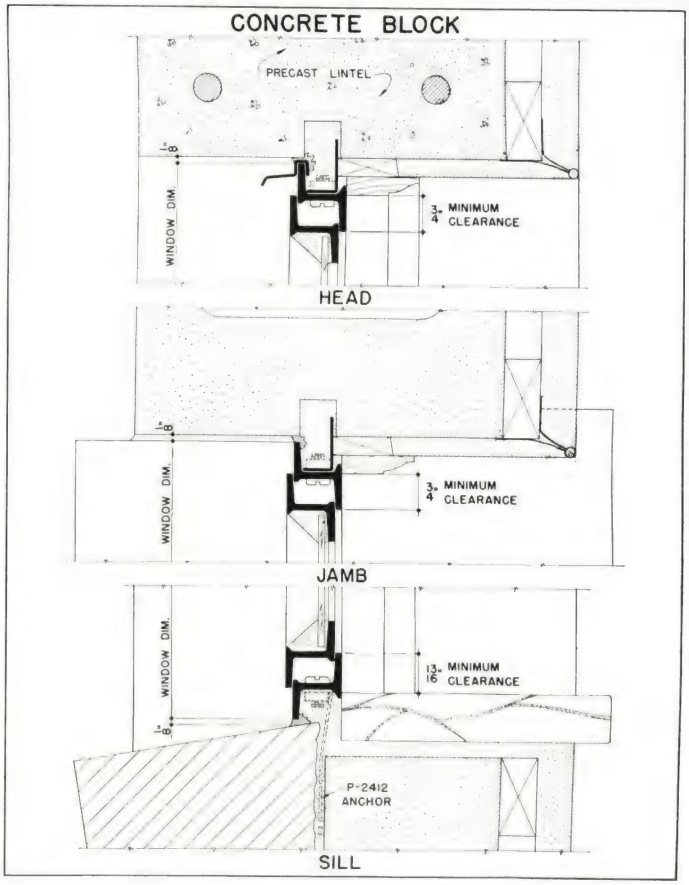
SOLID MASONRY



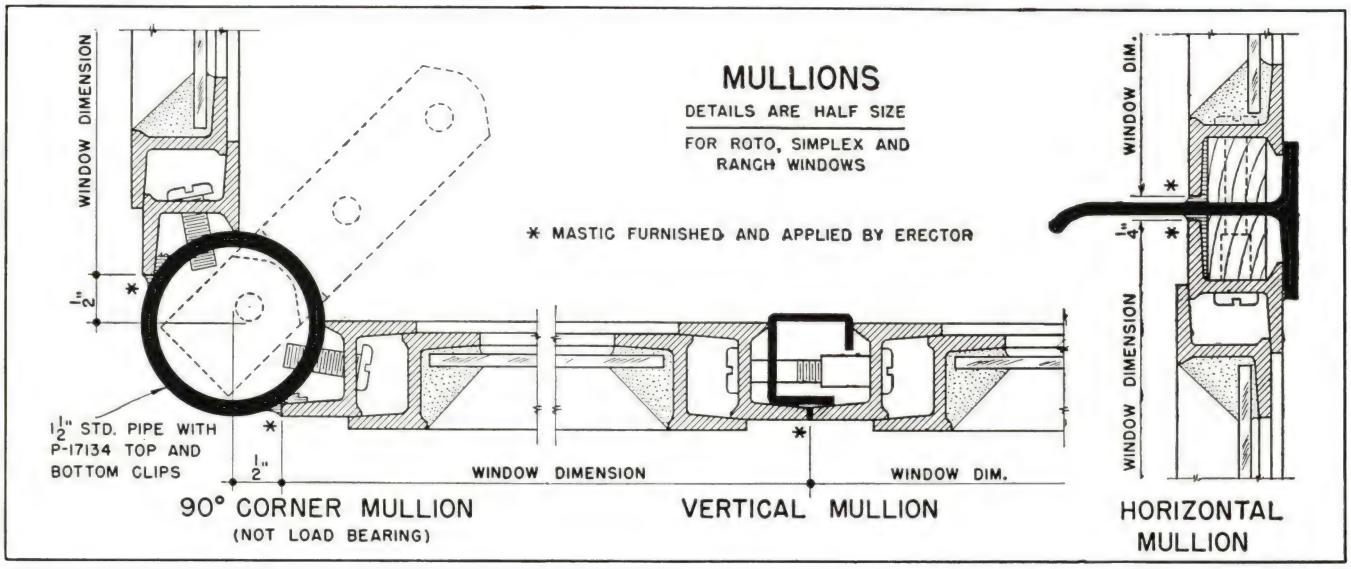
FRAME CONSTRUCTION



CONCRETE BLOCK



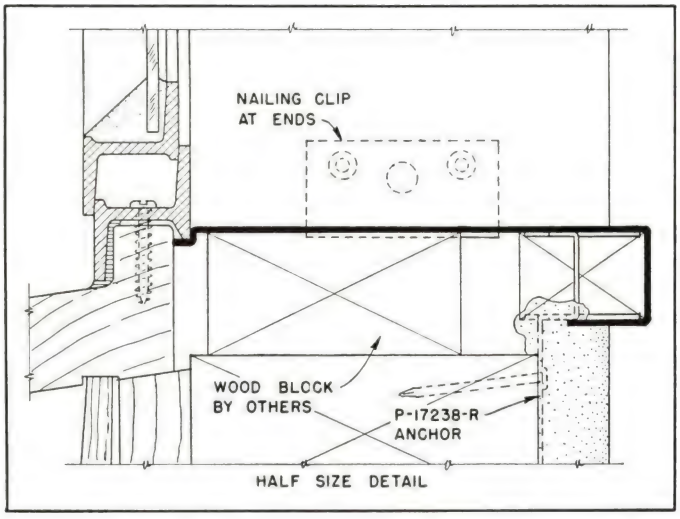
TRUSCON MULLIONS AND STEEL STOOLS



STEEL STOOLS

Truscon STEEL STOOLS, of varying depths and as shown in the detail at right, are available for shipment from factory provided that not less than 300 stools are included in any single order.

Stools are fabricated from 16 gauge steel sheets and are furnished with end fillers, anchors and nailer clips. Underblocking is recommended to assure a firm base. The finish consists of Truscon's standard bonderizing and baked-on coat of gray paint. Cost of stools is relatively low, installation is simple and maintenance negligible.





Ventilators swing wide to provide maximum ventilation



Washington Street Apartments
Brookline, Mass.
Bell & Roberts, Bldrs.

TRUSCON COMPLETE STEEL TRIM

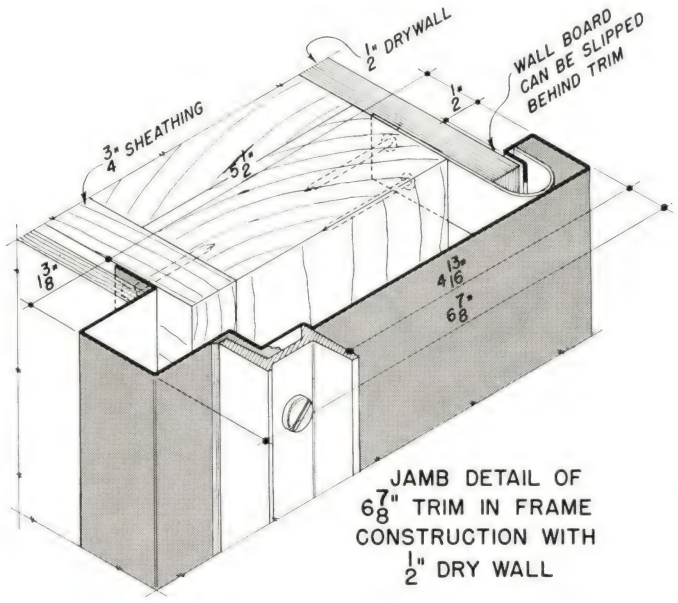
FOR USE WITH TRUSCON RESIDENTIAL STEEL CASEMENTS

Truscon's combined inside casing and outside trim is designed for use with all types of Residential Casement units including Roto, Simplex and Ranch Windows. The Complete Steel Trim eliminates the cost and labor of fitting all exterior or interior trim, stools, sills and corner beads, as well as the plastering or other finish on the interior reveals. The design forms a mould against which the siding, brick, stucco, plaster or other wall material may finish. The broad exterior lines lend depth and character to the window openings, while the interior surfaces afford a smooth, even face with ample depth for attachments of curtains and shades.

The Truscon design permits wall board to be inserted behind the trim as shown in the illustration. This eliminates the more costly method of butting the wall board to the trim.

The opening widths of the popular two, three and four light wide units work in closely with standard 16″ modular masonry units, thus permitting the masonry walls to be laid up around window openings with full and half blocks with a minimum of labor. Overall installation costs will be found well below those of conventional wood trim and plaster construction.

Formed from steel sheet, 16 gauge at sill and 18 gauge at head and jambs, and finished with Truscon's standard bonderizing and baked-on paint, frames of Complete Steel Trim are available from warehouse stock in depths of either 6⅝″ or 6⅞″ (at jambs). These depths will be found suitable for practically all types of residential wall construction, whether of brick veneer, frame, concrete block or solid masonry and with either plaster or dry wall interior finish. (See details on opposite page.) Complete Trim is also available in electro-galvanized steel at a slight extra cost, from factory only and in minimum lots of 300 units.



JAMB DETAIL OF 6 7/8" TRIM IN FRAME CONSTRUCTION WITH 1/2" DRY WALL

Complete Trim is shipped knocked down and is designed with a concealed mortise and tenon corner assembly. The trim unit is attached to the casement with self-tapping screws and an integrally rolled fin provides firm anchorage in the wall structure whether of wood or masonry construction. A buttered-on mastic seal between casement and trim is recommended for best results.

Two depths are carried in stock, 6⅝″ and 6⅞″, for use in following types of wall construction:

½″ sheathing, 3⅝″ studs, and ½″ wall board	— 6⅝″
½″ sheathing, 3⅝″ studs, and ⅜″ wall board	— 6⅝″
½″ sheathing, 3⅝″ studs, and ¾″ plaster	— 6⅝″
¾″ sheathing, 3⅝″ studs, and ½″ wall board	— 6⅞″
¾″ sheathing, 3⅝″ studs, and ⅜″ wall board	— 6⅞″
¾″ sheathing, 3⅝″ studs, and ¾″ plaster	— 6⅞″
Brick with ¾″ furring and ¾″ plaster	— 6⅝″
Brick with ¾″ furring and ½″ wall board	— 6⅞″
Concrete block with ¾″ furring and ¾″ plaster	— 6⅝″

SPECIFICATIONS

1. Specify — Complete Trim for Residential Casements as manufactured by the Truscon Steel Division, Republic Steel Corporation, Youngstown, Ohio.

2. Material — Complete Trim frames shall consist of 18 gauge head and jamb members and 16 gauge sill members. Trim shall have a nominal depth of either 6⅝″ or 6⅞″ (at jambs) and be designed to provide a complete interior and exterior metal trim around the entire window opening.

3. Construction — All members shall be accurately formed to shape with corners fitted to a hairline crack and provided with a mortise and tenon system of assembly. On the inside, the trim shall provide a flat surface for the full depth of the reveal and a flat 1″ wide trim line turned at the outer edge. On the outside, the trim shall present a square mould, shall provide an integrally formed continuous fin approximately ¾″ deep and be punched for nailing to frame construction. The sill shall be sloped to provide a wash to the outside. Ends of head and sill members shall be closed on both the inside and outside. Complete Trim shall be designed for shipment knocked down.

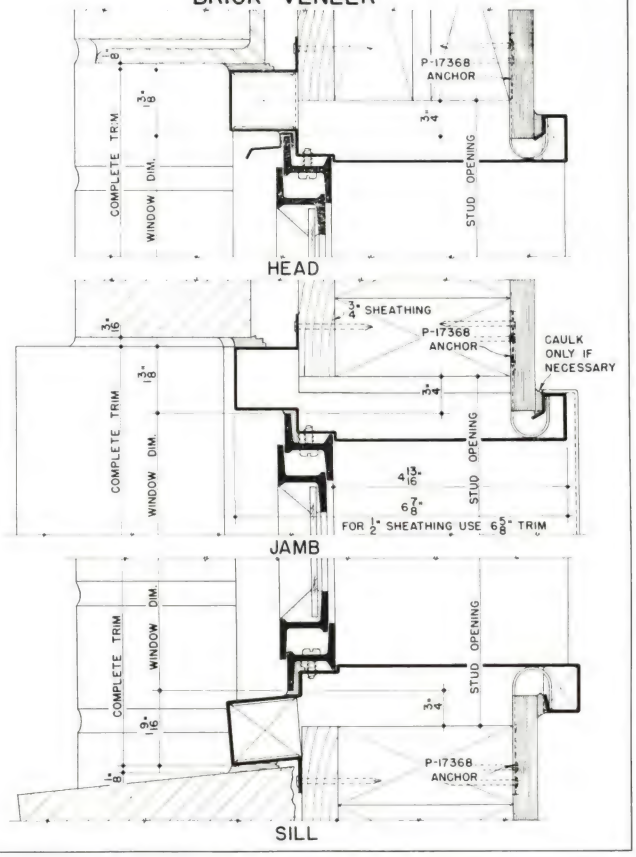
4. Shop Finish — Complete Trim shall be bonderized and given a dip coat of gray Bakelite paint, oven-baked one hour at 300 degrees Fahrenheit.

5. Assembly and Erection — Complete Trim shall be securely attached to the casements with self-tapping screws. Joints between the trim and casements shall be buttered with mastic furnished by the erector. The assemblies shall be accurately fitted, squared, the tenon ends of trim clinched and shall present a neat and workmanlike finish when set in the walls. Standard anchors shall be provided to firmly support the trim at the inside face.

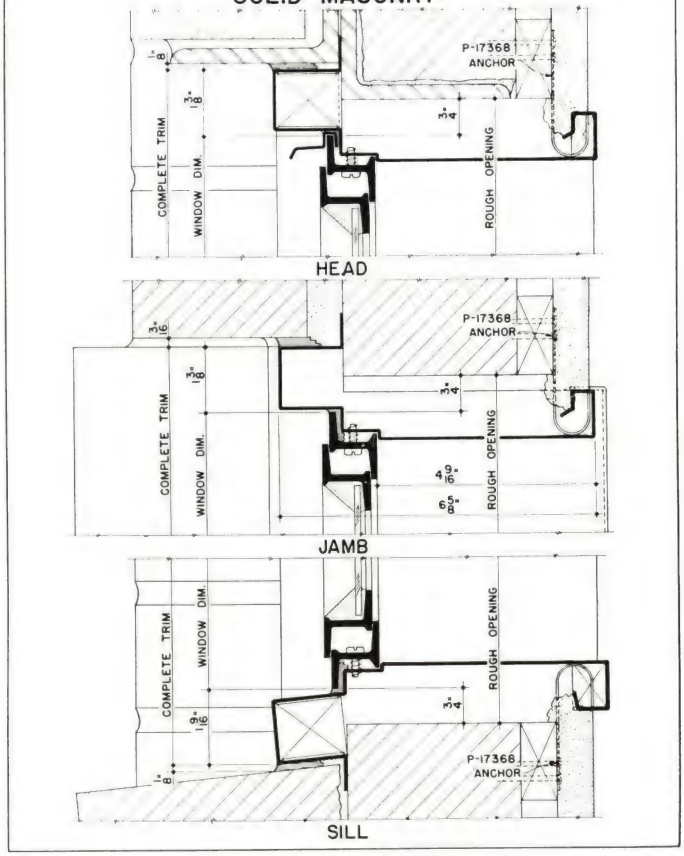
TRUSCON COMPLETE STEEL TRIM

INSTALLATION DETAILS

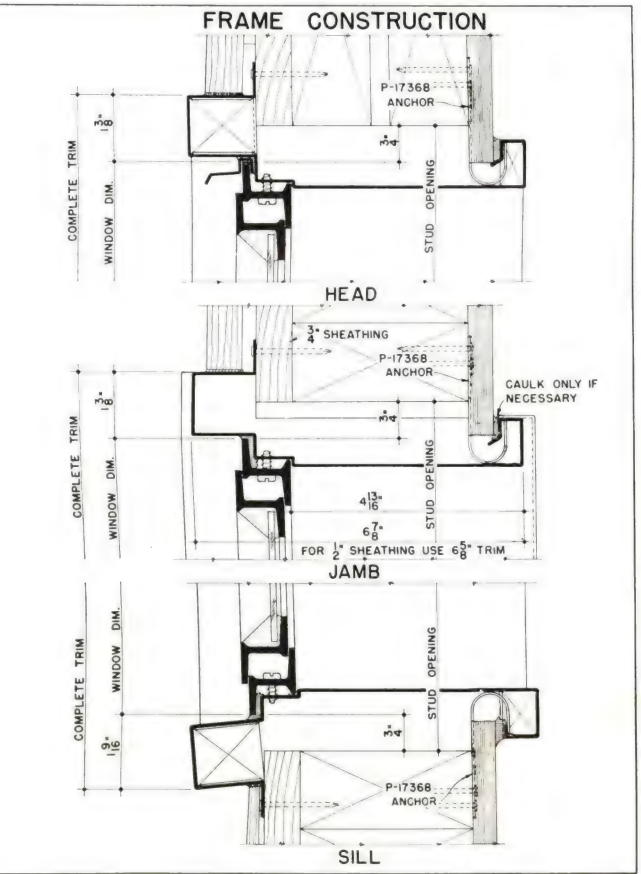
BRICK VENEER



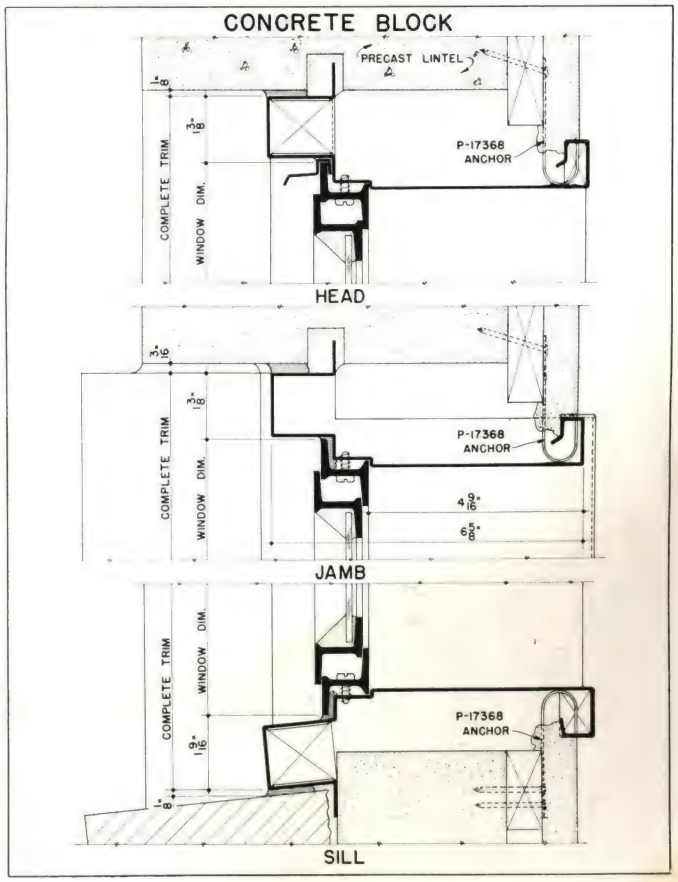
SOLID MASONRY



FRAME CONSTRUCTION



CONCRETE BLOCK



TRUSCON STEEL CASINGS

FOR USE WITH TRUSCON RESIDENTIAL STEEL CASEMENTS

Truscon STEEL CASINGS are available in depths of 4½" and 5¼" for use with any standard size Roto Casement and several width combinations thereof (see page 33 for sizes and table below for combinations). Casings may also be used with Simplex Casements and Ranch Windows, and in conjunction with steel surrounds, but they are available only on factory shipment and may be of any depth. The casings are formed from 18 gauge steel material, bonderized and painted with a baked-on Bakelite base primer.

The two depths, 4½" and 5¼", will be found to most effectively answer practically all types of residential construction. The 4½" depth is appropriate for use in frame building construction and, when used in conjunction with steel surrounds, in practically any type of residential construction. The 5¼" depth is suitable for use with brick veneer, solid masonry or concrete block wall construction. From details on the opposite page, it will be noted that the shape of *the 5¼" casing also provides a continuous anchorage and weathering fin at head and jambs,* thereby eliminating the necessity of attaching separate fins. On large projects this reduces field labor substantially.

The overall economy resulting from the use of casings arises through the elimination of the cost of furnishing and attaching corner beads and window stools, as well as plastering of the window reveals at jambs and head. In addition, maintenance costs are reduced by the avoidance of plaster repairs, particularly on rental projects.

Casings are formed accurately to size and are shipped "knocked-down". They are designed with a concealed mortise and tenon system of assembly at the corners. The casing unit is then fastened direct to the casement. When the assembly also includes surrounds, the casing is held in place by a nut applied to the screws used to attach the surround. The junction between casement and casing is weather-tight and entirely concealed. The entire assembly is securely fastened in place and built in with the progress of the wall construction.

TYPES AVAILABLE FOR ROTO CASEMENTS

Lights High	LIGHTS WIDE									
	Single Unit Openings				One Mullion Opgs.		Two Mullion Openings			
	1 Lt.	2 Lts.	3 Lts.	4 Lts.	4 Lts.	6 Lts.	4 Lts.	5 Lts.	6 Lts.	6 Lts.
2	* 12	* 22	* 32	* 42	22 — 2	33 — 2	* 121 — 2	* 131 — 2	* 141 — 2	222 — 2
3	* 13	* 23	* 33	* 43	22 — 3	33 — 3	* 121 — 3	* 131 — 3	* 141 — 3	222 — 3
4	* 14	* 24	* 34	* 44	22 — 4	33 — 4	* 121 — 4	* 131 — 4	* 141 — 4	222 — 4
5	* 15	* 25	* 35	* 45	22 — 5	33 — 5	* 121 — 5	* 131 — 5	* 141 — 5	222 — 5

* Indicates units carried in warehouse stocks.

The casing numbers shown above correspond to the casement units with which they are to be used, i.e., a 34 casing fits a type 34, 3423 or 3424 casement.

SPECIFICATIONS

1. Specify — Steel Casings as manufactured by the Truscon Steel Division, Republic Steel Corporation, Youngstown, Ohio.

2. Material — Casings shall consist of head, jambs and sill members, fabricated from 18 gauge steel material.

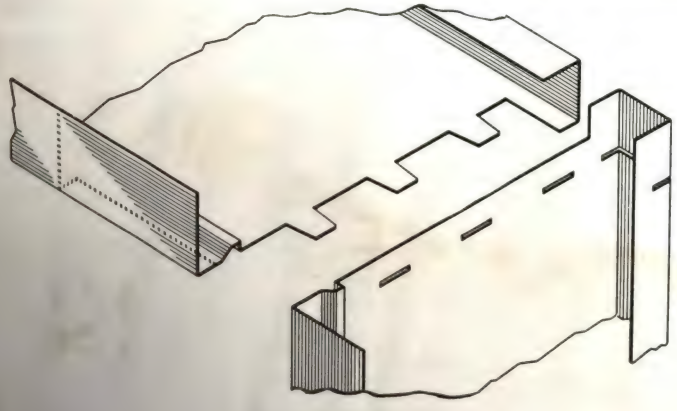
3. Construction — Casings shall provide a flat surface for the full depth of the reveal, a flat 1" wide interior trim line turned at the outer edge, and shall finish flush with the plaster. Depth of standard casings shall be 4½" or 5¼", and the latter shall be so formed as to effect a continuous weather and anchorage fin at head and jambs.

Corners shall be fitted to a hairline crack and shall be provided for a mortise and tenon system of assembly, so designed that the juncture between casement and casing is weather-tight and entirely concealed.

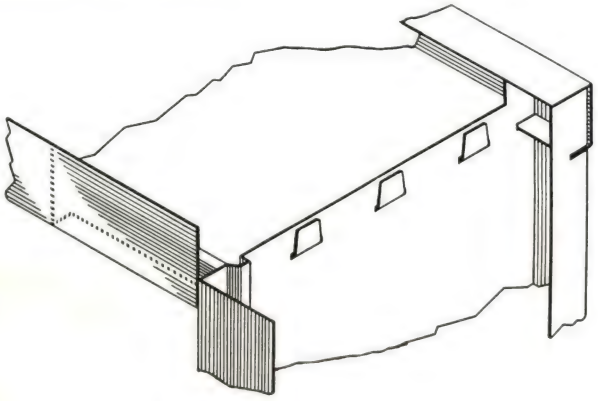
4. Shop Painting — Casings shall be bonderized and given a dip coat of gray Bakelite paint, oven-baked one hour at 300 degrees Fahrenheit.

5. Assembly and Erection — Casing shall be securely attached to the casements (and surrounds). Joints between casement and casing shall be buttered with mastic furnished by the erector. The assemblies shall be accurately fitted, squared, the tenon ends of casings clinched, and present a neat and workmanlike finish when set in the walls. Provide standard anchors to firmly support the casings at the inside face.

CASING MEMBERS AT UPPER RIGHT-HAND CORNER



Before Assembly

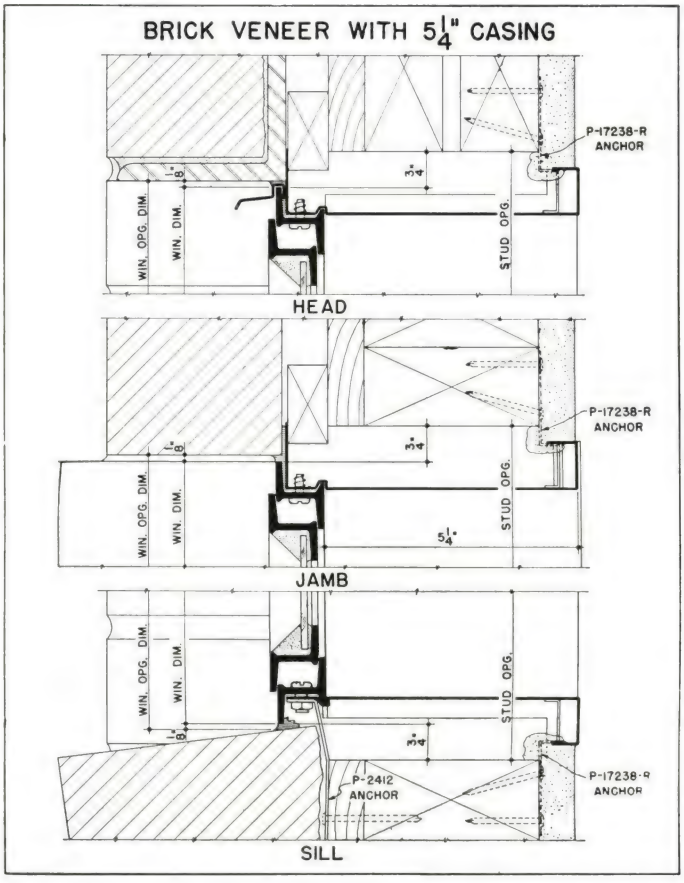


After Assembly

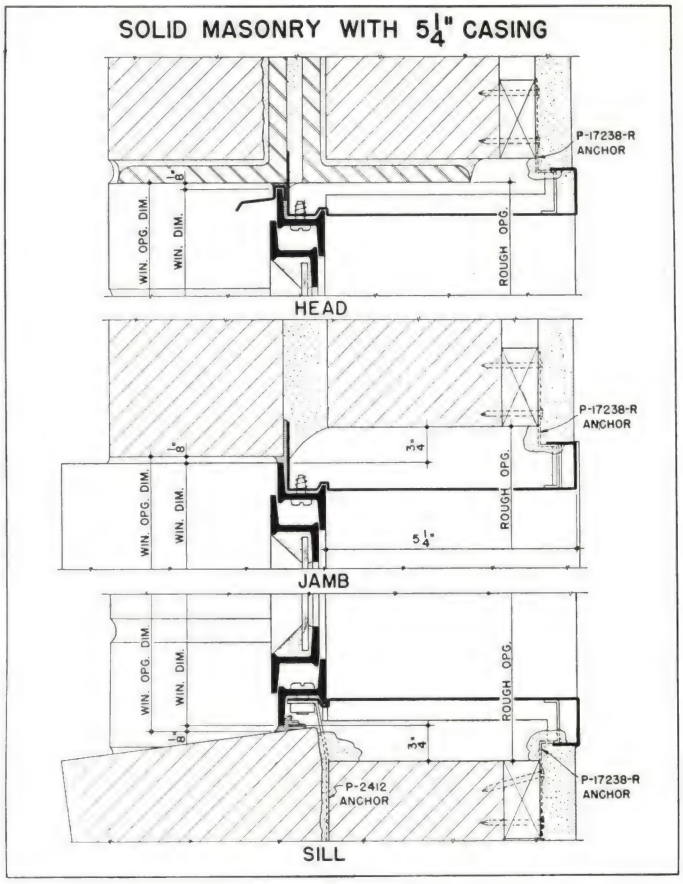
TRUSCON STEEL CASINGS — FOR TRUSCON RESIDENTIAL STEEL CASEMENTS

STEEL CASINGS—INSTALLATION DETAILS

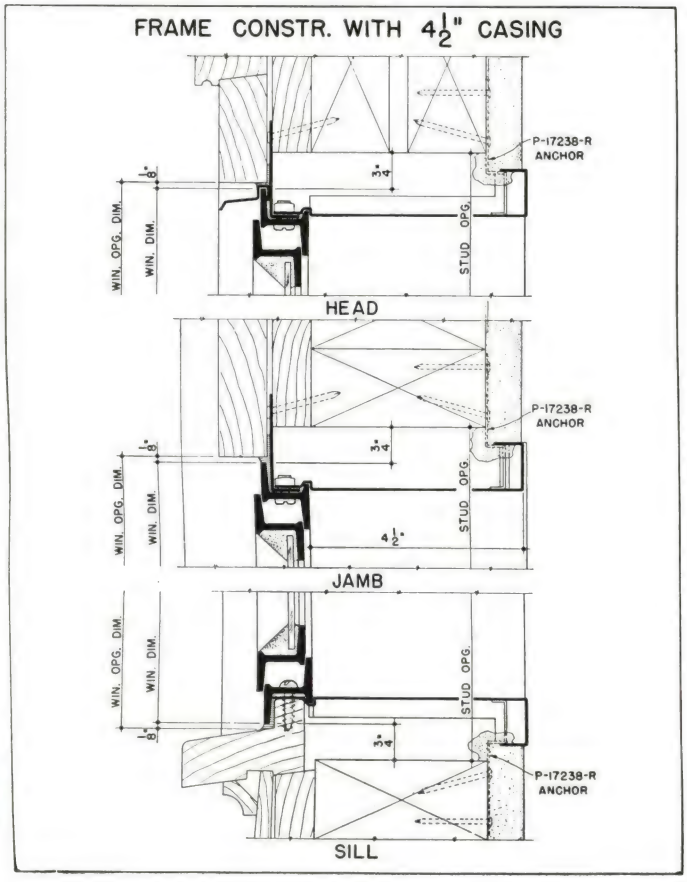
BRICK VENEER WITH 5¼" CASING



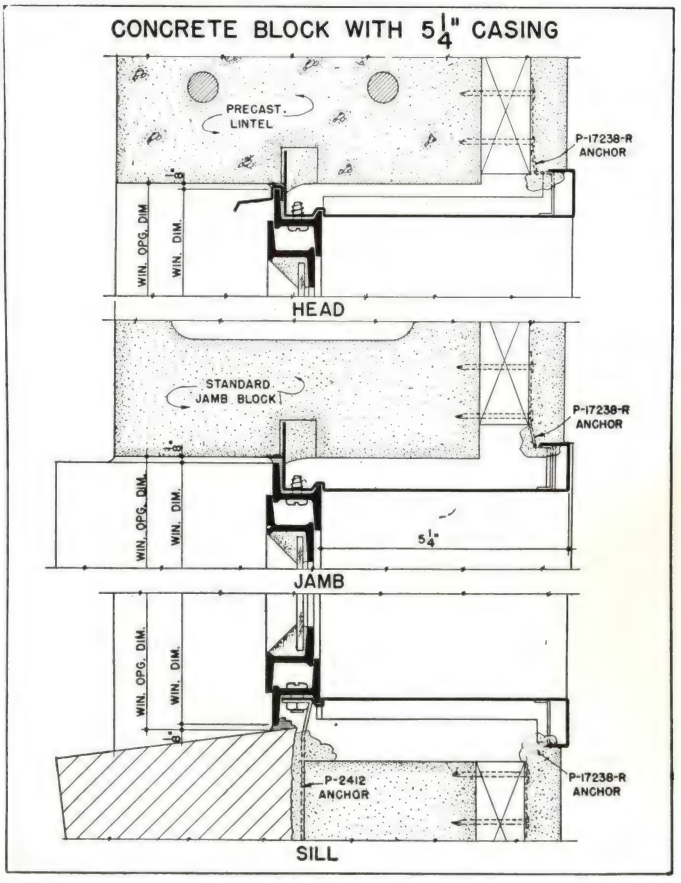
SOLID MASONRY WITH 5¼" CASING



FRAME CONSTR. WITH 4½" CASING



CONCRETE BLOCK WITH 5¼" CASING



TRUSCON FORMED STEEL SURROUNDS

FOR USE WITH TRUSCON RESIDENTIAL STEEL CASEMENTS

Truscon formed STEEL SURROUNDS are used with Roto Casements when a moulded frame effect is desired. In addition, the Steel Surround eliminates the use of wood trim when the exterior wall construction is of wood siding or shingles. The members are formed to pleasing contours designed to lend depth and character to the window appearance, while at the same time facilitating installation and anchorage. Steel surrounds are made of 18 gauge electro-galvanized steel and are bonderized and shop painted with a high quality baked-on primer. They may also be used with Simplex Casements and Ranch Windows but are available on factory shipment only.

Of particular interest to builders in concrete block or similar standard masonry units are the resultant modular dimensional opening widths when steel surrounds are used with the popular two, three and four light wide casements. The width dimensions of 3′-4″, 4′-8⅛″ and 6′-0⅜″ work in closely with standard 16″ modular masonry units, thus permitting the masonry walls to be laid up around window openings with full blocks and half-blocks with a minimum of labor.

Truscon formed steel surrounds are designed for shipment knocked down, permitting assembly and attachment in warehouse or at job site. The corners are accurately coped to present neat joints and the surround members are conveniently bolted to the casement. The use of mastic to effectively seal the joint between window frame members and surround provides a weathertight barrier around the entire perimeter of the window assembly. An integrally rolled fin affords firm anchorage in the window opening, whether of wood frame, brick veneer or solid masonry construction.



Outside view showing top right hand corner assembly.



Outside view showing lower right hand corner assembly.

SPECIFICATIONS

1. Specify — Formed Steel Surrounds for Residential Casements as manufactured by the Truscon Steel Division, Republic Steel Corporation, Youngstown, Ohio.

2. Material — Surrounds shall consist of head, jambs and sill members, fabricated from 18 gauge electro-galvanized steel sheets.

3. Construction — Surrounds shall be designed for shipment knocked down and field attachment to casements with bolts. All members shall be accurately cold formed to shape. Head and jamb members shall have a moulded reveal approximately 1″ deep and 1½″ wide and the sill member shall be box shaped and of such form as to provide a wash to the outside. Connections with the rough window opening shall be effected by means of an integrally rolled continuous fin, approximately ¾″ deep and punched for nailing to frame construction. Where vertical mullions occur in openings up to six lights in width, the head and sill members shall extend continuously from jamb to jamb without joints or splices. Surround members shall have ends accurately coped and cut to present neat corners and joints in the completed assembly. Ends of the sill member shall be closed.

4. Shop Painting — All surrounds shall be bonderized and given a dip coat of gray Bakelite paint, oven-baked one hour at 300 degrees Fahrenheit.

5. Assembly — Prior to attachment of surround members to casements, sufficient mastic cement shall be applied the full length of each joint to provide a weathertight seal between surround and casement. Attachment shall be securely effected by bolting and the excess mastic removed. Corner joints of surrounds shall be carefully fitted and the entire assembly shall present a neat and workmanlike finish.

TYPES AND SIZES

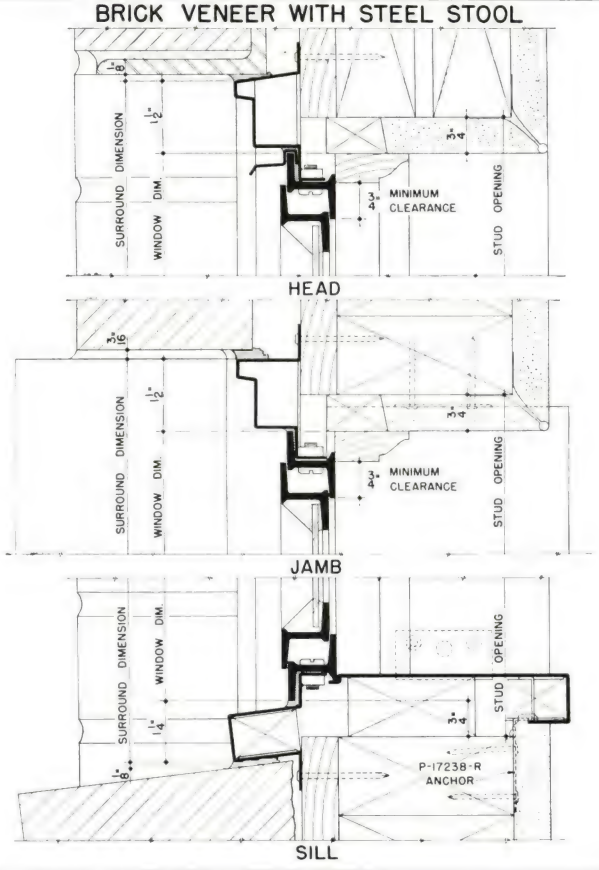
Heights	Widths			
	Single Unit Openings			
	1′-10⅛″	3′-4″	4′-8⅛″	6′-0⅜″
2′-4¾″	* 1 — 2	* 2 — 2	* 3 — 2	* 4 — 2
3′-5⅛″	* 1 — 3	* 2 — 3	* 3 — 3	* 4 — 3
4′-5⅜″	* 1 — 4	* 2 — 4	* 3 — 4	* 4 — 4
5′-5¾″	* 1 — 5	* 2 — 5	* 3 — 5	* 4 — 5
	One Mullion Openings			
	6′-5″	9′-1¼″		
2′-4¾″	22 — 2	33 — 2		
3′-5⅛″	22 — 3	33 — 3		
4′-5⅜″	22 — 4	33 — 4		
5′-5¾″	22 — 5	33 — 5		
	Two Mullion Openings			
	6′-6¼″	7′-10⅜″	9′-2⅝″	9′-6″
2′-4¾″	* 121 — 2	* 131 — 2	* 141 — 2	222 — 2
3′-5⅛″	* 121 — 3	* 131 — 3	* 141 — 3	222 — 3
4′-5⅛″	* 121 — 4	* 131 — 4	* 141 — 4	222 — 4
5′-5¾″	* 121 — 5	* 131 — 5	* 141 — 5	222 — 5

* Warehouse stock types.
Surround dimensions shown — see details.

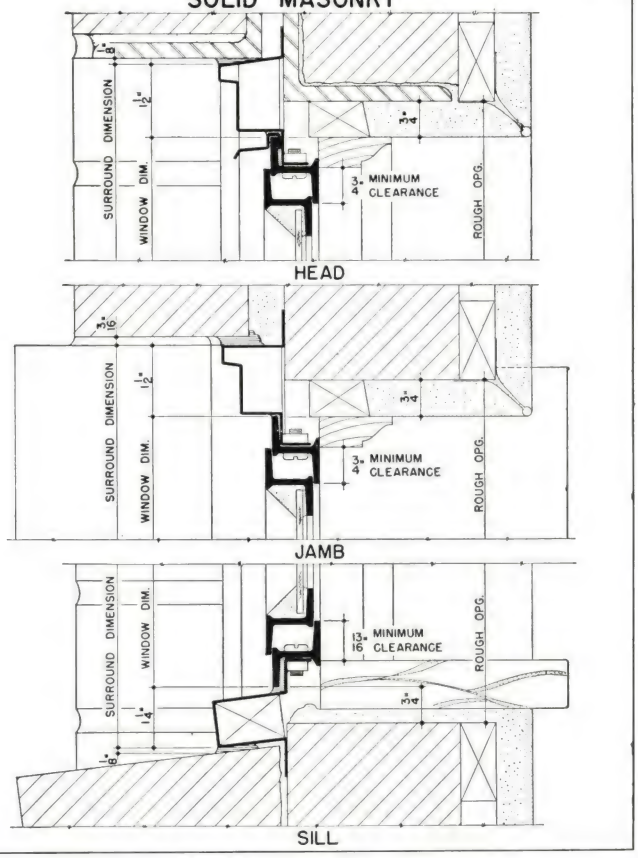
TRUSCON FORMED STEEL SURROUNDS

INSTALLATION DETAILS

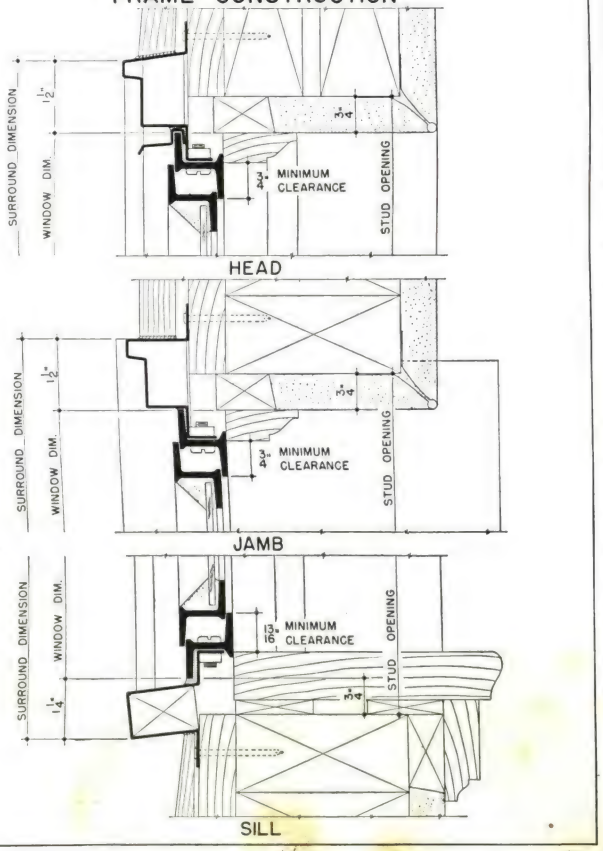
BRICK VENEER WITH STEEL STOOL



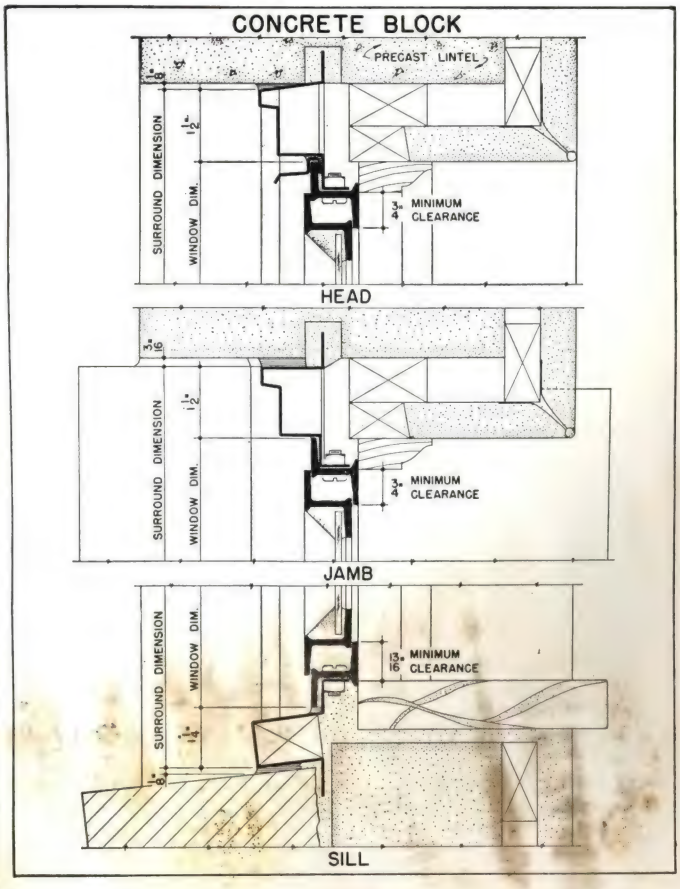
SOLID MASONRY



FRAME CONSTRUCTION



CONCRETE BLOCK



TRUSCON RESIDENTIAL STEEL CASEMENTS — SERIES 5

SPECIFICATIONS

1. Specify — Residential Steel Casements as manufactured by Truscon Steel Division, Republic Steel Corporation, Youngstown, Ohio.

2. Material — All members shall be low carbon, new billet hot rolled steel. Frame, ventilator and meeting rail sections shall be not less than 1″ in depth nor 1/8″ in thickness. Muntins shall be 7/8″ x 5/8″ tee bars.

3. Construction — Windows shall be constructed for exterior putty glazing. Corners of frames and vents shall be mitered and electrically butt welded with exposed surfaces ground smooth. Muntins shall be attached to frame or vent members by means of mortise and tenon joints and air hammer riveted. Muntin intersections shall be of interlocking design with flush interior surfaces.

Provide head drips over casement vents. Where necessary, vertical mullions and masonry fins (or long-leg frame section for Simplex Casements) shall be furnished. Mullions shall be a formed channel section and shall tightly connect adjoining window units.

Roto Casements shall be tapped to receive screens and storm sash, and Ranch Windows to receive screens.

4. Roto Casement Vents — Shall be side hinged to open out and shall be hung on two extension free-swinging hinges. The hinges shall be blanked from 3/16″ thick steel plates and shall be welded to frame and vent members. Hinges shall have bronze to steel contact surfaces throughout. Hinge pins to be steel, rust-proofed. Double, full contact weathering shall be provided between vents and frames around the entire perimeter of each vent.

Each vent shall be equipped with a locking handle and sill operator, both having a bronze lacquer finish, and designed to control the vents independently of the screens. The sill operator shall be the worm drive Roto type with stainless steel arm guide. Locking handle shall engage with a concealed keeper attached to vent and shall have cam action. (Locking handles and operators are packed and shipped loose to prevent damage.) Removable stool gauges shall be shipped fastened to operator attachment holes to determine proper height of stool tops for clearance of sill operators.

5. Simplex Casement Vents — Shall be side hinged to open out and shall be hung on two friction type extension hinges. The hinges shall be blanked from 3/16″ thick steel plates and shall be welded to frame and vent members. They shall have bronze to steel contact surfaces throughout with rust-proofed steel hinge pins and shall be adjustable for friction or wear so as to hold the vent firmly open at any desired angle. Vents shall be equipped with a solid bronze cam acting locking handle. Handles shall be designed for secure attachment to ventilators and shall effect tight closure of vents when locked.

6. Sill Vents — Shall be hinged at bottom to tilt in at top and the framing members shall be integral with entire window unit in which the sill vent is hung. Provide two substantial steel butt hinges with 3/16″ brass hinge pins, located approximately 4″ from vent corners. Concealed, adjustable friction side arms shall be installed at sides of ventilator, holding vent firmly in open positions. Provide a solid bronze cam acting locking handle for each vent. Design, finish and attachment of the handle shall match that furnished for Simplex Casement Vents, and shall tightly close the vents when locked.

7. Ranch Window Vents — Shall be top hinged to swing out and shall be hung on two substantial steel butt hinges with 3/16″ brass hinge-pins. Hardware shall include a solid bronze cam acting locking handle and a concealed sliding type, adjustable friction stay at each jamb. Vents shall bed snugly around their entire perimeter.

8. Screens — Frame members shall be of steel, cold formed to channel shape. The splines shall be of No. 5 steel wire rods and the screen cloth of bronze or galvanized steel woven to 18 x 14 mesh.

Frame section shall be made from one continuous piece with corners mitered and folded and the joint welded. Edges over which the screen cloth is turned shall be well rounded. The screen cloth shall be secured to the frames and held taut by the wedging action between spline and frame. Frames and splines shall be bonderized and given one shop coat of gray Bakelite enamel, oven-baked.

Screens shall effectively bar passage of insects to interior of building through the window ventilator, shall fit closely and neatly around the entire perimeter of the ventilators, and shall be rewirable, easily removable, and interchangeable for ventilators of the same size and type. Furnish and provide for all necessary hardware — clips, bolts, screws — for a secure and insect-proof attachment to window.

Roto Casement Vents shall have a separate fixed type furnished for each vent. The screens shall be attached to the inside of the window and shall permit access to the locking handle and operator without removal or opening of the screen.

Simplex Casement Vents shall have wicket type screens providing a horizontal sliding screen panel for access to the casement locking handles and so designed as to afford ample arm room for operating the casement vent and permit closing of the wicket when ventilator is shut. Screens shall be attached to the inside of the windows. Sill Vents shall have a fixed screen attached to the outside of the window but removable from the inside.

Ranch House Windows shall have vents equipped with wicket type screens providing a vertical sliding screen panel for access to the locking handles and so designed as to afford ample arm room for operating the vent and permit closing of the wicket when ventilator is shut. Screens shall be attached to the inside face of the windows.

9. Complete Trim, Casings and Surrounds — Refer to pages 40, 42 and 44, respectively, for specifications.

10. Shop Finish — Windows shall be bonderized and finished with a dip coat of gray Bakelite paint, oven-baked for one hour at 300 degrees Fahrenheit.

11. Erection — Windows shall be set plumb and true in openings and all vents shall be carefully adjusted to insure proper alignment of vent and continuous weathering contacts before glazing. Contacts between windows and adjacent steel, including mullions, shall be sealed with mastic furnished and applied by the erector.



Cabana Lodge, Yakima, Wash.
Omer Strom, Builder



McConaughy Terrace Housing Project, New Haven, Conn.
Douglas Orr, Archt.; Fusco-Amatruda, Contr.

TRUSCON STEEL ARCHITECTURAL PROJECTED WINDOWS



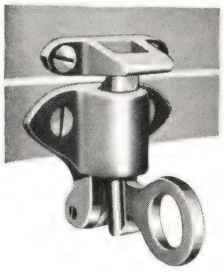
Architectural Projected Window



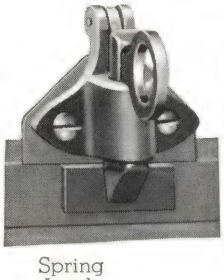
Pasadena School, Pasadena, Texas
Lloyd & Morgan, Archt.; Robert Nesmith, Contr.



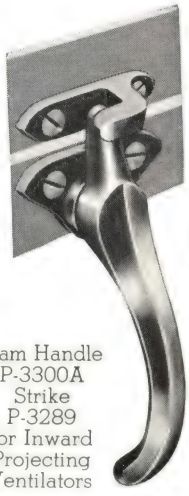
Cam Handle
P-3301A
for Outward Projecting
Ventilators



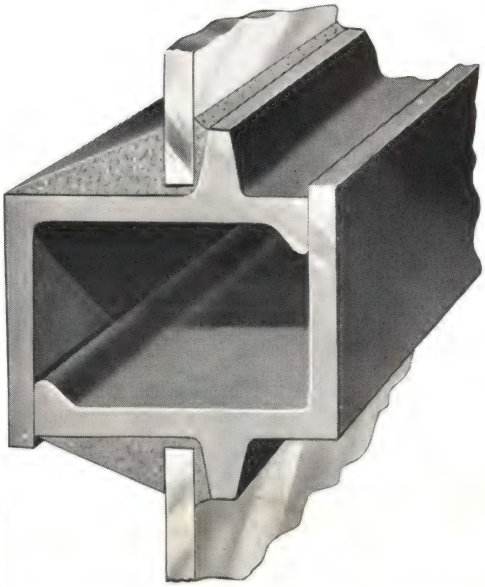
Spring
Latch
P-3461A
for Inward
Projecting
Pole
Operated
Vents
out of
reach
from
floor



Spring
Latch
SP-3461A
for Outward
Projecting
Vents out of
reach from
floor



Cam Handle
P-3300A
Strike
P-3289
for Inward
Projecting
Ventilators



NOTE: Full size section showing casement type weathering contacts, an exclusive Truscon feature on windows of this classification.

Truscon Architectural Projected Steel Windows are especially recommended for use in any building where ample ventilation and freedom from drafts are important considerations. Outward projecting ventilators may be kept open during inclement weather; the ventilator acting as a canopy to deflect the rain and yet allow ventilation. The lower, inward projecting ventilator prevents drafts by deflecting air currents towards the ceiling. Projected ventilators permit easy cleaning from the inside. Rigidity in even the largest ventilators is insured by the use of a heavy one-piece casement type vent frame section, mortised and tenoned and welded at the corners. Windows are designed for outside putty glazing as standard. Underwriters' type must be inside angle glazed.

The integral baffles in Truscon's design of special hot rolled sections eliminate the uncertain weathering contacts characteristic of the usual steel window shapes, thus reducing air infiltration to a minimum.

Solid bronze hardware is standard. Wicket screens may be used on any open-out vent furnished with standard cam handle. Open-in vents are furnished with flat screens.

TRUSCON STEEL ARCHITECTURAL PROJECTED WINDOWS

TYPES AND SIZES

NOTES

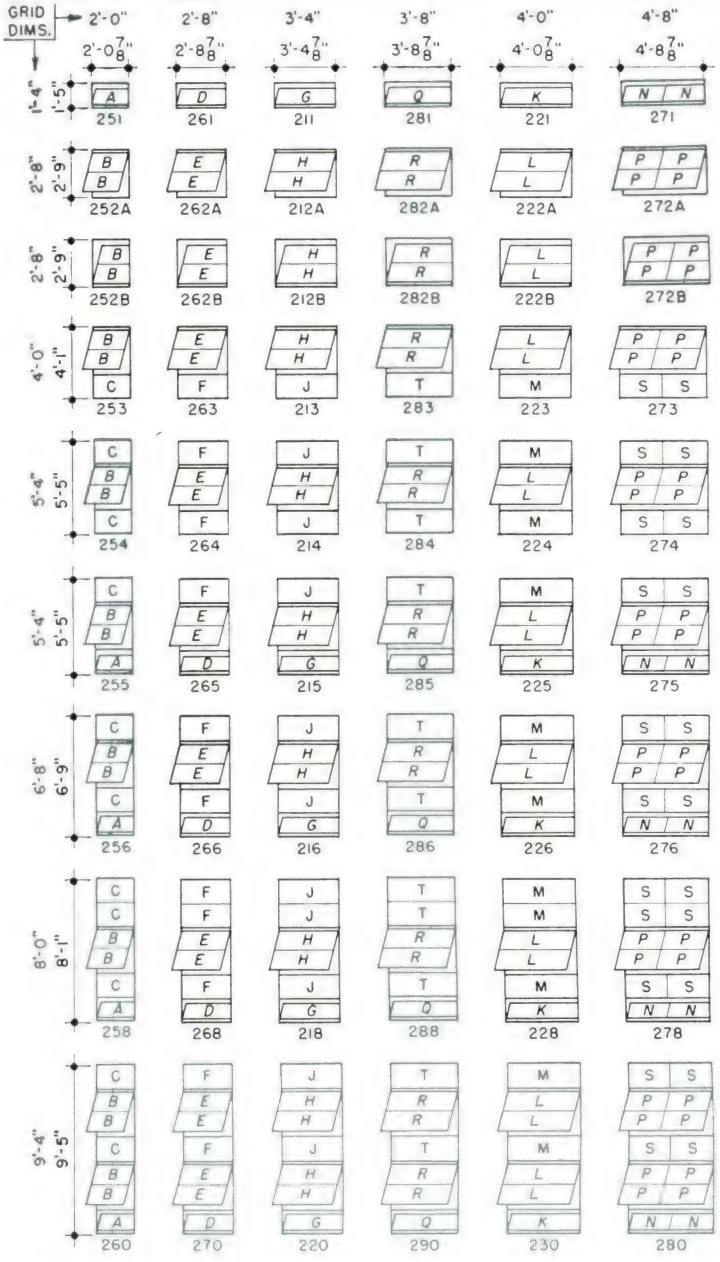
- DIMENSIONS SHOWN IN BLACK ARE WINDOW OPENING DIMENSIONS.
- WINDOWS ARE SHOWN AS VIEWED FROM THE OUTSIDE.
- FIXED UNITS IN ALL SIZES SHOWN ARE AVAILABLE ON FACTORY ORDER.
- **WAREHOUSE TYPES** INCLUDE ONLY UNITS PRINTED IN BLACK WITH VENTILATOR SWING EXACTLY AS SHOWN, AND EQUIPPED WITH HARDWARE CONSISTING OF CAM-ACTING LOCKING HANDLES FOR OPEN-OUT VENTS AND EITHER CAM-ACTING LOCKING HANDLES OR SPRING LATCHES FOR OPEN-IN VENTS. THESE UNITS ARE PREPARED FOR INTERIOR WICKET SCREENS ON OPEN-OUT VENTS, AND EXTERIOR FIXED SCREENS ON OPEN-IN VENTS.
- **FACTORY SHIPMENT TYPES** INCLUDE ALL WINDOWS SHOWN ON THIS PAGE. THEY MAY BE ORDERED TO HAVE THE SAME SCREENS AND HARDWARE AS WAREHOUSE TYPES, OR OPEN-OUT VENTS MAY BE ORDERED WITH SPRING LATCHES. OPEN-OUT VENTS MAY ALSO BE ORDERED FOR EQUIPMENT WITH FIXED INTERIOR SCREENS AND PUSH BARS.

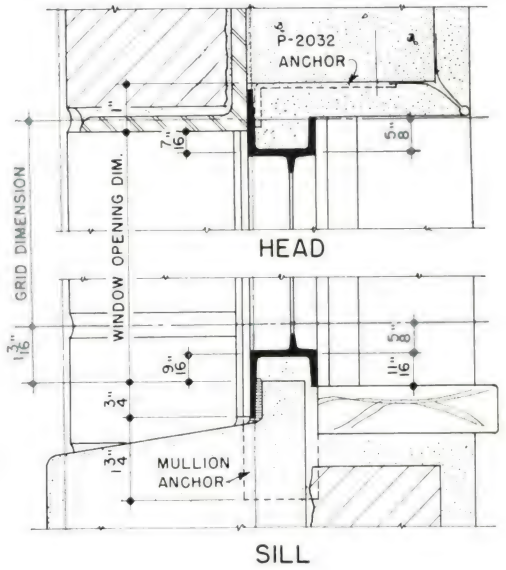
SCHEDULE OF GLASS SIZES

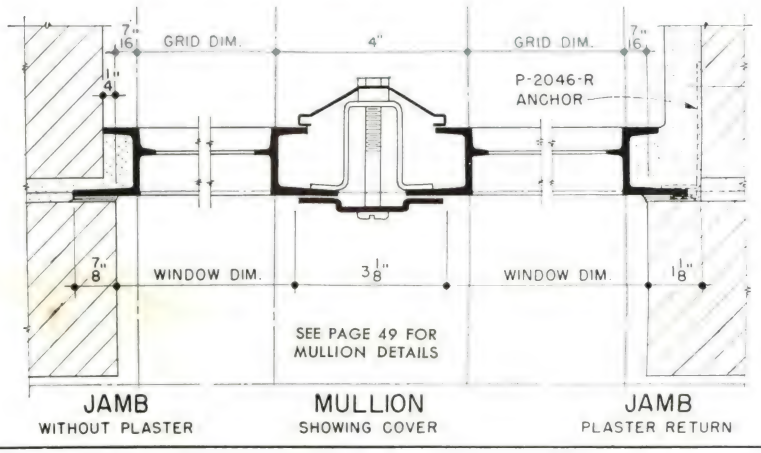
MARK	GLASS SIZE	MARK	GLASS SIZE
A	21 5/8" X 13 5/8"	K	45 5/8" X 13 5/8"
B	21 5/8" X 14 5/8"	L	45 5/8" X 14 5/8"
C	23 5/8" X 15 5/8"	M	47 5/8" X 15 5/8"
D	29 5/8" X 13 5/8"	N	26 5/8" X 13 5/8"
E	29 5/8" X 14 5/8"	P	26 5/8" X 14 5/8"
F	31 5/8" X 15 5/8"	Q	41 5/8" X 13 5/8"
G	37 5/8" X 13 5/8"	R	41 5/8" X 14 5/8"
H	37 5/8" X 14 5/8"	S	27 5/8" X 15 5/8"
J	39 5/8" X 15 5/8"	T	43 5/8" X 15 5/8"

NOTE

- TOTAL OPENING WIDTHS OF MULTIPLE UNIT OPENINGS MAY BE SPEEDILY DETERMINED BY USING GRID DIMENSIONS OF WINDOWS (SHOWN IN COLOR AT RIGHT) AND MULLIONS (4") AND ADDING 7/8" TO TOTAL GRID WIDTH FOR NECESSARY CLEARANCE AT JAMBS.







TRUSCON STEEL ARCHITECTURAL PROJECTED WINDOWS

SPECIFICATIONS

1. Specify — Architectural Projected Steel Windows as manufactured by Truscon Steel Division, Republic Steel Corporation, Youngstown, Ohio.

2. Material and Construction — All members shall be made from new billet steel. Frame section shall be a heavy unequal leg channel not less than 1 7/16" deep. Ventilator sections shall be of one piece hot rolled angle shapes, not less than 1 9/16" deep, with integral weathering baffle providing closure contact with the frame member not less than 1/4" in contact width. All joints shall be mortised and tenoned and air hammer riveted. In addition, all frame and ventilator corners shall be welded. Double flat contact weathering shall be provided on all four sides of the ventilator. Ventilators shall be balanced on two 3/4" x 3/16" steel arms riveted to ventilator and frame. Rivet holes shall have brass flange bushings. Uniform tension to hold ventilators in an open position shall be obtained by two sliding friction shoes of forged bronze with compression spring enclosed in steel tubing. The sides of the frame shall act as guides for the sliding friction shoes. Windows shall be designed for **outside** glazing with wire glazing clips and steel window putty or glazing compound.

3. Unattached Hardware — Hardware shall be solid bronze, rough finished. Cam handle with strike, and pole ring shall be furnished for outward projecting ventilators; cam handle with keeper for inward projecting. Pole operated spring latches shall be furnished in place of cam handles for all ventilators not within reach of floor. (Underscreen push bar to open or close the ventilator without moving the screen will be furnished for outward projecting ventilators when so specified and at extra cost.)

4. Vertical Mullions and Covers — Standard vertical mullions and covers, where required, shall tightly connect adjacent window units with secure and weathertight joints. Mullions shall consist of an exterior crimped plate rigidly clamped at 16" centers by machine bolts to interior channel clips (for windows 7'-0" or less in height) or to a continuous "U" shaped section (for windows over 7'-0" in height).

Covers shall be a formed plate tightly bolted to the mullion and shall completely close the interior recesses between window jamb.

5. Shop Painting — All windows shall be bonderized and given a dip coat of gray Bakelite paint, oven-baked for one hour at 300 degrees Fahrenheit.

6. Erection — Windows shall be set plumb and true in openings. The joint between the window frame and masonry shall be carefully caulked by caulking contractor. Contacts between windows and adjacent steel, including mullions, shall be sealed with mastic furnished and applied by the erector. All ventilators shall be adjusted before glazing. Hardware shall be attached after glazing and field painting.

7. Glazing — Windows shall be glazed on the **outside.** Glass shall be bedded with steel window putty, held in place by wire glazing clips, and face puttied to a neat trim line. All glazing materials, including glazing clips, furnished by others.

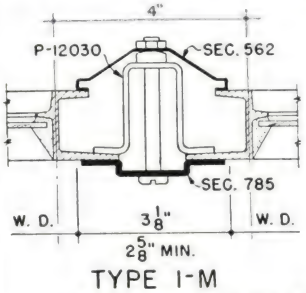
8. Windows with Underwriters' Labels — (National Board of Fire Underwriters.) The same specifications as outlined above, but with the following limitations, apply to windows with Underwriters' label of approval: Windows must be inside angle glazed. Hardware must be malleable iron or steel. Individual glass lights must not exceed 54" in height, 48" in width, nor 350 square inches in exposed area.

MULLION AND COVERS

COVERS FURNISHED ONLY WHEN SPECIFIED
SEE PAGE 57 FOR SILL ANCHORAGE

MODULAR MULLIONS

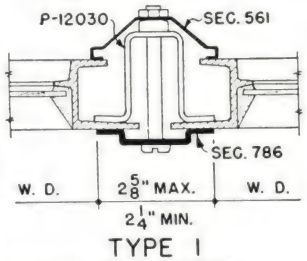
BASED UPON A 4" GRID DIMENSION, MULTIPLE UNIT OPENINGS ARE ALWAYS MODULAR IN WIDTH.



TYPE 1-M

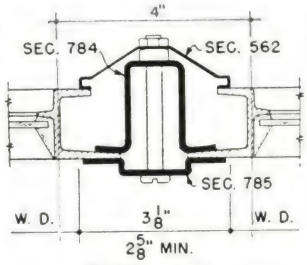
SPECIAL MULLIONS

AVAILABLE FROM FACTORY ON SPECIAL ORDER ONLY.
SPECIAL DESIGN COVERS REQUIRED WHEN MULLION DIMENSION IS LESS THAN 2 3/8".

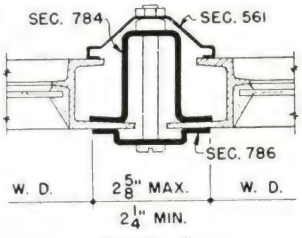


TYPE 1

FOR WINDOWS UP TO AND INCLUDING 6'-9" IN HEIGHT



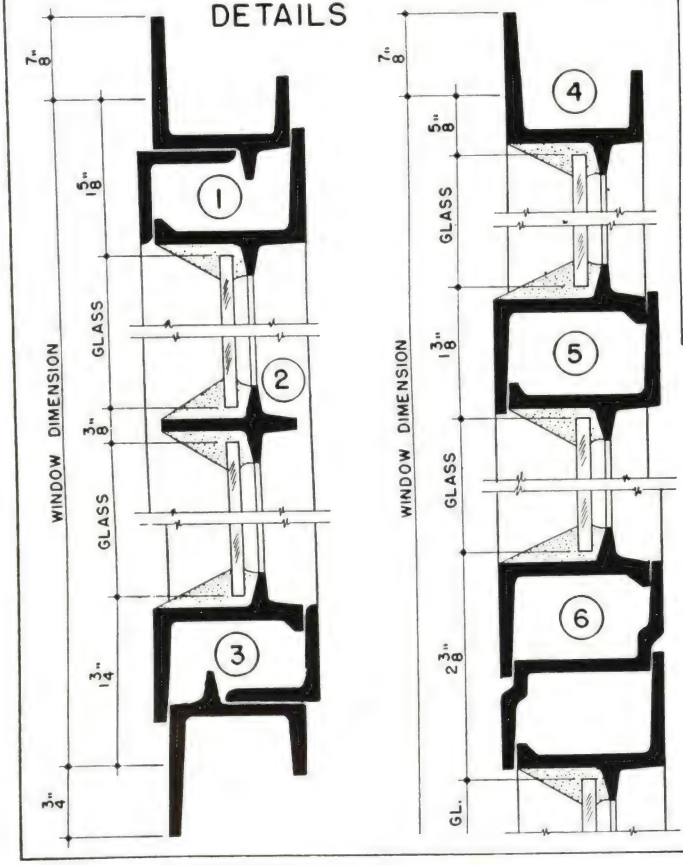
TYPE 2-M

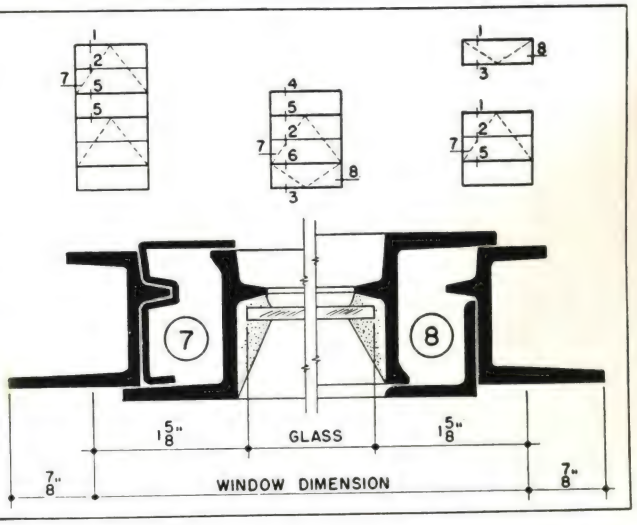


TYPE 2

FOR WINDOWS OVER 6'-9" IN HEIGHT

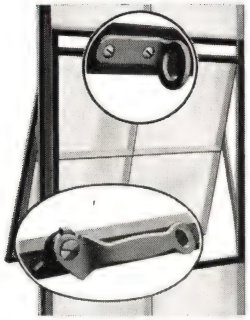
DETAILS



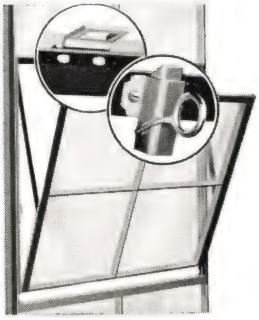


TRUSCON STEEL INDUSTRIAL WINDOWS

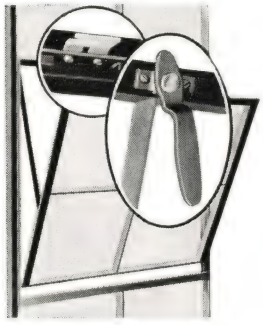
COMMERCIAL PROJECTED



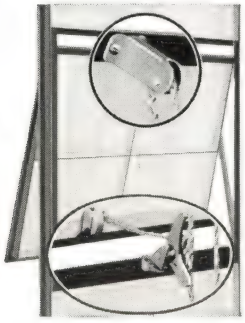
SET 200
Hand or Pole Operation
for Outward Projecting Ventilator



SET 203
Hand or Pole Operation
for Inward Projecting Ventilator



SET 209
Hand Operation
for Inward Projecting Ventilator



SET 201
Spring Latch and Chain
for Outward Projecting Ventilator
(Set 201 will be furnished at extra cost)



A. O. Smith Co., Pipe Mill, Houston, Texas; The Austin Co., Designer & Builders.

In the projecting type window, the ventilator, when open, does not extend beyond one face of the window plane. Projecting outward ventilators do not extend inside the window, while projecting inward ventilators do not extend outside the window. Projecting outward ventilators are used where it is necessary to have free aisle space along the window wall, where shading is important, or where pipes, conduits, racks, etc., pass across the ventilator. Projecting inward ventilators are used when the building is close to the property line or when economical screening is required. Both types of ventilators permit cleaning of the outside of the glass from within. Ventilators are held in any desired open position by forged brass sliding friction shoes.

(See page 52 for types and sizes, page 53 for notes)

SCREENS

Commercial Projected Windows may be simply and economically screened. Inward projecting ventilators are screened on the exterior side. For outward projecting ventilators, screens and hardware of two designs are available.

The Truscon wicket screen is tightly fastened to the window with four screws. The hinged wicket, built into the screen, allows plenty of room for the hand and arm to pass through, to open or close the window. Wicket screens cannot be used for ventilators beyond the reach of the floor.

Fixed screens with a push bar operating underneath the screen are also available for project-out vents at extra cost. However, stock type windows cannot be so equipped as the windows must be specially prepared for the hardware. This design affords operation of the vent without touching the screen.

Projecting inward ventilators with fixed screens on the outside are recommended for all openings beyond reach of the floor and where conditions demand that no portion of the screen, however small, be opened when opening or closing windows.

EXPLOSION TYPE HARDWARE

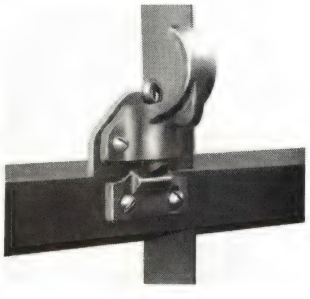
Explosion type hardware conforming to specifications of Associated Factory Mutual Fire Insurance Companies can be furnished at slightly increased cost over standard hardware for outward projecting ventilators. This hardware allows the ventilator to open automatically in case of explosion.



Left:
Explosion Latch
P-11052
Chain Operated

—

Right:
Explosion Latch
P-1884
Hand or Pole
Operated



TRUSCON STEEL INDUSTRIAL WINDOWS

PIVOTED

Pivoted Windows are the low cost type predominantly used in industrial buildings. Although Truscon's product is priced with the lowest, every worthwhile feature of design and construction has been included to make the window sturdy, long lasting, weathertight, and easy to operate.

Ventilators are pivoted 2" above the center line to swing in at the top and out at the bottom. Double contact weathering is provided all around, and hardware, though inexpensive, is rugged and positive in action.

As the ventilators are almost balanced and free of friction, Pivoted Windows are ideally suited for group operation of long runs and large bays by a single control mechanical operator. This feature finds wide use in large industrial plants, power houses, etc.

Screening of Pivoted Windows is difficult and complicated. When screened openings are required, we recommend the use of Commercial Projected Windows.

(See page 53 for types and sizes and for notes)

CAM ACTING PUSH BAR

Cam acting push bar hardware is furnished when the ventilator is within easy reach of the floor. The push bar is used for holding the ventilator open in any desired position and also for locking the ventilator. By folding the push bar back against the window and engaging it in the cleat, the ventilator is drawn up weathertight and locked. Unless otherwise specified, push bar hardware will always be furnished.

SPRING LATCH AND CHAIN

Spring latch and chain hardware is furnished when the ventilator is not within easy reach of the floor. A slight pull on the chain, which passes through the roller bracket fastened to the top of the ventilator, releases the latch and opens the ventilator. The ventilator is held open in any position by fastening the chain into the chain hook. Ventilators close and lock by gravity when the chain is disengaged. (In ordering, always advise the sill height above the floor, so that correct amount of chain and correct type of chain hook may be supplied.)

CAM LATCH AND CHAIN

Cam latch and chain hardware will be furnished only when orders specifically ask for it. This hardware is an alternate to standard spring latch and chain.

UNVENTILATED (FIXED) UNITS

"Fixed" Industrial Windows are available for use in conjunction with ventilated Industrial Windows, or they may be used alone where desired. Identical in design and construction, fixed units find their greatest application in locations where maximum ventilation is unnecessary or where interference with columns, cross-bracing, etc., preclude the use of a vented unit.

(See page 53 for types and sizes and for notes)

UNDERWRITERS' LABELED UNITS

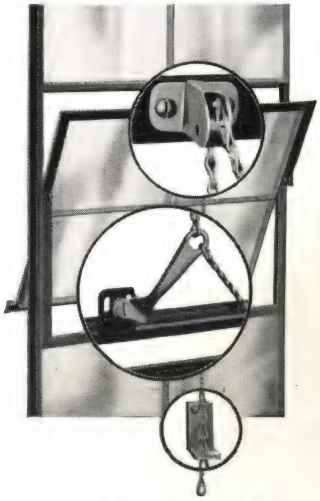
Industrial Windows may be manufactured, within certain limitations, to carry the label of approval of the National Board of Fire Underwriters. The principal requirement is the use of continuous glazing angles and with a maximum exposed glass area of 350 sq. in. per light. For other limitations, refer to specifications.



PUSH BAR HARDWARE
For Ventilator within reach of floor
Sets 10, 13, 16, 19, 22 and 25
(Push Bar Lengths)



SPRING LATCH HARDWARE
For Ventilator not within reach of floor
Set 1 with Vent Sill Chain Hook
Set 2 with Muntin Chain Hook
Set 3 with Wall Chain Hook

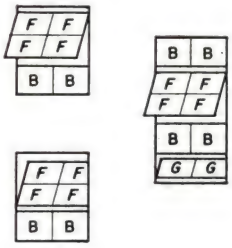


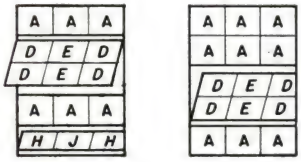
CAM LATCH HARDWARE
For Ventilator not within reach of floor
Set 5 with Wall Chain Hook
Set 7 with Vent Sill Chain Hook
Set 9 with Muntin Chain Hook

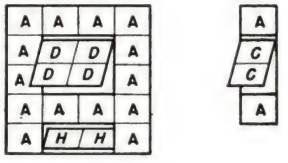
TRUSCON STEEL INDUSTRIAL WINDOWS

COMMERCIAL PROJECTED - TYPES AND SIZES

- UNITS SHOWN IN BLACK ARE CARRIED IN WAREHOUSE STOCKS.
- * THESE WINDOWS ALSO MAY BE OBTAINED FROM WAREHOUSE WITH VENTILATORS PROJECTING UP AND IN.
- DIMENSIONS SHOWN IN BLACK ARE WINDOW OPENING DIMENSIONS.

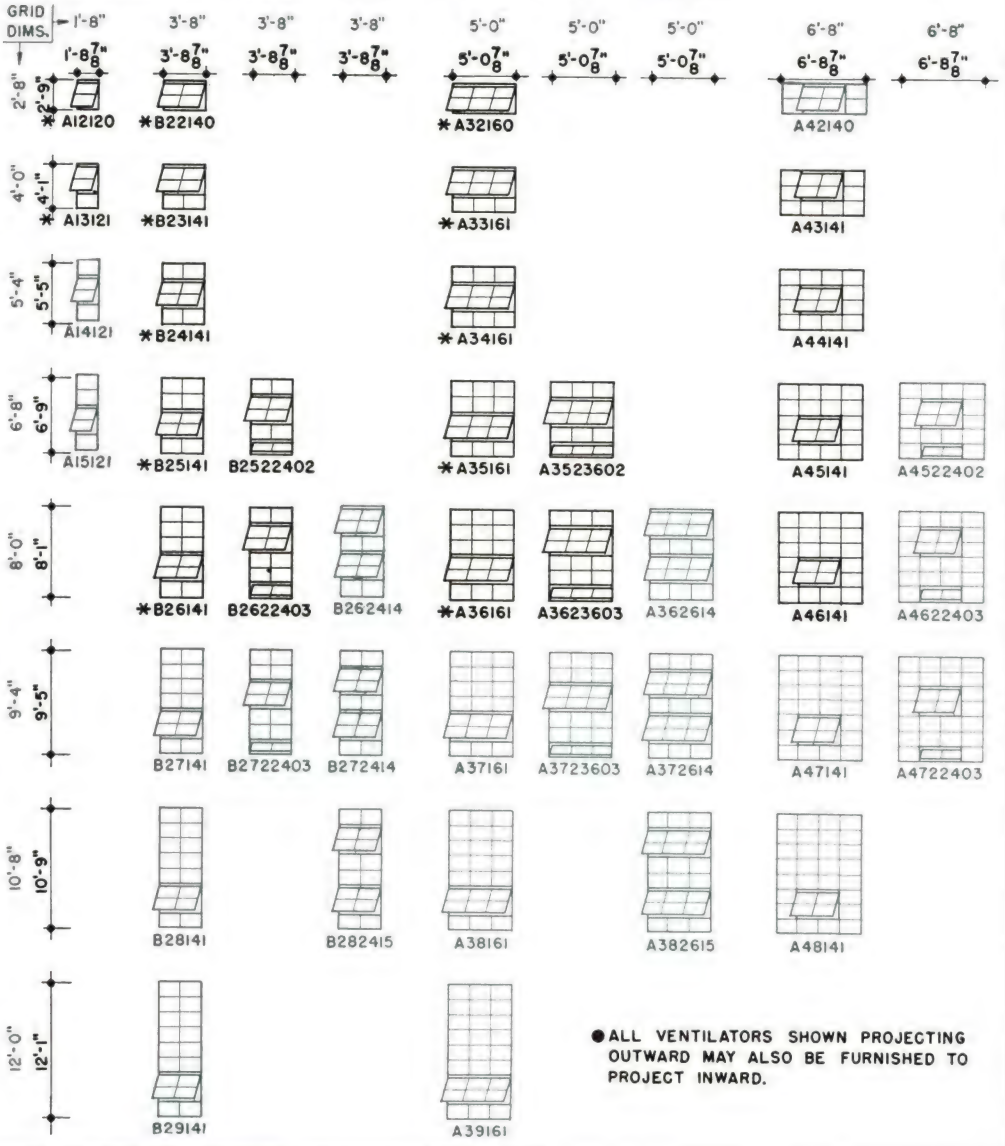






GLASS SIZES

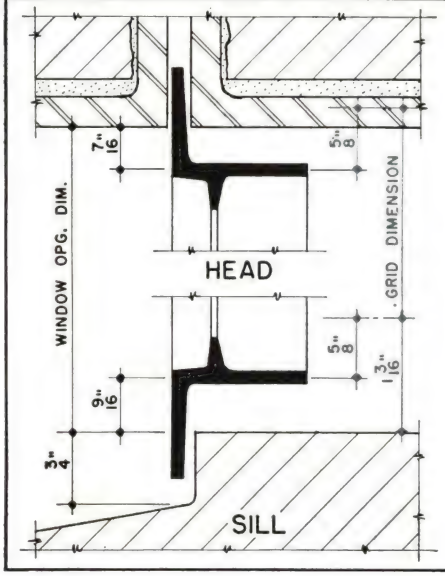
A- 19 5/8" X 15 5/8"	F- 20 5/8" X 14 5/8"
B- 21 5/8" X 15 5/8"	G- 20 5/8" X 13 5/8"
C- 17 5/8" X 14 5/8"	H- 18 5/8" X 13 5/8"
D- 18 5/8" X 14 5/8"	J- 19 5/8" X 13 5/8"
E 19 5/8" X 14 5/8"	

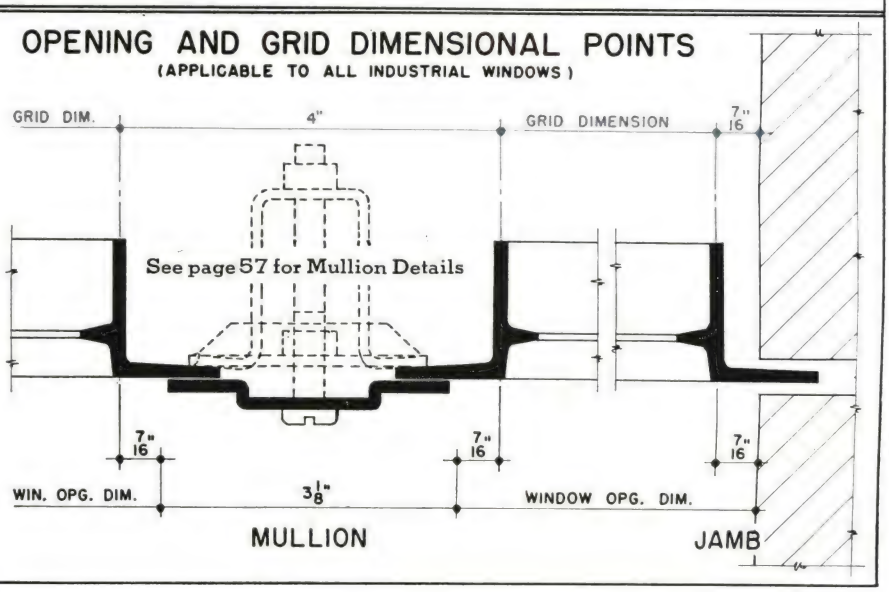


- ALL VENTILATORS SHOWN PROJECTING OUTWARD MAY ALSO BE FURNISHED TO PROJECT INWARD.

OPENING AND GRID DIMENSIONAL POINTS

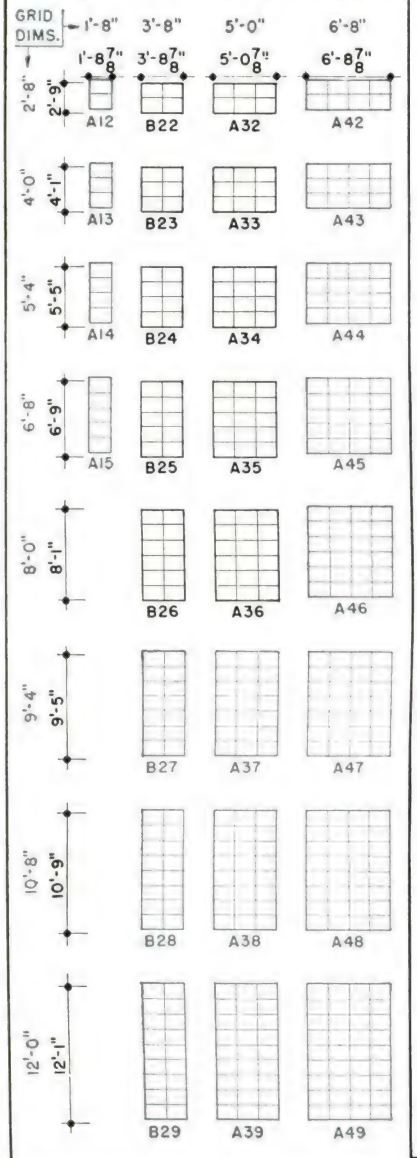
(APPLICABLE TO ALL INDUSTRIAL WINDOWS)





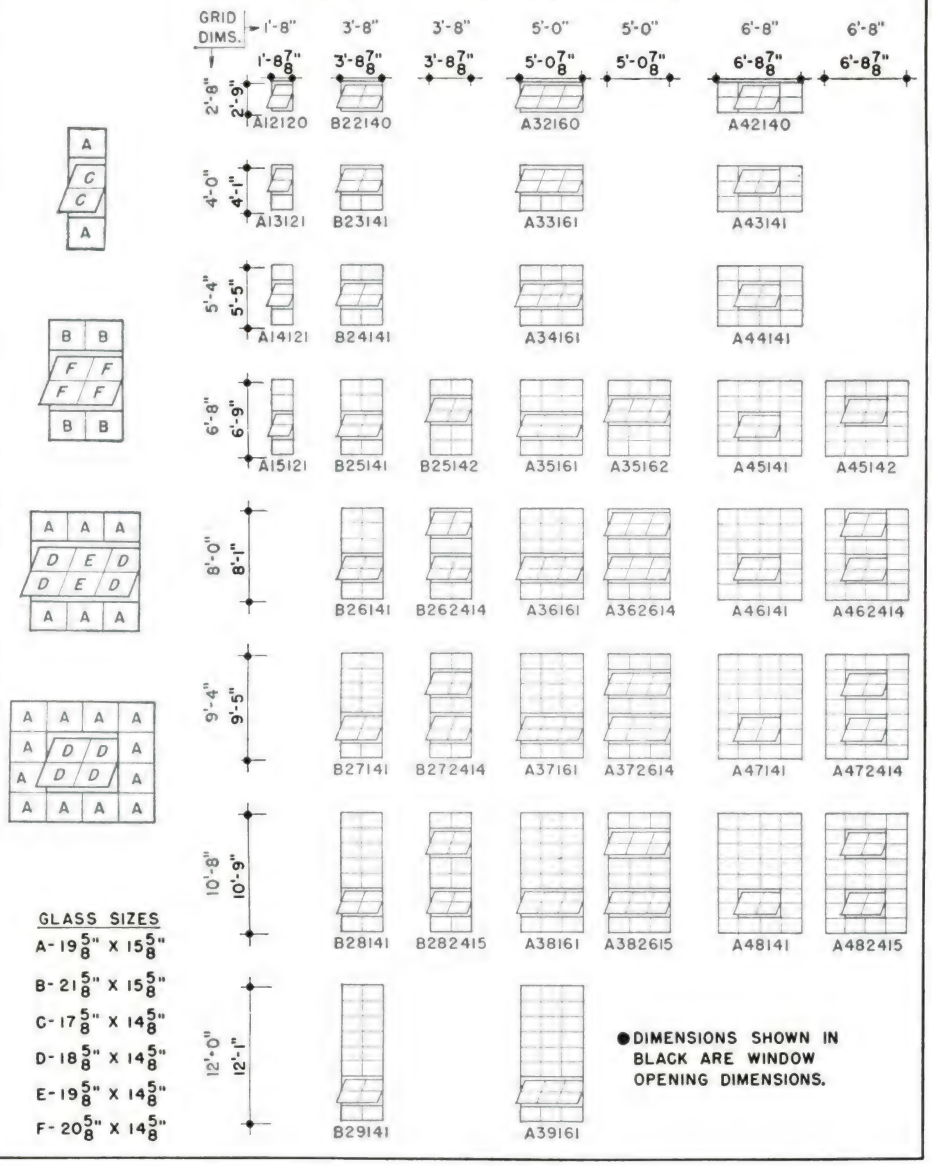
TRUSCON STEEL INDUSTRIAL WINDOWS

FIXED-TYPES & SIZES



● UNITS SHOWN IN BLACK ARE CARRIED IN WAREHOUSE STOCKS.
● DIMENSIONS SHOWN IN BLACK ARE WINDOW OPENING DIMENSIONS.
● GLASS SIZES -
"A" TYPE UNITS - $19\frac{5}{8}$" X $15\frac{5}{8}$"
"B" TYPE UNITS - $21\frac{5}{8}$" X $15\frac{5}{8}$"

PIVOTED - TYPES AND SIZES



● DIMENSIONS SHOWN IN BLACK ARE WINDOW OPENING DIMENSIONS.

GLASS SIZES
A- $19\frac{5}{8}$" X $15\frac{5}{8}$"
B- $21\frac{5}{8}$" X $15\frac{5}{8}$"
C- $17\frac{5}{8}$" X $14\frac{5}{8}$"
D- $18\frac{5}{8}$" X $14\frac{5}{8}$"
E- $19\frac{5}{8}$" X $14\frac{5}{8}$"
F- $20\frac{5}{8}$" X $14\frac{5}{8}$"

NOTES

(Applicable to All Industrial Windows)

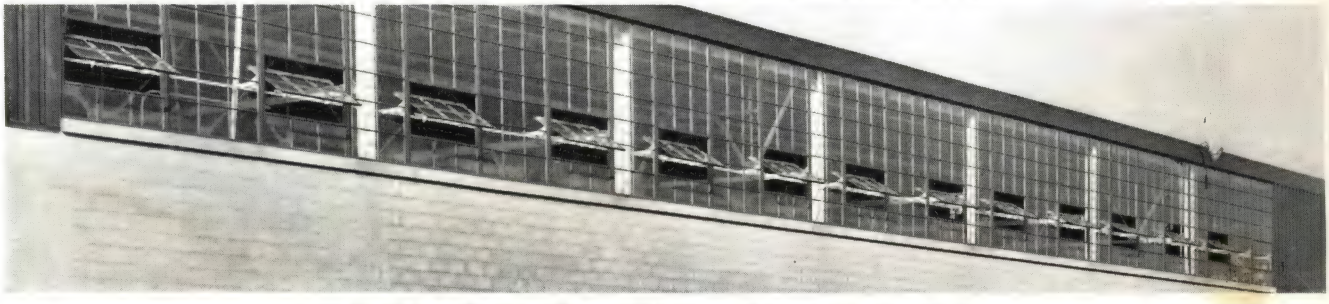
Multiple Unit Openings. Total opening widths may be speedily determined by using grid dimensions of windows (shown in color) and mullions (4"), and adding $\frac{7}{8}$" to total grid width for necessary clearance at jambs. Also, see table of "Multiple Unit Openings" on page 56.

Mullion Details. See page 57 for vertical mullion (and cover) details, and page 58 for horizontal mullions.

Installation Details. See page 59

Typical Sections. See page 55

Specifications. See page 60.



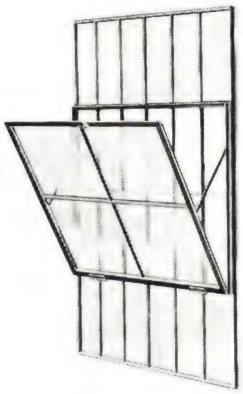
Ford Motor Co. Parts Depot, 5800 Grant Avenue, Cleveland, Ohio
McGeorge & Hargett, Archts. and Engrs.; H. K. Ferguson Co., Gen. Contrs.

TRUSCON STEEL INDUSTRIAL WINDOWS—SECURITY TYPES

Truscon Security Windows are designed and constructed to assure adequate strength for effectively resisting unauthorized entry to store buildings, warehouses, and commercial and industrial buildings.

Glazing of the main frame is omitted where vents occur and glass is set in the vent instead. Vents are bottom hinged to swing in. Opening is limited to 35° by friction side arms.

Screens may be conveniently installed into a recess provided for them between ventilator and main frame.



(See following pages for Multiple Unit Openings, Mullions, Installation Details and Specifications.)

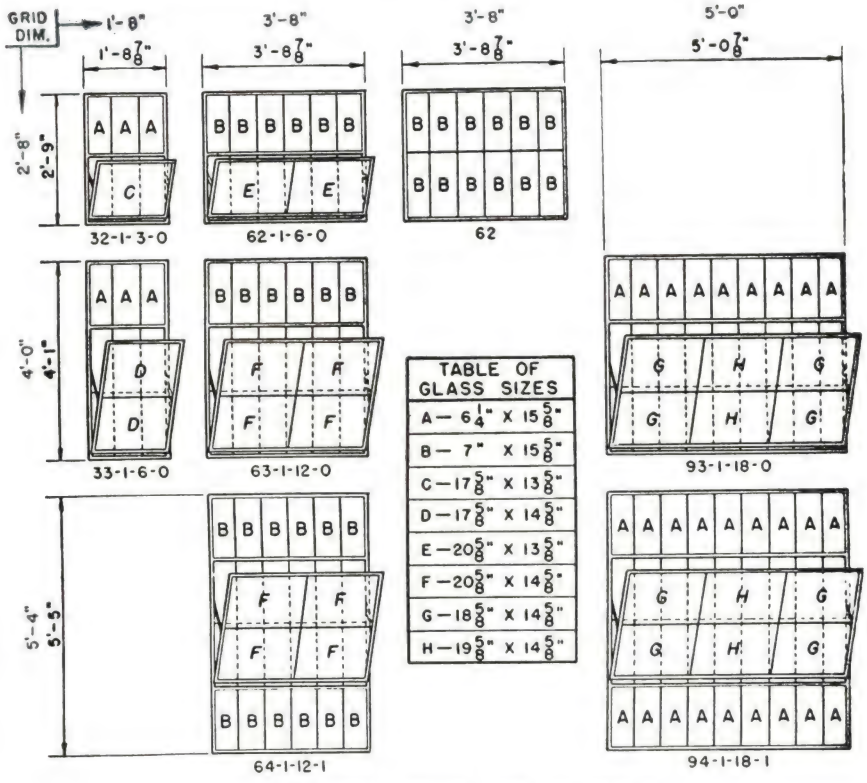
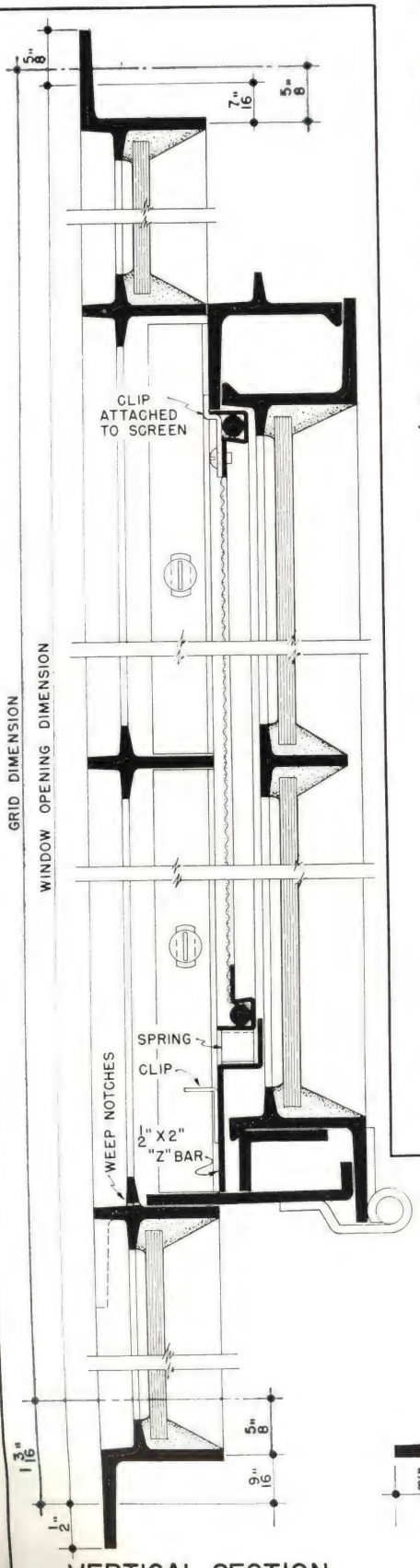
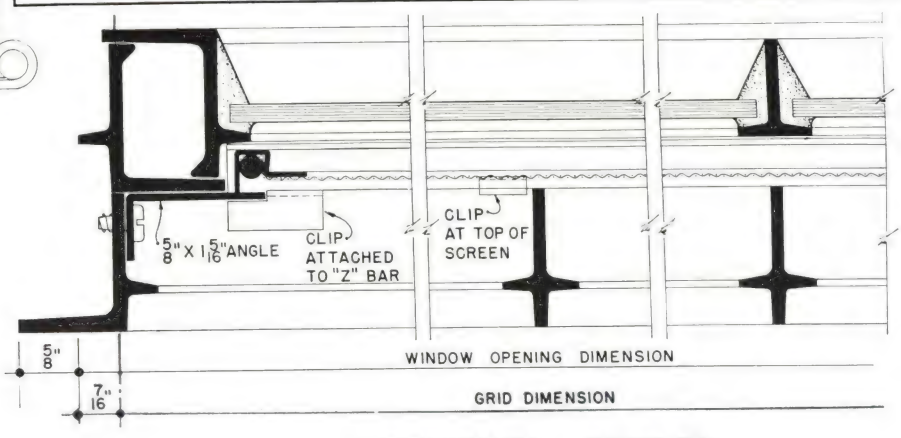


TABLE OF GLASS SIZES
A— 6 1/4" X 15 5/8"
B— 7" X 15 5/8"
C—17 5/8" X 13 5/8"
D—17 5/8" X 14 5/8"
E—20 5/8" X 13 5/8"
F—20 5/8" X 14 5/8"
G—18 5/8" X 14 5/8"
H—19 5/8" X 14 5/8"

ALL UNITS VIEWED FROM THE INSIDE



VERTICAL SECTION

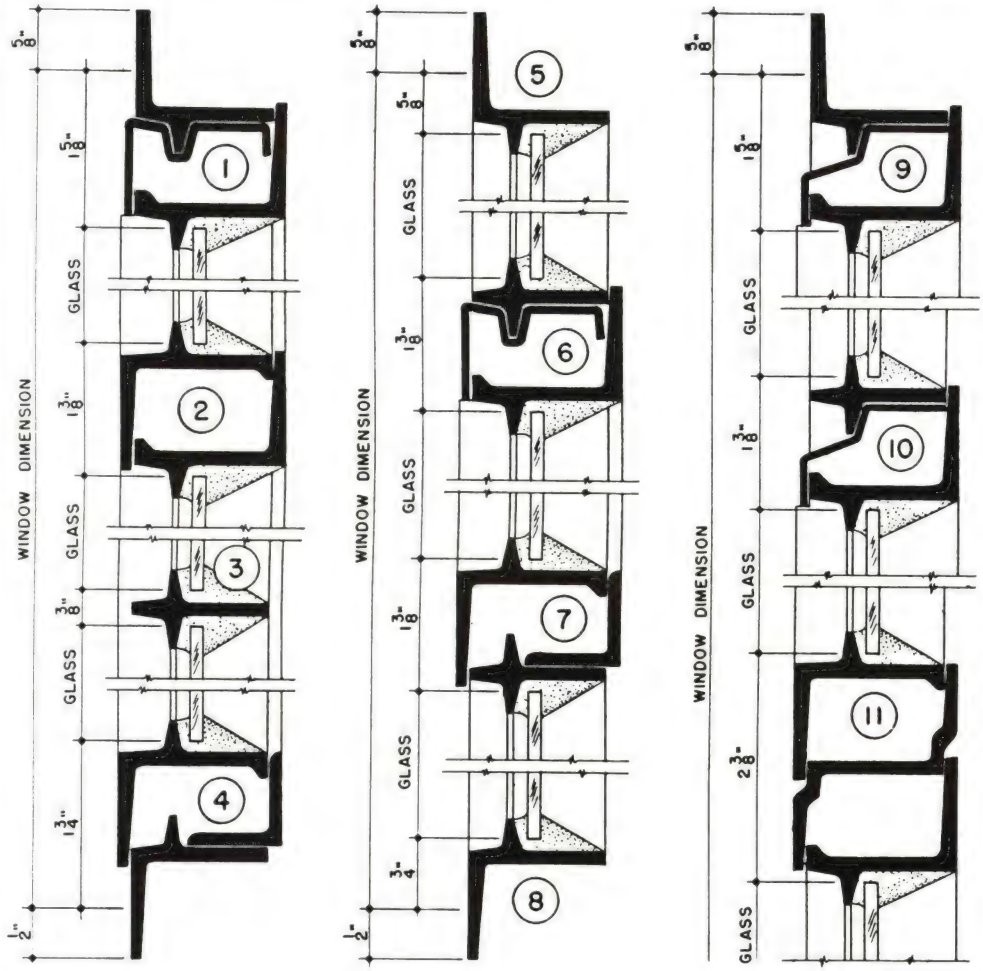


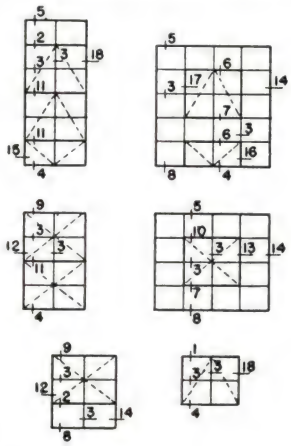
HORIZONTAL SECTION

TRUSCON STEEL INDUSTRIAL WINDOWS

COMMERCIAL PROJECTED — FIXED — PIVOTED

SECTIONS (Half Size)

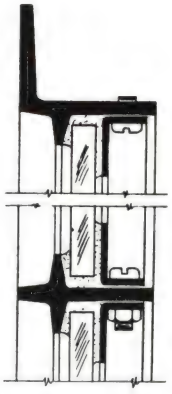


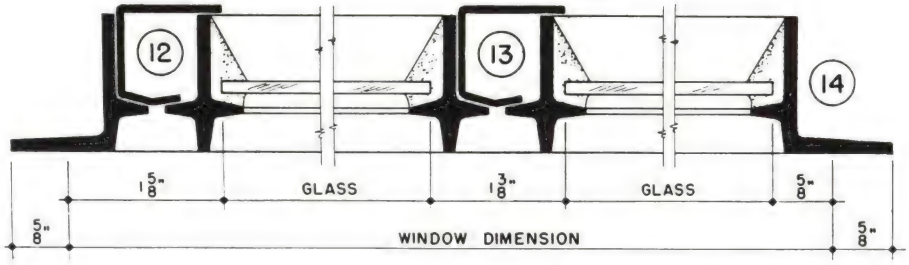


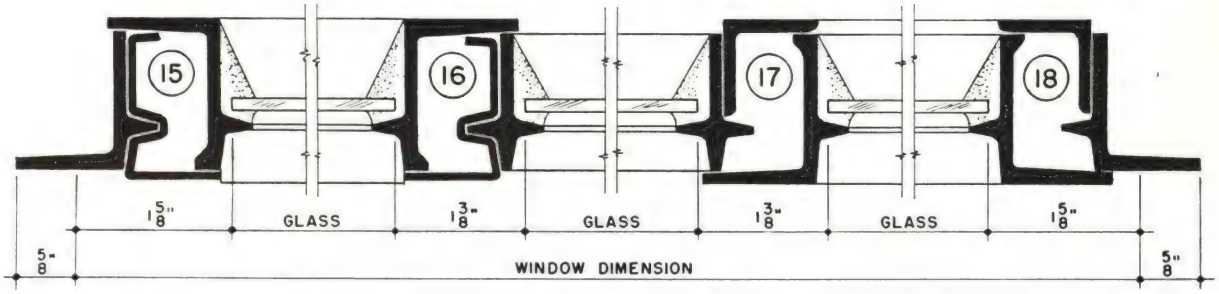
NOTE: INDUSTRIAL WINDOWS ARE INSIDE GLAZED ONLY

UNDERWRITERS' LABELLED WINDOWS

INDUSTRIAL WINDOWS MAY BE MANUFACTURED, WITH CERTAIN LIMITATIONS, TO BEAR THE LABEL OF APPROVAL OF THE NATIONAL BOARD OF FIRE UNDERWRITERS. THE PRINCIPAL REQUIREMENT IS THE USE OF CONTINUOUS GLAZING ANGLES AS SHOWN BELOW. FOR OTHER LIMITATIONS, REFER TO SPECIFICATIONS OF COMMERCIAL PROJECTED, PIVOTED, AND SECURITY WINDOWS.



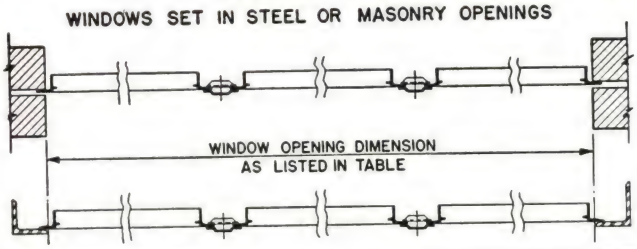




TRUSCON STEEL INDUSTRIAL WINDOWS
COMMERCIAL PROJECTED—FIXED—PIVOTED—SECURITY
MULTIPLE UNIT OPENINGS

OPENING DIMENSIONS FOR SINGLE AND MULTIPLE UNIT WINDOWS

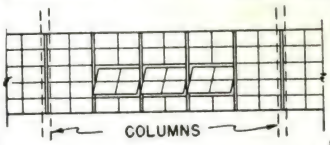
WINDOWS SET IN STEEL OR MASONRY OPENINGS



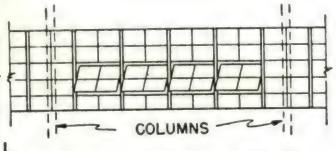
WINDOW OPENING DIMENSION	QUANTITY AND WIDTHS OF WINDOWS USED IN OPENINGS LISTED				MULLIONS REQUIRED
	1'-8 7/8" 1 LIGHT	3'-8 7/8" 2 LIGHTS	5'-0 7/8" 3 LIGHTS	6'-8 7/8" 4 LIGHTS	3 1/8" MULL. DIM.
1'-8 7/8"	1	- - -	- - -	- - -	- - -
3'-8 7/8"	- - -	1	- - -	- - -	- - -
5'-0 7/8"	- - -	- - -	1	- - -	- - -
6'-8 7/8"	- - -	- - -	- - -	1	- - -
7'-8 7/8"	- - -	2	- - -	- - -	1
9'-8 7/8"	1	2	- - -	- - -	2
10'-4 7/8"	- - -	- - -	2	- - -	1
11'-8 7/8"	- - -	3	- - -	- - -	2
13'-0 7/8"	- - -	2	1	- - -	2
13'-8 7/8"	- - -	- - -	- - -	2	1
14'-4 7/8"	- - -	1	2	- - -	2
14'-8 7/8"	- - -	2	- - -	1	2
15'-8 7/8"	- - -	- - -	3	- - -	2
15'-8 7/8"	- - -	4	- - -	- - -	3
17'-4 7/8"	- - -	- - -	2	1	2
17'-8 7/8"	- - -	1	- - -	2	2
18'-4 7/8"	- - -	2	2	- - -	3
19'-0 7/8"	- - -	- - -	1	2	2
19'-8 7/8"	- - -	5	- - -	- - -	4
20'-8 7/8"	- - -	- - -	- - -	3	2
21'-0 7/8"	- - -	- - -	4	- - -	3
21'-8 7/8"	- - -	2	- - -	2	3
22'-4 7/8"	- - -	3	2	- - -	4
23'-8 7/8"	- - -	6	- - -	- - -	5
23'-8 7/8"	- - -	2	3	- - -	4
24'-4 7/8"	- - -	- - -	2	2	3
25'-0 7/8"	- - -	1	4	- - -	4
25'-8 7/8"	- - -	3	- - -	2	4
26'-4 7/8"	- - -	- - -	5	- - -	4

NOTE:- FOR GRID DIMENSION DEDUCT 7/8" FROM WINDOW OPENING DIMENSION

OPENING HEIGHT DIMENSIONS	
2 LIGHTS ..... 2'-9"	6 LIGHTS ..... 8'-1"
3 LIGHTS ..... 4'-1"	7 LIGHTS ..... 9'-5"
4 LIGHTS ..... 5'-5"	8 LIGHTS ..... 10'-9"
5 LIGHTS ..... 6'-9"	9 LIGHTS ..... 12'-1"

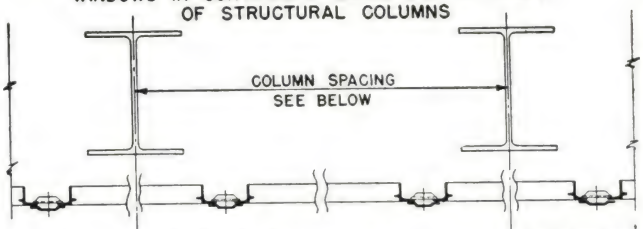


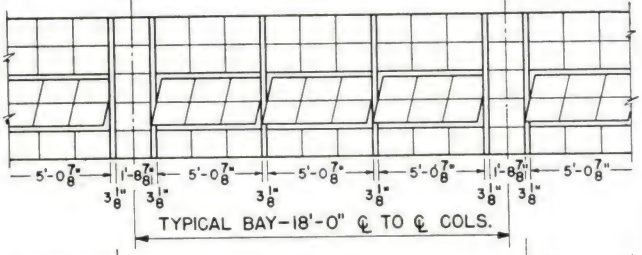
TWO FIXED UNITS, WITH RESULTING DECREASE IN VENTILATING AREA, MUST BE USED PER BAY WHERE MULLIONS ARE CENTERED ON COLS.

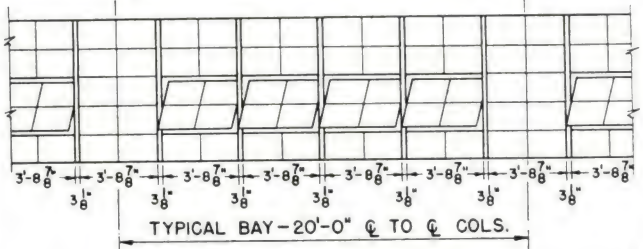


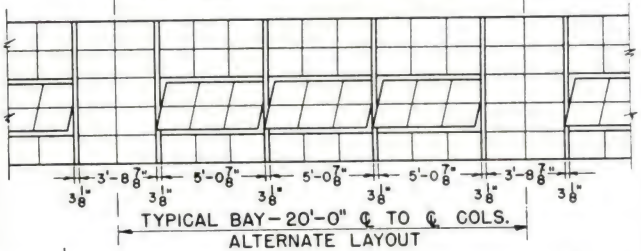
ONE FIXED UNIT ONLY MUST BE USED PER BAY WHERE FIXED UNITS ARE CENTERED ON COLUMNS.

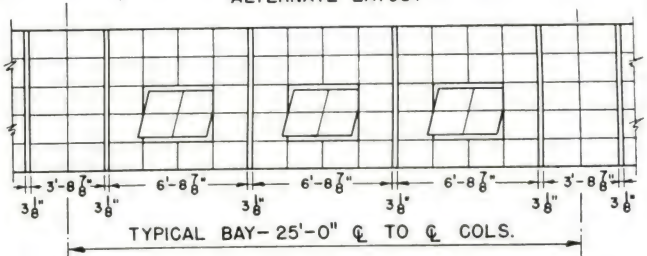
WINDOWS IN CONTINUOUS BANDS SET IN FRONT OF STRUCTURAL COLUMNS

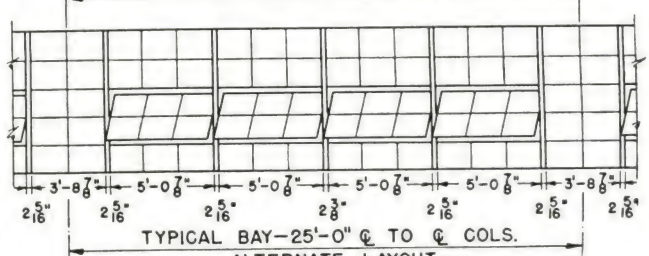












NOTE

TO OBTAIN MAXIMUM VENTILATING AREA, FIXED UNITS ARE SHOWN CENTERED ON COLUMNS IN TYPICAL BAYS ABOVE. IF MULLIONS ARE CENTERED ON COLUMNS, THEN ONE UNIT NOW VENTILATED MUST BE CHANGED TO FIXED TYPE AS OTHERWISE VENTILATOR WOULD FOUL ON COLUMN. SEE SKETCHES AT LEFT.

TRUSCON STEEL INDUSTRIAL WINDOWS

COMMERCIAL PROJECTED — FIXED — PIVOTED — SECURITY

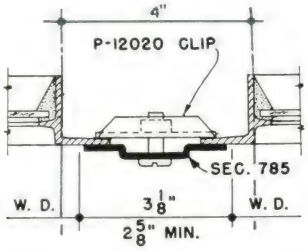
MULLIONS

MODULAR MULLIONS

TABLES OF OPENING WIDTHS AND CONTINUOUS BAND WINDOWS (EXCEPT ONE 25'-0" BAY) SHOWN ON OPPOSITE PAGE, ARE BASED UPON THE USE OF TYPES 1-M AND 2-M MULLIONS. THE 4" GRID DIMENSION FOR MULLIONS RESULTS IN MODULAR SIZES FOR ALL MULTIPLE UNIT OPENINGS.— THE $3\frac{1}{8}$" DIMENSION MAY BE VARIED SLIGHTLY TO COMPENSATE FOR NORMAL BUILDING TOLERANCES.

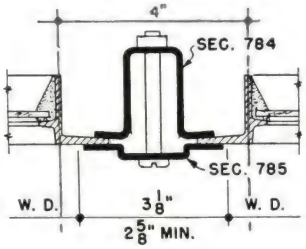
TYPE 1-M

FOR MAXIMUM HEIGHT OF 6'-9"



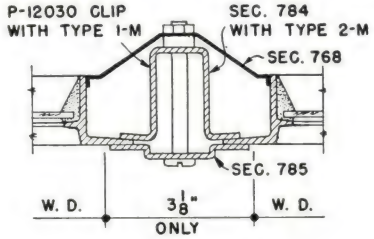
TYPE 2-M

FOR HEIGHTS OVER 6'-9"



$3\frac{1}{8}$" COVER

FURNISHED AT EXTRA COST

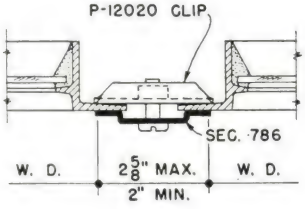


SPECIAL MULLIONS

MULLION TYPES 1 AND 2 ARE AVAILABLE FROM FACTORY ON SPECIAL ORDER ONLY.— THEY ARE SUITABLE FOR USE WITH PRE-WAR 14" X 20" OR 12" X 18" WINDOW UNITS BUT IN ADDITION, MAY BE USED WITH THE NEW MODULAR SIZES WHEN NECESSARY TO REDUCE STANDARD WIDTHS OF MULTIPLE UNIT OPENINGS.

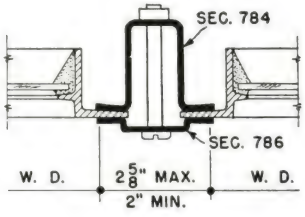
TYPE 1

FOR MAXIMUM HEIGHT OF 6'-9"



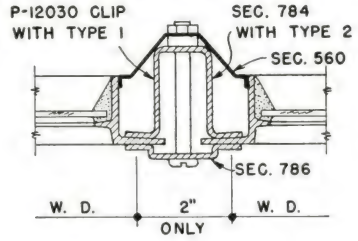
TYPE 2

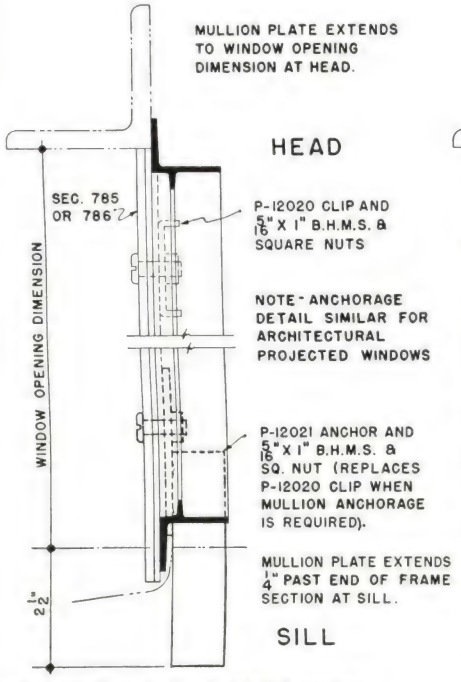
FOR HEIGHTS OVER 6'-9"



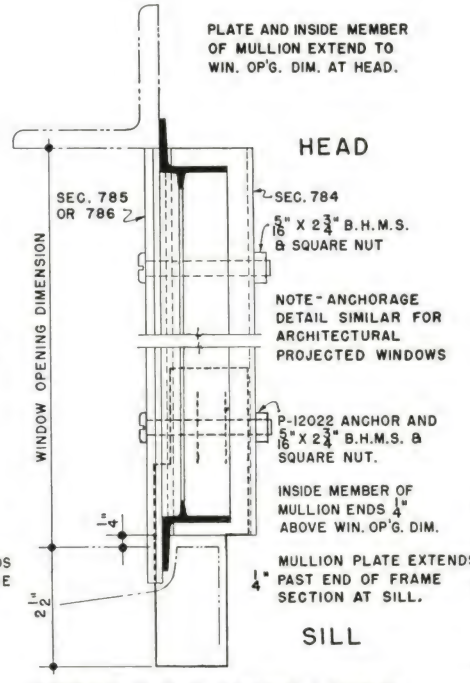
2" COVER

FURNISHED AT EXTRA COST

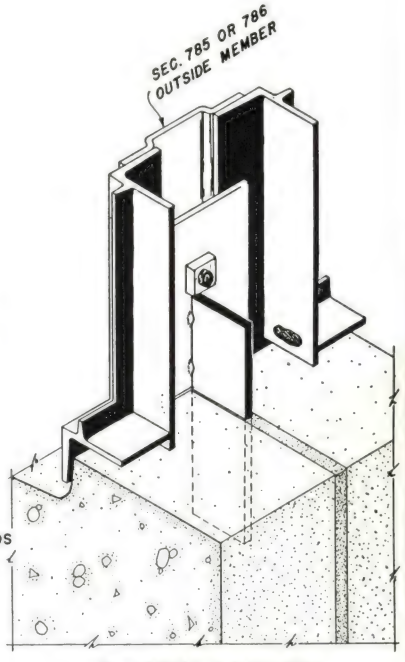




TYPES 1 & 1-M MULLIONS
SHOWING SILL ANCHORAGE



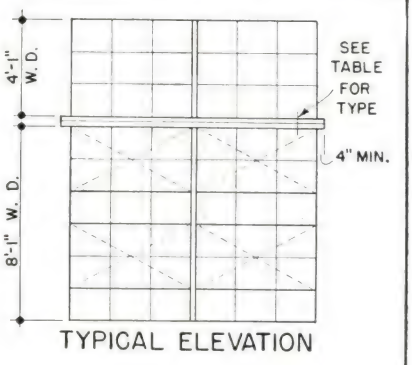
TYPES 2 & 2-M MULLIONS
SHOWING SILL ANCHORAGE



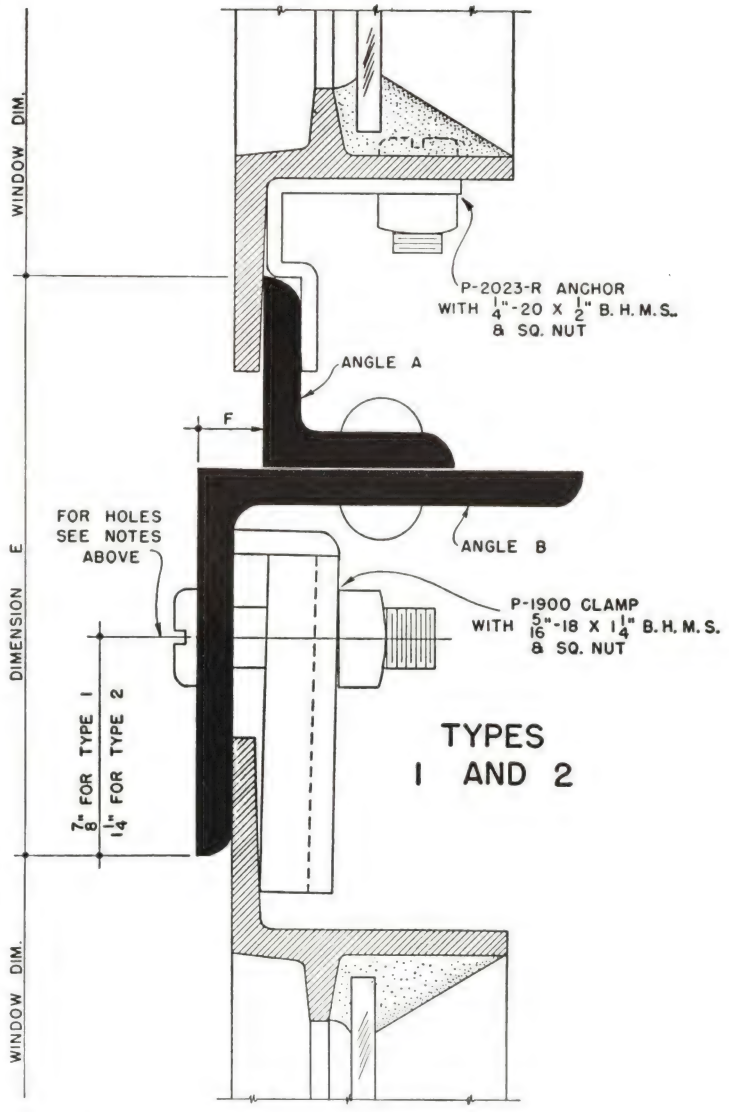
P-12021 ANCHOR
FOR USE WITH MASONRY SILLS

TRUSCON STEEL INDUSTRIAL WINDOWS
COMMERCIAL PROJECTED — FIXED — PIVOTED — SECURITY
HORIZONTAL MULLIONS

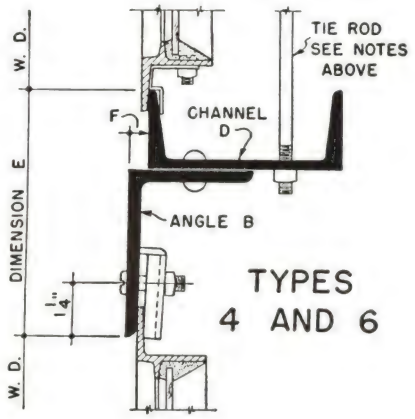
- HORIZONTAL MULLIONS ARE NOT FURNISHED OR ERECTED BY TRUSCON. THE DESIGNS HERE SHOWN ARE SUGGESTIONS ONLY AND TRUSCON IS NOT RESPONSIBLE FOR THEIR USE.
- CLIPS, BOLTS, AND SCREWS FOR ATTACHING WINDOWS TO MULLIONS WILL BE FURNISHED BY TRUSCON STEEL DIVISION. MULLION CONTRACTOR MUST PROVIDE 3/8" DIAMETER HOLES IN DOWN-STANDING LEG OF ANGLE MK. B FOR ATTACHMENT OF WINDOWS. THESE HOLES SHOULD BE SPACED 6" FROM JAMBS AND ABOUT 24" ON CENTERS. VERTICAL LOCATION AS PER DETAILS.
- MULLION DESIGN PERMITS ERECTION OF UPPER AND LOWER WINDOWS IN THE SAME PLANE.
- TIE RODS ATTACHED TO STRUCTURAL STEEL, ETC., MAY BE USED IN OPENINGS OVER 10'-0" WIDE TO BRACE HORIZONTAL MULLION. SPACE TIE RODS TO AVOID INTERFERENCE WITH VENTS.



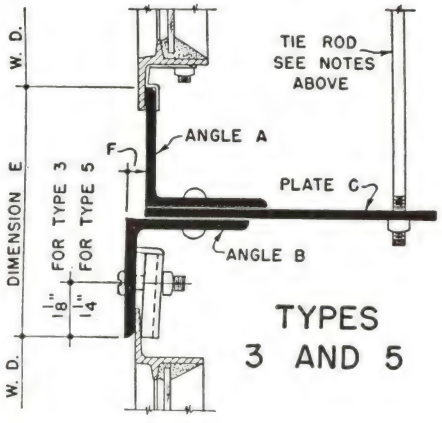
TYPICAL ELEVATION



TYPES 1 AND 2



TYPES 4 AND 6



TYPES 3 AND 5

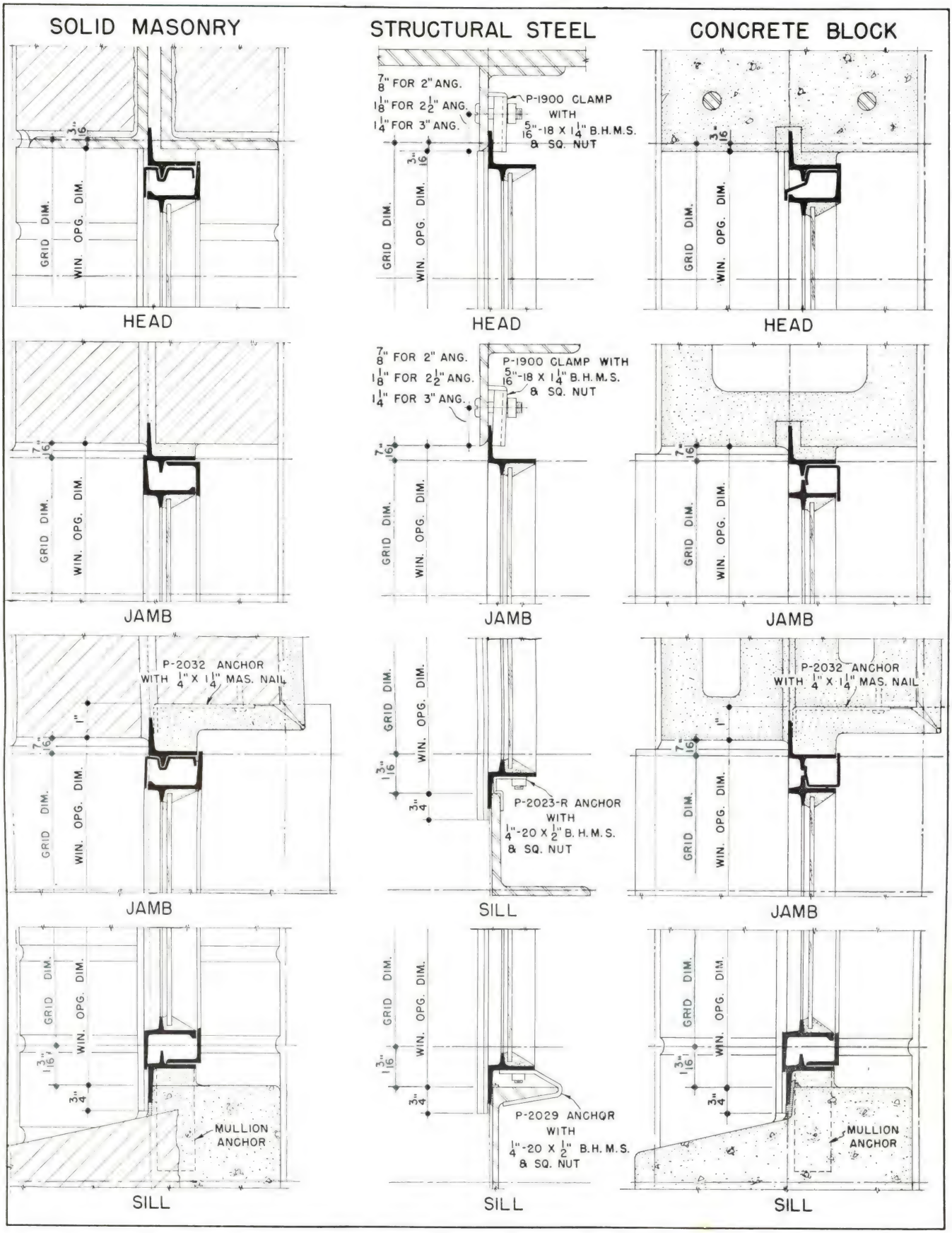
* APPROX. MAX. OPENING DIMENSION	ALL SINGLE OPENINGS	10'-0"	11'-0"	14'-0"	15'-0"	20'-0"
MULLION TYPE	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
ANGLE A	1" X 1" X 3/16"	1 1/2" X 1 1/2" X 3/16"	2 1/2" X 2 1/2" X 3/16"		3" X 3" X 1/4"	
ANGLE B	2" X 2" X 3/16"	3" X 3" X 1/4"	2 1/2" X 2 1/2" X 3/16"	3 1/2" X 2 1/2" X 1/4"	3" X 3" X 1/4"	4" X 3" X 5/16"
PLATE C			6" X 3/16"		6" X 3/16"	
CHANNEL D				4" - 5.4 LB.		6" - 8.2 LB.
DIMENSION E	3"	4 1/2"	5 1/8"	5"	6 1/8"	5 7/8"
DIMENSION F	5/16"	3/8"	5/16"	3/8"	3/8"	7/16"

*FOR ACTUAL OPENING WIDTHS OF VARIOUS COMBINATIONS OF UNITS, REFER TO TABLE ON PAGE 56.
FOR ANCHORAGE INTO MASONRY, MULLIONS SHOULD EXCEED OPENING WIDTH BY AT LEAST 8" (4" AT EACH JAMB).

TRUSCON STEEL INDUSTRIAL WINDOWS

COMMERCIAL PROJECTED — FIXED — PIVOTED

INSTALLATION DETAILS



TRUSCON STEEL INDUSTRIAL WINDOWS

SPECIFICATIONS

1. Specify — Industrial Windows (Commercial Projected, Pivoted, and/or Security) as manufactured by the Truscon Steel Division, Republic Steel Corporation, Youngstown, Ohio.

2. Material — All members shall be made from new billet steel, primarily designed for Industrial Window construction. Frame, muntin, and ventilator sections shall be hot rolled shapes not less than $\frac{1}{8}$" thick and $1\frac{7}{16}$" in depth except that muntins in ventilators of Security Windows may be 1" in depth. The frame member shall afford not less than $\frac{5}{8}$" continuous anchorage to surrounding masonry.

3. Construction — All joints shall be mortised and tenoned and air hammer riveted. Muntins shall be continuous from head to sill and jamb to jamb. The intersections shall be dovetail mitered, rigidly interlocking the bars, and the end joints securely riveted to the frame member. Weathering members shall be welded to windows and shall provide double contact weathering around the entire perimeter of ventilators. Design of the windows shall provide for inside glazing with wire glazing clips and steel window putty or glazing compound. All glazing materials shall be furnished by the glazing contractor.

Commercial Projected Window ventilators shall be balanced on two $\frac{3}{4}$" x $\frac{3}{16}$" steel arms riveted to the ventilator and frame, and the rivet holes shall be brass bushed. Uniform tension to hold the ventilators in any open position shall be provided by two forged bronze sliding friction shoes with compression spring enclosed in steel tubing. The sides of the frame shall act as guides for the friction shoes.

Pivoted Window ventilators shall be pivoted 2" above center line. Pivots shall be solid steel, securely welded to ventilator and frame, and equipped with $\frac{3}{8}$" diameter removable pins held in place with washers and cotter pins.

Security Windows shall be designed to afford protection against forced entry and shall consist of a grille and a ventilating window unit composed of a ventilator and its auxiliary frame superimposed on the inner face of the grille. The ventilator shall be hung on two substantial butt hinges and equipped with heavy supporting arms concealed within the jamb members when closed.

4. Unattached Hardware — All hardware shall be steel, painted or otherwise rust-proofed. For projected vents furnish cam handle and pole ring on open-out vents, and cam handle or spring latch on open-in vents. For pivoted vents furnish push bar hardware on vents within reach of floor and either spring or cam latch and chain for vents not within reach of floor. For Security Window vents a cam handle shall be supplied for attachment to top of vent.

5. Vertical Mullions and Covers — Standard vertical mullions, where required, shall tightly connect adjacent window units with secure and weathertight joints. Mullions shall consist of an exterior crimped plate rigidly clamped at 16" centers by machine bolts to interior channel clips (for windows 7'-0" or less in height) or to a continuous "U" shaped section (for windows over 7'-0" in height.)

Standard vertical mullion covers (not applicable to Security Windows), where required, shall be a formed plate tightly bolted to the mullion. Covers shall completely close the interior recesses between window jambs and present a neat and workmanlike juncture.

6. Shop Painting — All windows shall be bonderized and given a dip coat of gray Bakelite paint, oven-baked for one hour at 300 degrees Fahrenheit.

7. Erection — Windows shall be set plumb and true in openings. The joint between the window frame and masonry shall be carefully caulked by caulking contractor. Contacts between windows and adjacent steel, including mullions, shall be sealed with mastic furnished and applied by the erector. All ventilators shall be adjusted and hardware attached before glazing.

8. Glazing — (To be done by glazing contractor). Windows shall be glazed on the inside. Glass shall be bedded with steel window putty, held in place by wire glazing clips, and face puttied to a neat trim line. All glazing materials, including glazing clips, furnished by others.

9. Screens — (Not recommended for Pivoted Windows). Screen frames shall be of formed steel, in the open-channel rewirable designs, with solid rod splines. Both frame and spline shall be electro-galvanized steel. Screen fastenings shall be designed to permit easy attachment or removal of screen from the interior side. Frames and splines shall be bonderized and given one coat of gray Bakelite enamel, oven-baked. Screen cloth shall be of bronze or galvanized steel, woven to 18 x 14 mesh. Open-in vents, Projected and Security, shall have fixed screens attached to the outside of the ventilator frame. Project-out vents shall have hinged wicket type screens to provide access to the locking handle, or fixed screens when underscreen push bar is used.

10. Windows with Underwriters' Label — (National Board of Fire Underwriters). The same specifications as outlined above for Industrial Windows apply to windows with Underwriters' label of approval, but with the following limitations:

Commercial Projected and Pivoted Windows must be inside angle glazed and exposed glass area of individual lights must not exceed 48" in width, 54" in height, and 350 square inches of exposed glass area. Ventilators must be equipped with expansion clips and with vent stops on pivoted vents. Top anchorage clips are required on vertical mullions.

Security Windows must be inside angle glazed. Individual lights in grille must not exceed 6" in width and 18" in height, and individual lights in the vents are limited to 350 square inches exposed glass area. Expansion clips are required on the ventilators and top anchorage clips on the mullions.



Bertha S. Sternberger School, Greensboro, N. C.
A. C. Woodroot, Archt.; L. B. Gallinore, Contractor

TRUSCON SCREENS

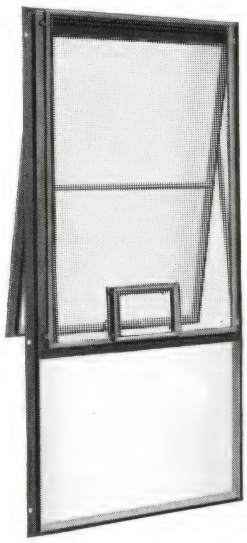
Truscon Screens are manufactured in our own plant and specially designed for the kind of window and ventilator with which they are to be used. This co-ordination of window and screen assemblies insures trouble-free operation under normal use. Truscon screens fill the other essential requirements for a completely satisfactory screen installation, which are:

1. Close-fitting screens giving adequate insect protection.
2. Ventilator hardware which provides convenient operation of the window ventilator without undue interference by the screen.
3. Screen attachments which work simply, yet positively, permitting easy installing or removing of screens, from within the room.
4. Sturdy, rust-resisting steel screen frames of the rewirable type, rigid enough to resist racking out of square or the displacement of screen cloth in routine use.

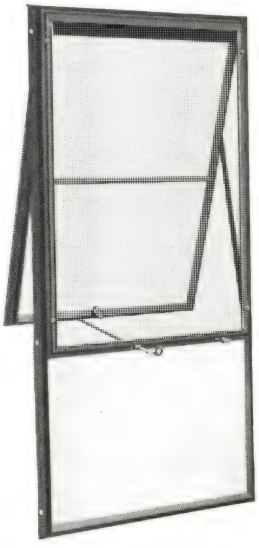
Screen cloth is normally furnished in 18 x 14 mesh and this mesh is recommended for general use. However, in some localities, complete insect protection requires the use of 18 mesh cloth which may be had at slight extra cost.

It is essential that designers give careful consideration to the type of screen and proper window hardware as they relate to the screening requirements of a building. Double-Hung Windows and open-in vents are readily covered with screens attached to the outside of the window, but with open-out vents it is necessary to provide hardware operation below the screen or a movable screen section through which to operate the vent.

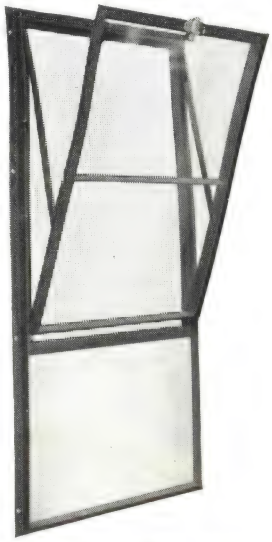
Illustrated on this page are Truscon's recommended screen applications to projected and casement ventilators. As the most efficient, economical and practical yet devised for the screening of such ventilators, they have been accorded universal acceptance by the building industry.



Wicket Screen used with Outward Projecting Vent



Fixed Screen and Underscreen Push Bar used with Outward Projecting Vents



Fixed Screen used with Inward Projecting Vents

KOOLSHADE® SCREENS

See pages 64 and 65 for description and specifications of the above type of screen which Truscon is licensed to manufacture and sell.

Trade-Mark Property Borg-Warner Corporation

BRONZE, STAINLESS STEEL AND ALUMINUM SCREENS

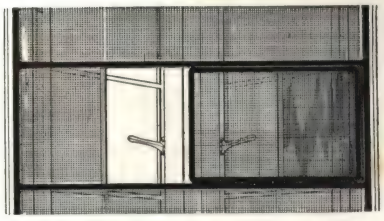
Truscon also manufactures bronze, stainless steel and aluminum frame screens. While these special metal frame screens are more expensive than the standard steel frames, under certain conditions the extra expense is amply justified.

In bronze and aluminum, the frames may be any of the types shown on the following page for steel. In stainless steel, screens will be made only with 3/4" CLX, 1" CLX and 7/16" CLC frames, and 18 x 14 mesh aluminum cloth with splines of solid aluminum.

Consult the nearest Truscon district sales office for information and prices on special metal window screens of any type or design.



Fixed Screen and Roto (Underscreen) Operator with Casement Vents



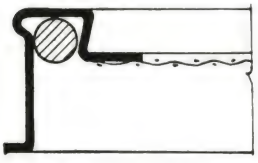
Wicket Screen with Casement Vents



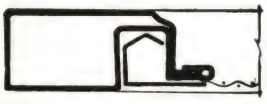
TYPE 7/16" CLC FRAME
For Use with Roto Casements
.032" Frame Material, No. 5 Rod Spline



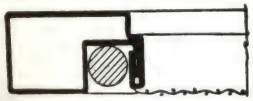
TYPE 7/16" CLC FRAME
For Use with Series 138 Double-Hung Windows
.050" Frame Material, No. 3 Rod Spline



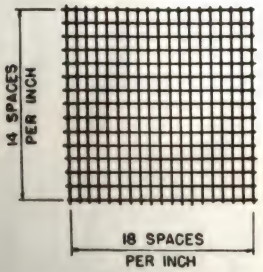
TYPE 3/4" AND 1" CLX FRAME
3/4" For Use with Project-Out Vents with Underscreen Hardware, and Basement and Utility Windows
1" For Use with Simplex Casements, Project-Out Wicket Screens and Project-In Vents
.037" Frame Material, No. 5 Rod Spline



TYPE 7/16" x 1 1/8" BF FRAME
For Heavy Double-Hung Maxim-Air and Heavy-Intermediate Louver Windows
.028" Frame Material and Spline



TYPE 7/16" x 3/4" B FRAME
Furnished on Special Order Only
.028" Frame Material, No. 5 Rod Spline



STANDARD SCREEN CLOTH
.011" Diameter Bronze Wire
.012" Diameter Galvanized Steel Wire
.013" Diameter Aluminum Wire

TRUSCON SCREENS

SCREEN SPECIFICATIONS

1. Specify — Steel screens as manufactured by the Truscon Steel Division, Republic Steel Corporation, Youngstown, Ohio.

2. General — Screens shall effectively bar passage of insects to interior of building through the window ventilator and shall be designed for installing or removing from the inside. The screens shall fit closely and neatly around the entire perimeter of the ventilators, and shall be rewirable, easily removable, and interchangeable for ventilators of the same size and type. Furnish and provide for all necessary hardware — guides, stops, clips, bolts, screws — for a secure and insect-proof attachment to window. Screens and hardware shall be carefully adjusted and left in satisfactory working order.

3. Materials and Construction — All screen frames, splines and clips shall be fabricated of electro-galvanized steel. (CLC frames, where required, shall be of plain cold rolled steel.) Frame and guide members shall be cold formed to shape, straight and true and closely fitted at joints. Corners of channel frame shall be mitered and folded or splice welded in such manner as to effect neat, finished and secure junctures. Tubular frame corners shall be mitered, internally reinforced and welded. Where necessary, provide brace bars to maintain accurate rail and stile spacing. Edges over which screen cloth is turned shall be well rounded. Cloth shall be secured to the frames and held taut by removable splines of wire rods or formed metal. Screen cloth shall be commercial bronze, galvanized steel or aluminum wire, woven to 18 x 14 mesh.

4. Guard Screens — Where indicated on drawings or called for in specifications, furnish as an addition to standard insect screens, 1/2" mesh .062" diameter guard cloth, hot galvanized after weaving. This cloth is to be securely welded to frames of screens before shop paint coat is applied to steel material.

5. Type — (Refer to appropriate window specifications for proper type of screen, i.e., fixed flat, sliding or hinged wicket, top hung, fixed half, etc.)

6. Shop Painting — Screens shall be bonderized and given one coat of gray Bakelite paint, oven-baked.

7. Erection — Screen clips, guides, etc., necessary to installation of the screens, shall be attached to windows prior to finish painting. After paint is well dried, screens shall be hung, carefully adjusted and left in satisfactory working order.

GUARD SCREENS

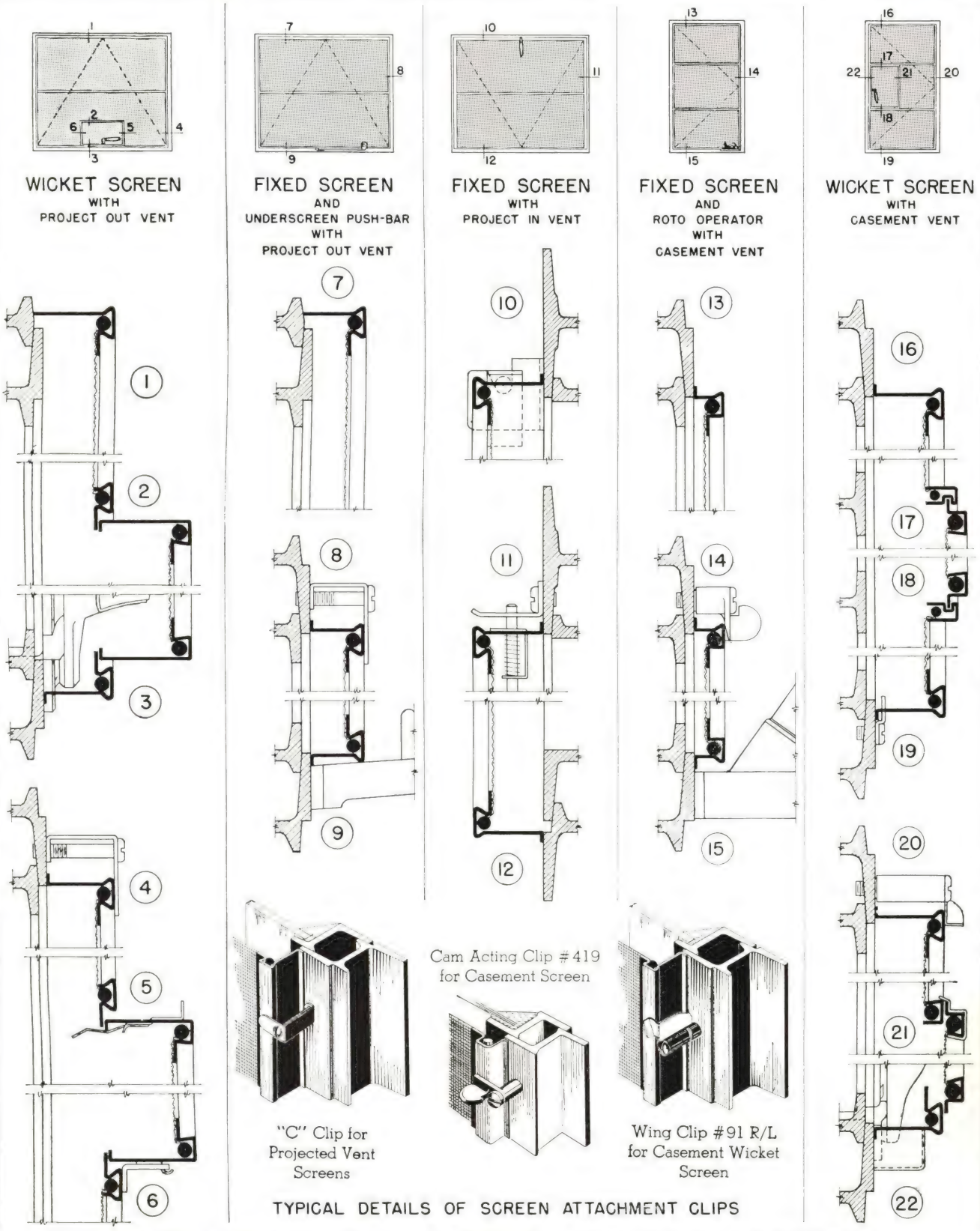
For screen installations where it is necessary to protect insect screen cloth from damage, or for mild protection against passage of persons or articles through an open ventilator, a protective screen manufactured from 1/2" mesh .062" diameter guard cloth, hot galvanized after weaving, may be welded into the frame. This supplementary wire cloth protection may be similarly applied to screen frames in any design illustrated, or the screen frame may be furnished with only the guard cloth, when insect protection is unnecessary.

Guard Screen Applied to 3/4" CLX Frame



TRUSCON SCREENS

INSTALLATION DETAILS



TYPICAL DETAILS OF SCREEN ATTACHMENT CLIPS

ABOVE DETAILS DEPICT SCREEN ATTACHMENT TO INTERMEDIATE SECTION WINDOWS. DETAILS OF ATTACHMENT TO OTHER SOLID SECTION WINDOWS ARE SIMILAR.

KOOLSHADE® SCREENS



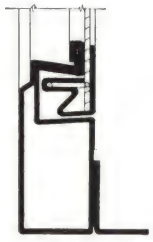
Photo Showing Visibility Through Actual Size Screen



Truscon has entered into a license agreement with the patentees and manufacturers of KoolShade Sunscreen cloth, the Reflectal Division of the Borg-Warner Corporation, whereby Truscon is given manufacturing rights to fabricate KoolShade Screens for use with all types of windows. KoolShade screens are furnished in the "BF" and "BFX" frame types, illustrated below.



BF FRAME



BFX FRAME

HIGHLIGHTS OF DESIGN AND APPLICATION

The description and principal advantages of this unique screening follows:

Description — KoolShade is a sun-shading device woven of bronze wires, he horizontals of which are tiny louvers approximately .050" wide and .005" thick. These are set at a 17° angle with approximately 17 louvers per inch. The vertical wires, spaced ½" apart, are twisted around each louver. KoolShade is oxidized after weaving. It is stretched taut in steel frames with the use of Ingersoll No. 402 Lacer Wire used in the top and bottom screen frame rails. KoolShade is designed to absorb and dissipate the solar heat load outside the opening and to serve as a glare control device.

Intercepts Solar Radiation — KoolShade, to be most effective, must be installed outside the glass. In that position it will intercept up to 90% of the sun's heat rays. It is a highly efficient shading device, yet offers great visibility, long life, ample air circulation, and little, if any, maintenance, when properly framed. KoolShade is actually a miniature venetian blind set permanently at the proper angle to stop the greatest amount of solar heat before it can enter the inside of a building.

Lets in Light and Air — Though KoolShade is extremely efficient in stopping heat, it admits plenty of restful, glareless light and air circulation.

Keeps Out Insects — KoolShade offers, as a secondary function, insect protection equal to that of regular screening. This, plus its great durability and freedom from continual maintenance, makes it a most practical investment.

Provides Complete Visibility — Closed venetian blinds shut out the entire view . . . awnings obstruct half the view . . . while KoolShade affords ample visibility as it shades.

Reduces Air Conditioning Costs — KoolShade has stopped as much as 75% of the heat load on air conditioning systems, depending on sun exposed glass area. KoolShade and air conditioning complement each other, reducing initial and operating costs. (Common measure: 100 sq. ft. of KoolShade equal 1 ton of air conditioning.)

Effectiveness — The chart below illustrates comparative heat gain in BTU's per hour per sq. ft. of glass area through four types of windows. Sun's rays are warmest at "high noon" when shining directly on a southern exposure. The figures represent heat gain by radiant solar heat only, not including the relatively small heat gain by conduction through glass.

HEAT GAIN IN BTU'S PER HOUR PER SQUARE FOOT OF GLASS AREA				
SUN TIME ON JULY 21 40° LATITUDE	BARE GLASS	SHADES OR VEN. BLINDS	AWNINGS OR BLINDS	KOOLSHADE SUNSCREEN
SOUTH EXPOSURE AT NOON	74	44.4	22.2	6
EAST EXPOSURE AT 11 A. M. OR WEST EXPOSURE AT 1 P. M.	40	19.8	12.1	3.5

Trade-Mark Property Borg-Warner Corporation.

KOOLSHADE® SCREENS

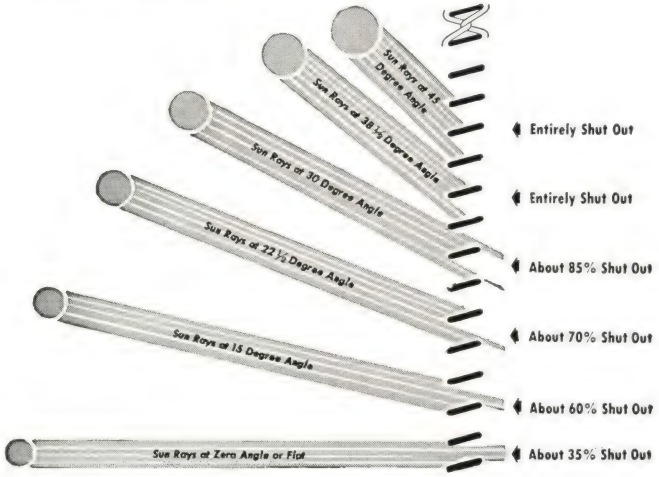
HIGHLIGHTS OF DESIGN AND APPLICATION (Cont'd)

Steps up Employees' Efficiency — Oppressive heat coupled with glaring light brings fatigue to workers — cuts production. KoolShade helps to maintain high morale and reduce worker complaints. It makes uniform control of air conditioning much easier.

Controls Glare — KoolShade is specified by many school architects and lighting authorities as a glare controlling device. It moderates sun, ground and sky glare; holds brightness levels to an accepted value; is permanent and needs no adjustment.

SUN ANGLES vs. KOOLSHADE

The illustration at right shows how KoolShade shuts out the solar heat at various sun elevations. Note how all the rays are shut out during the hottest periods of the day. For example, in midsummer they are shut out completely from 8:15 a.m. to 3:45 p.m. sun time, and in Spring and Fall from 10:00 a.m. to 2:00 p.m. sun time. This shows that usable heat is allowed to enter at the times of the year when it is needed. On schools where glare control is the prime objective, KoolShade is often tilted out up to 20° to stop glare during low sun-angle seasons.



SPECIFICATIONS

General — KoolShade Sunscreen cloth as manufactured by Borg-Warner Corporation and framing as manufactured by Truscon Steel Division of Republic Steel Corporation, Youngstown, Ohio.

Cloth — KoolShade woven with bronze wire with horizontal louvers made from 90-10 commercial bronze and warp wires made from Everdur Bronze. The horizontal louvers are to be approximately .050" wide and .005" thick. The horizontal louvers are to be spaced approximately 17 per inch. Warp wires are to be spaced ½" on center. The angle of the louvers is to be approximately 17°. KoolShade bronze wire is to be oxidized after weaving.

Framing — Frames shall be of formed electro-galvanized steel with special patented lacer like retainer and adapter spline to hold screen cloth securely in frame without distortion of braided bronze warp wires. KoolShade is to be stretched vertically until screen is taut. All screening anchorage in horizontal rails is to be done by use of Ingersoll Type No. 402 lacer wire.

Installation — For solar heat control install KoolShade vertically. For maximum glare control only, tilt at desired angle up to 20° from the bottom horizontal axis.



Cedars of Lebanon Hospital, Los Angeles
Skidmore, Owings & Merrill, Archts.; Baruch Corp., Contr.
Series 138 Double-Hung Windows and KoolShade Screens



Florsheim Shoe Co., General Office, Chicago
Shaw, Metz & Dolio, Archts.
Campbell, Lowrie, Lautermilch Corp., Contr.
Arch. Proj. Windows with KoolShade Screens in Private Office Area

TRUSCON INTERIOR STEEL DOORS

SWING DOORS AND FRAMES—SERIES 50



Truscon Series 50 Steel Doors and Frames offer many advantages. They are made from high quality steel and reinforced to provide maximum rigidity and assurance that they will not warp, twist, shrink or swell. All doors are sound deadened to eliminate metallic sounds in normal operation. The doors and frames are bonderized for maximum rust protection and paint adherence, and finished with a baked-on prime coat of paint. Mass production economies and low installation costs assure an economical installation in any type of building.

Doors are 1⅜" thick and of a pleasing, flush design. They are available in the standard height of 6'-8", and with the six most popular widths, 1'8", 2'-0", 2'-4", 2'-6", 2'-8" and 3'-0". Also available are doors with louvers, glass or vision panels and double doors. Four types of locksets, designed to meet all normal requirements of residential doors, are offered. They are either Schlage Type "A" or Lockwood Type "SB" with both of bright brass material. Truscon now offers, in addition to the above, doors prepared to receive 2¾" backset heavy duty hardware. These doors are available from factory only.

Frames for the doors are designed to fit practically every type of wall construction. Shipped knocked-down, they are easily and quickly assembled with the corner connections forming neat hairline joints. Frames are available in depths of 2¾", 3¼", 4¼", 5¼" and 6¼", with the last two depths procurable from warehouses in the stock door sizes mentioned above.

Doors shipped from warehouse stocks are bound with heavy corrugated paper for protection during shipment. Each door leaf is designed for use in either right or left hand swing, and to open in or out. Frames, however, must be ordered right or left hand to accommodate required swing of door and are bundled for shipment.

Frames complete with hinges, rubber bumpers and strike plates are available for use with wood doors.

Underwriters' Labelled Doors and Frames are available on special order. Consult the nearest Truscon representative for detailed information.

SPECIFICATIONS

1. Specify—Truscon Interior Steel Doors and Frames, Series 50, as manufactured by the Truscon Steel Division, Republic Steel Corporation, Youngstown, Ohio.

2. Swing Doors — Doors shall be of flush construction, 1⅜" in thickness. Door stiles shall be constructed of 20 gauge steel roll-formed with ⅛" bevel in 2" on edges and reinforced for hinges and locks with steel plates welded in place. Panels shall be constructed of 20 U. S. gauge prime quality cold rolled steel, roll-formed and mechanically stiffened to achieve flatness and rigidity. On doors over 2'-0", panels shall be reinforced at approximately 17" centers, alternating at front and rear so that a stiffener occurs at approximately every 8½" in the door. Stiffeners shall be U shaped steel transverse sections, securely welded to the inside of the panel. The top and bottom of doors shall be reinforced and closed with die-formed steel channels securely spot welded to the inside of both panels.

3. Sound Deadener — All swing doors shall have the interior surface of the door panels coated with a sound deadener preparation of the heavy asphalt emulsion type. The emulsion shall be wiped on in such form and quantity as to eliminate all metallic reverberations incident to normal door operation. The mastic material shall be insoluble in water and resistant to a degree preventing its deterioration or dislodgment under the spray of the hot bonderizing baths and the 350° F. bake oven temperatures during the subsequent cleaning, bonderizing and prime painting operations.

4. Hardware — Doors shall be prepared to receive cylinder type locks of either standard or heavy duty type. (Selection may be made from the types described on page 67.)

5. Miscellaneous Hardware — The items hereinafter mentioned shall not be included under the door contract but preparation to receive same shall be provided as described.

(A) Door Closers — Door and frame shall be adequately reinforced at points of application. The drilling and tapping for installation shall be performed in field to permit maximum accuracy by using the door closer as a template.
(B) Push-Pull Plates — Standard hardware cutout shall be omitted from door and frame upon request and shop shipment. Installation with through machine screws shall be made in field.
(C) Door Stops and Holders (Not furnished or provided for by Truscon) — To be installed in field with sheet metal screws.
(D) Kick Plates (Not furnished or provided for by Truscon) — To be installed in field with sheet metal screws.

6. Frames — Frames shall be of rabbeted design, 2¾", 3¼", 4¼", 5¼" or 6¼" in depth as shown on plans and/or in door schedule. They shall be constructed of 18 U. S. gauge steel except that the 2¾" frames shall be of 16 gauge steel. All frames shall be of knocked-down type with ends of members forming upper frame corners specially designed, insuring a square and solid joint held securely in place by double tenon construction with tenons bent to firmly lock the assembly. The strike cutout shall be provided with heavy gauge steel reinforcement, securely spot welded in the jamb.

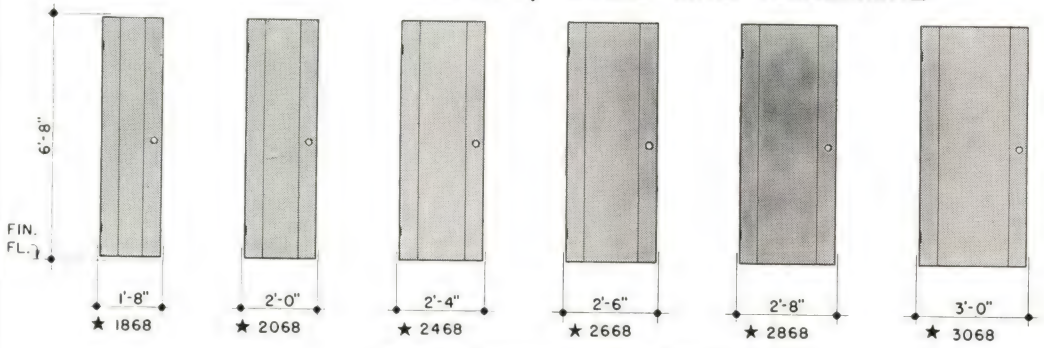
(A) Hardware — Frames shall be equipped with two 3-knuckle leaf hinges (3½" x 3½") welded in place at the factory. The two knuckle leaves of hinges, hinge pins and No. 10-24 flat head machine screws shall be furnished separately for attaching door. Three rubber bumpers shall be provided for each frame.
(B) Anchors — Each frame shall be equipped with six welded anchors for rigid attachment to metal or wood studs. For masonry walls three loose adjustable anchors per jamb shall be furnished. An adjustable sill anchor shall be securely attached to each jamb section for fastening frame to floor.

7. Shop Painting — All doors and frames shall be bonderized for maximum rust protection and paint adherence, in addition they shall receive one shop coat of high grade gray paint, oven-baked.

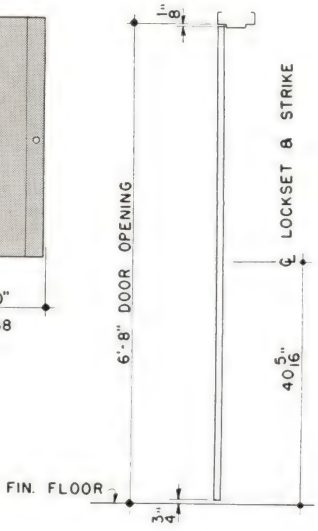
TRUSCON INTERIOR STEEL DOORS—SERIES 50

SWING DOORS

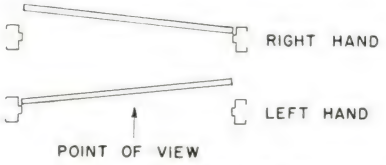
TYPES, SIZES AND HARDWARE



DIMENSIONS SHOWN ARE DOOR OPENING DIMENSIONS

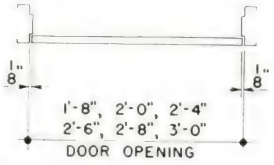


HAND OF DOOR MAY BE DETERMINED BY REFERRING TO SKETCHES BELOW. NOTE THAT DOOR MUST ALWAYS SWING AWAY FROM POINT VIEWED.

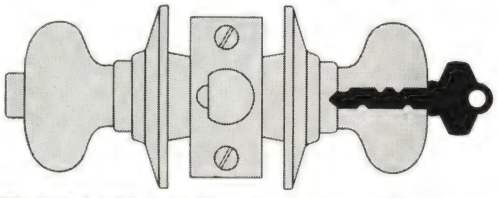


★ DENOTES WAREHOUSE STOCK TYPES.

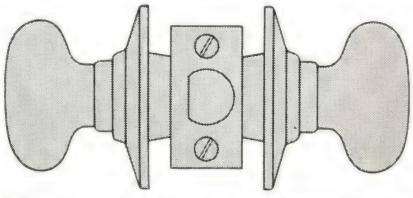
- ANY DOOR LEAF MAY BE INSTALLED WITH HINGES AT RIGHT OR LEFT AND MAY OPEN IN OR OUT.
- DOORS WITH SPECIAL FEATURES, AS LOUVERS, VISION PANELS, HALF GLASS PANELS OR DOOR CLOSURE PREPARATION MUST INDICATE HAND OF DOOR AS DETERMINED BY SKETCH AT LEFT.
- FOR STUD OPENING SIZES USE DOOR OPENING DIMENSIONS SHOWN AND ADD $4\frac{1}{2}$" IN WIDTH AND $2\frac{1}{4}$" IN HEIGHT.



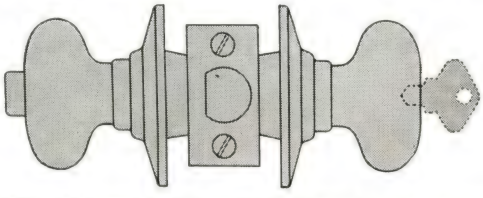
STANDARD HARDWARE



SCHLAGE TYPE A-52-WD — LOCKWOOD TYPE SB-328
Bolt operated by key from outside and push-button knob from inside. Push-button knob inside locks or unlocks outside knob.



SCHLAGE TYPE A-10-S — LOCKWOOD TYPE SB-310
For Closet, Vestibule and Connecting Doors. A plain latch operated by knob from either side. Has no locking mechanism.

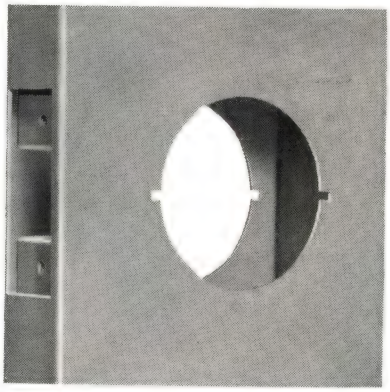


SCHLAGE TYPE A-40-S — LOCKWOOD TYPE SB-310⅓
For Bedroom Doors. Locking mechanism controlled by push button on knob from inside. Emergency key opening on outside knob.

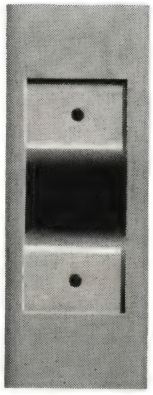
SCHLAGE TYPE A-40-SB — LOCKWOOD TYPE SB-310¼
For Bathroom Doors. Same as above except inside push-button knob finished in bright chrome.

All finishes are bright brass except types A-40-SB and SB-310¼ which are as specified.

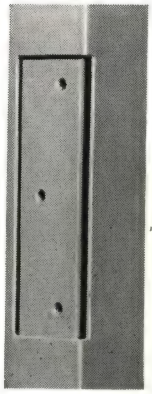
Schlage "D" Series or Lockwood "HN" Series are suitable for the 2¾" heavy duty lockset preparation.



Standard Lockset Preparation: 2⅛" Cutout—2⅜" Backset
Heavy Duty Lockset Preparation: 2⅛" Cutout—2¾" Backset



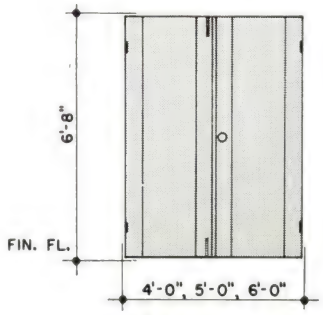
Lockset Reinforcement



Hinge Cutout and Reinforcement in Door Stile

TRUSCON INTERIOR STEEL DOORS — SERIES 50

PAIRS OF SWING DOORS — GLASS AND VISION PANELS — LOUVERS



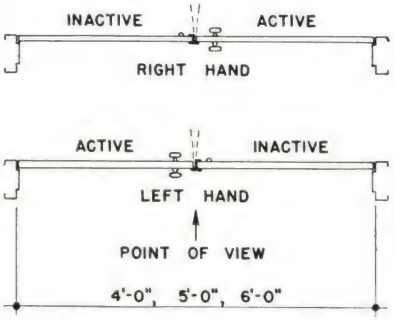
DOOR TYPES

★ 4068 DS
★ 5068 DS
★ 6068 DS

WAREHOUSE STOCKS TO HAVE SURFACE BOLTS ON HINGE FACE ONLY.

PAIRS OF SWING DOORS

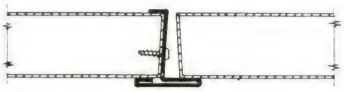
HAND OF DOOR IS DETERMINED BY LOCATION OF ACTIVE LEAF WHEN DOORS SWING AWAY FROM POINT VIEWED.



NOTES

- INACTIVE LEAF IS FURNISHED WITH SURFACE TYPE TOP AND BOTTOM BOLTS. THE DOOR IS PREPARED FOR FIELD ATTACHMENT.
- SURFACE BOLTS MAY BE LOCATED ON EITHER FACE OF THE INACTIVE LEAF, AT CUSTOMER'S OPTION. (WAREHOUSE STANDARD IS ON HINGE FACE ONLY).
- DIMENSIONS SHOWN ARE DOOR OPENING DIMENSIONS.

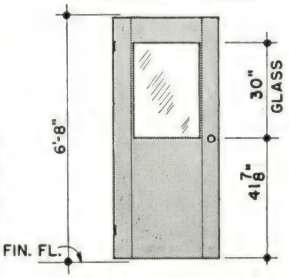
★ DENOTES WAREHOUSE STOCK TYPES.



ASTRAGAL

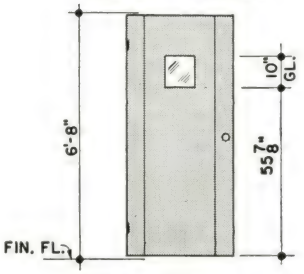
HALF GLASS PANELS - VISION PANELS

GLASS PANEL



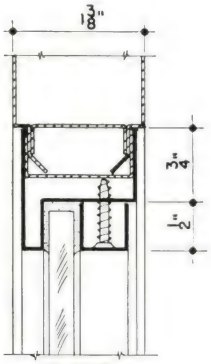
DOOR TYPES	GLASS SIZES
GP 2668	16" X 30"
★ GP 2868	18" X 30"
★ GP 3068	22" X 30"

VISION PANEL



GLASS SIZE - 10" X 10"

DOOR TYPES
★ VP 2668
★ VP 2868
★ VP 3068

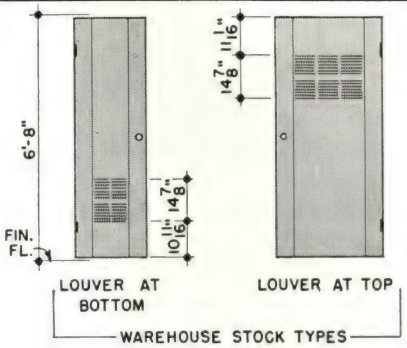


PANEL DETAIL

NOTES

- GLASS MUST BE FURNISHED AND INSTALLED BY OTHERS.
- HAND OF DOORS MUST ALWAYS BE GIVEN WHEN EQUIPPED WITH A PANEL.
- GLAZING STOPS ARE ALWAYS LOCATED ON HINGE FACE OF DOOR.
- DOORS MAY ALSO BE EQUIPPED WITH LOUVERS IN ADDITION TO GLASS OR VISION PANELS.

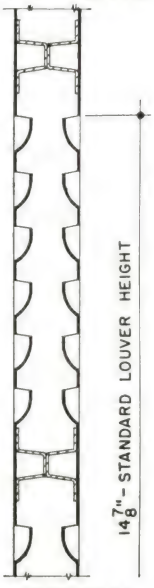
★ DENOTES WAREHOUSE STOCK TYPES.



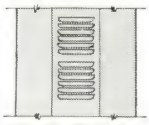
- LOUVERS ARE THE FIXED, PIERCED TYPE.
- HAND OF DOORS MUST ALWAYS BE GIVEN.
- LOUVER AREAS SHOWN ARE TOTAL CLEAR OPENINGS FOR FREE AIR PASSAGE THROUGH DOOR.
- LOUVERS ARE DESIGNATED BY NOMENCLATURE AS "L2B", "L2T" OR "L2TB"; AND "L3B", "L3T" OR "L3TB". FIGURE INDICATES SIZE OF LOUVER - "2" EQUALS 14 7/8" HEIGHT AND "3" EQUALS 23 3/8" HEIGHT. LETTER "B" OR "T" INDICATES LOCATION IN TOP OR BOTTOM OF DOOR. "TB" DESIGNATES THE CERTAIN SIZE LOUVER IN BOTH TOP AND BOTTOM OF DOOR - TOTAL DOOR LOUVER AREA IS DOUBLE THAT SHOWN IN TABLE AT RIGHT.

★ DENOTES WAREHOUSE STOCK SIZES. STOCKED ONLY WITH LOUVERS 14 7/8" HIGH LOCATED EITHER IN THE TOP OR IN THE BOTTOM OF THE DOOR.

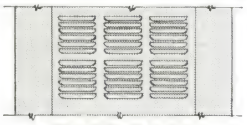
LOUVERS



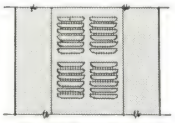
VERTICAL SECTION



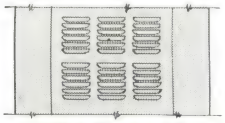
1868 DOOR
18.6 SQ. IN. - 14 7/8" HIGH
27.9 " " - 23 3/8" "



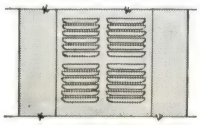
3068 DOOR
★ 58.2 SQ. IN. - 14 7/8" HIGH
87.3 " " - 23 3/8" "



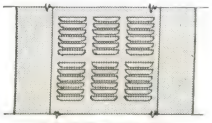
2068 DOOR
★ 27.0 SQ. IN. - 14 7/8" HIGH
40.5 " " - 23 3/8" "



2868 DOOR
40.4 SQ. IN. - 14 7/8" HIGH
60.6 " " - 23 3/8" "



2468 DOOR
38.8 SQ. IN. - 14 7/8" HIGH
58.2 " " 23 3/8" "

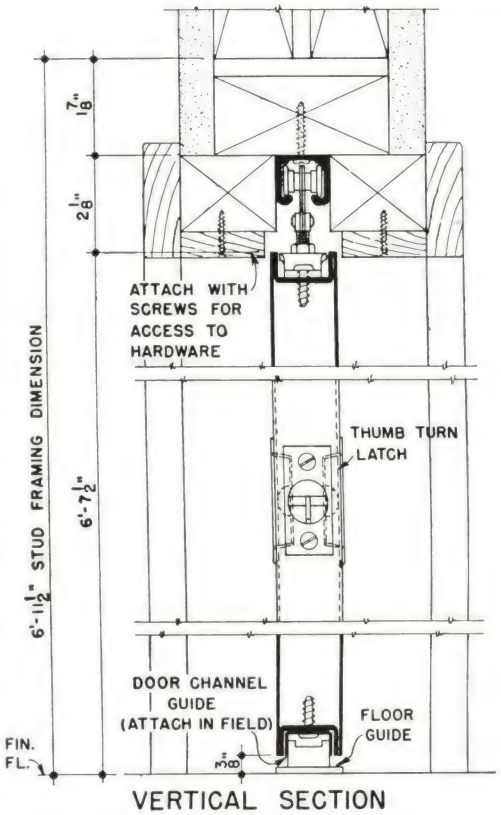


2668 DOOR
★ 40.4 SQ. IN. - 14 7/8" HIGH
60.6 " " 23 3/8" "

TRUSCON INTERIOR STEEL DOORS—SERIES 50

SLIDING RECESS DOORS—TRIMMED OPENINGS

SLIDING RECESS DOORS



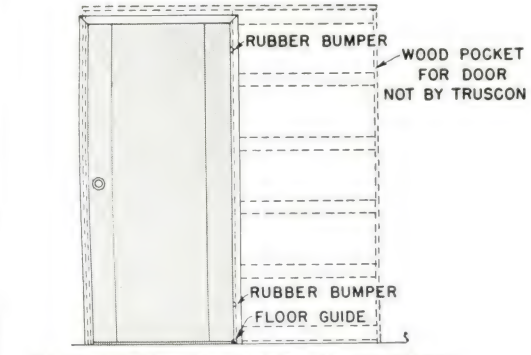
VERTICAL SECTION

The Series 50 Sliding Recess Door is available from warehouse stocks as a space saving feature in modern home construction. It eliminates the necessity of clearances for the swing of a standard door.

This design is recommended for any door opening which remains fully opened for normal usage but occasionally may be temporarily closed. Popular uses are between kitchen and dining room. This design is also convenient as a bedroom closet door where space is particularly restricted.

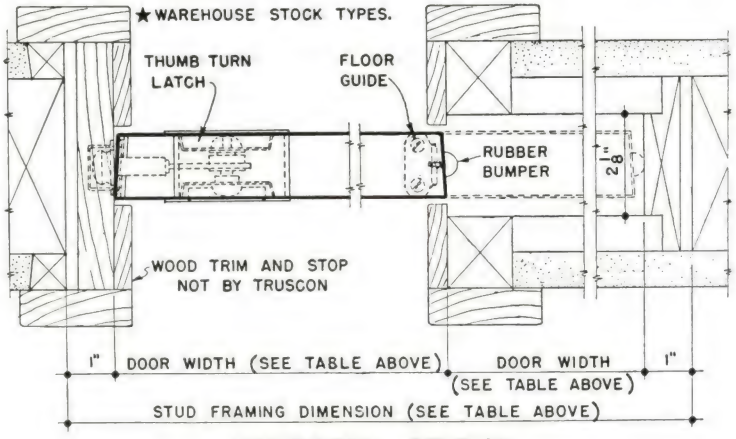
The door is furnished complete with overhead track, trolleys, latch set with thumb turn, auxiliary door channel guide, and floor guide. The door pocket, trim and stops are not included as they are fabricated on the project from standard dimension lumber. No special wall construction is required as door is designed for installation in a standard 2 x 4 stud wall.

TABLE OF WIDTHS				
DOOR TYPE	★ 2068 SD	★ 2668 SD	★ 2868 SD	★ 3068 SD
DOOR WIDTH	1'-11 3/4"	2'-5 3/4"	2'-7 3/4"	2'-11 3/4"
STUD FRAMING DIMENSION	4'-1 1/2"	5'-1 1/2"	5'-5 1/2"	6'-1 1/2"



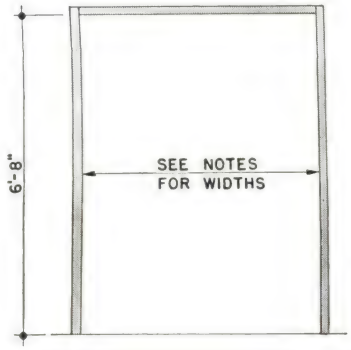
ELEVATION OF DOOR IN POCKET

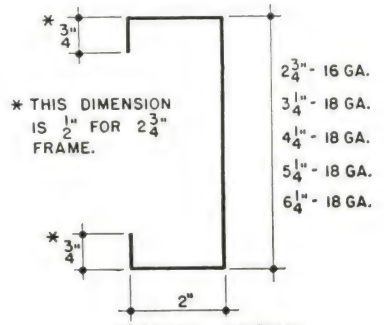
★ WAREHOUSE STOCK TYPES.



HORIZONTAL SECTION

TRIMMED OPENINGS





FRAME DETAIL

FRAME SYMBOLS

★ T06 - 4068
★ T06 - 5068
★ T06 - 6068

PREFIX "T06" INDICATES A 6 1/4" TRIMMED OPENING FRAME. FOR OTHER FRAME DEPTHS USE "T02" FOR 2 3/4", "T03" FOR 3 1/4", ETC.

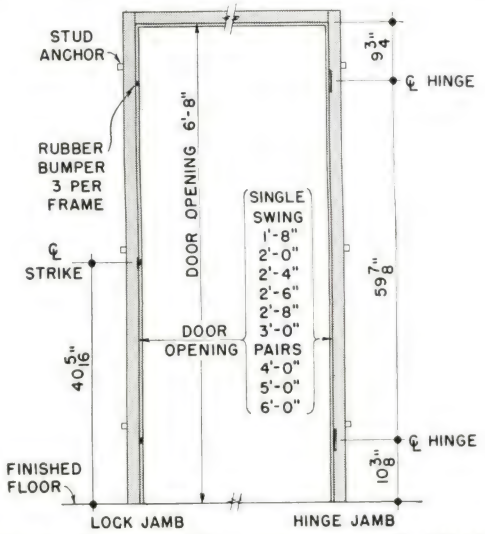
NOTES

- TRIMMED OPENING FRAMES ARE ASSEMBLED AND ANCHORED SIMILAR TO SWING DOOR FRAMES.
- AVAILABLE IN ANY WIDTH IN INCREMENTS OF 2".

★ DENOTES WAREHOUSE STOCK TYPES IN 5 1/4" AND 6 1/4" DEPTHS.

TRUSCON INTERIOR STEEL DOORS—SERIES 50

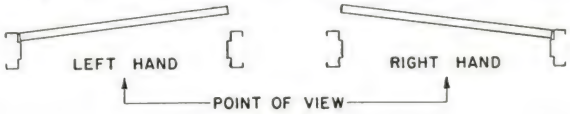
FRAMES FOR SWING DOORS



ELEVATION - TYPICAL SWING DOOR FRAME

FOR STUD OPENING SIZES USE DOOR OPENING DIMENSIONS SHOWN AND ADD $4\frac{1}{2}$" IN WIDTH AND $2\frac{1}{4}$" IN HEIGHT.

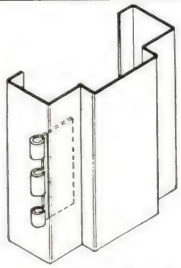
HAND OF FRAME IS DETERMINED BY REFERRING TO SKETCHES BELOW. NOTE THAT DOOR MUST ALWAYS SWING AWAY FROM POINT VIEWED.



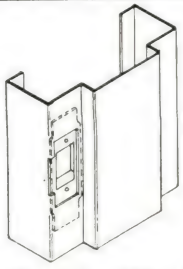
FRAME TYPE

DOOR TYPES	FRAME DEPTHS				
	$2\frac{3}{4}$" ◆	$3\frac{1}{4}$"	$4\frac{1}{4}$"	$5\frac{1}{4}$"	$6\frac{1}{4}$"
1868	2-1868	3-1868	4-1868	★ 5-1868	★ 6-1868
2068	2-2068	3-2068	4-2068	★ 5-2068	★ 6-2068
2468	2-2468	3-2468	4-2468	★ 5-2468	★ 6-2468
2668	2-2668	3-2668	4-2668	★ 5-2668	★ 6-2668
2868	2-2868	3-2868	4-2868	★ 5-2868	★ 6-2868
3068	2-3068	3-3068	4-3068	★ 5-3068	★ 6-3068
●4068 DS	2-4068 DS	3-4068 DS	4-4068 DS	★ 5-4068DS	★ 6-4068DS
●5068 DS	2-5068 DS	3-5068 DS	4-5068 DS	★ 5-5068DS	★ 6-5068DS
●6068 DS	2-6068 DS	3-6068 DS	4-6068 DS	★ 5-6068DS	★ 6-6068DS

★ DENOTES WAREHOUSE STOCK FRAMES.
"R. H." OR "L. H." (HAND OF FRAME) MUST FOLLOW THE FRAME SYMBOL. SEE "HAND OF FRAME" ABOVE FOR SINGLE DOORS AND PAGE 68 FOR PAIRS OF DOORS.
● DENOTES PAIRS OF SWING DOORS ONLY.
● $2\frac{3}{4}$" FRAMES ARE OF 16 GA. STEEL; ALL OTHERS OF 18 GA.
◆ TOP STRUTS REQUIRED FOR $2\frac{3}{4}$" FRAMES.

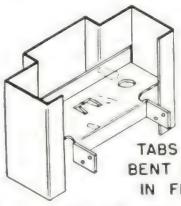


HINGE LEAF WELDED TO FRAME

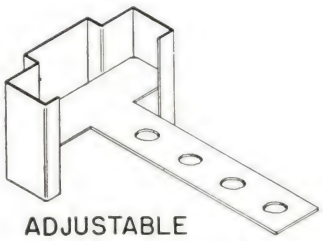


WELDED STRIKE REINFORCEMENT

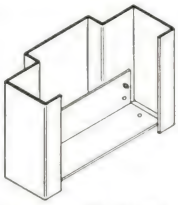
ANCHORS



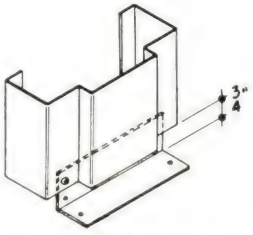
WELDED STUD ANCHOR



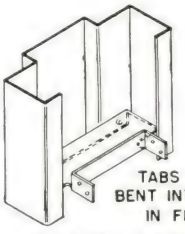
ADJUSTABLE MASONRY ANCHOR



ADJUSTABLE FLOOR ANCHOR TO FINISHED FLOOR

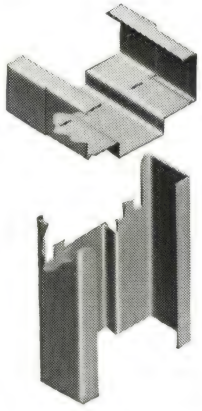


ADJUSTABLE FLOOR ANCHOR TO SUB-FLOOR

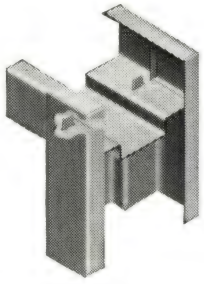


FLOOR ANCHOR ATTACHED TO PLATE
(FACTORY SHIPMENT ONLY)

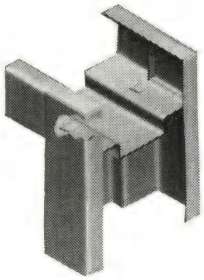
ASSEMBLY OF DOOR FRAMES



STEP 1
Jamb and Head Members before assembly



STEP 2
Jamb and Head Members partially assembled. Note two tenons ready to be bent in place



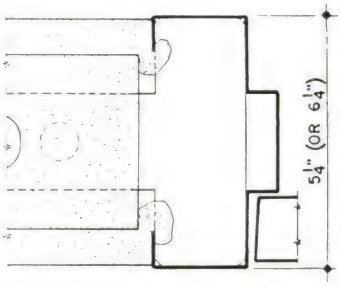
STEP 3
Jamb and Head Members assembled. The two tenons bent in place, securely locking the joint

(PATENT NO. 2601164)

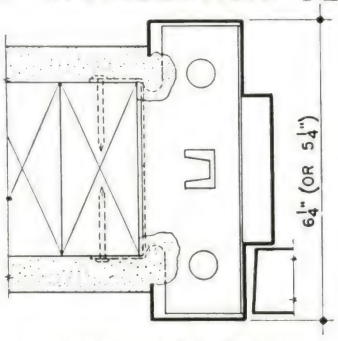
TRUSCON INTERIOR STEEL DOORS—SERIES 50

FRAMES FOR SWING DOORS

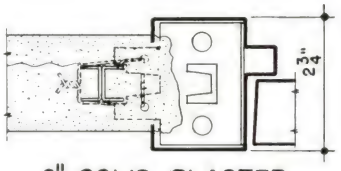
FRAME INSTALLATION DETAILS



MASONRY WALL

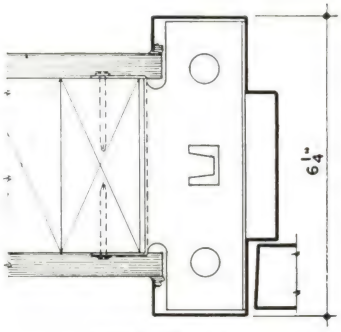


WOOD STUD WALL

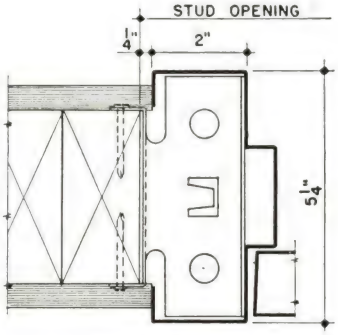


2" SOLID PLASTER PARTITION WITH METAL LATH CORE

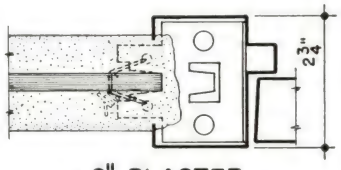
(TOP STRUTS REQUIRED)



DRY WALL

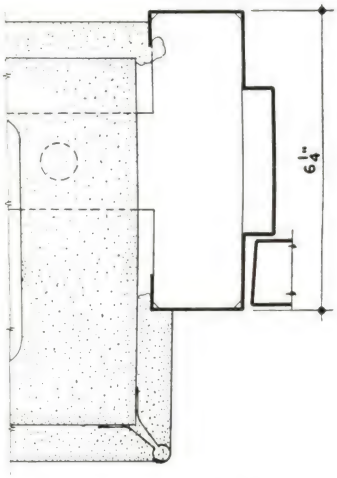


DRY WALL

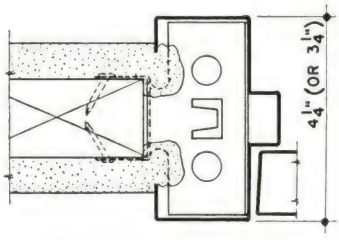


2" PLASTER PARTITION WITH ROCKLATH CORE

(TOP STRUTS REQUIRED)



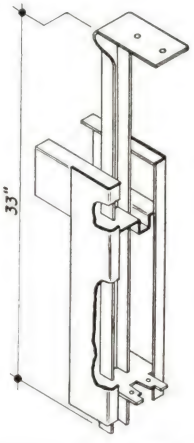
HEAVY MASONRY WALL



WOOD STUD WALL

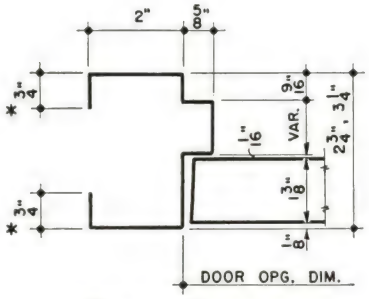
TOP STRUT

FURNISHED FOR 2" SOLID PLASTER PARTITIONS

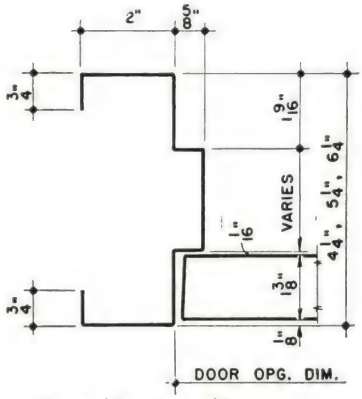


FRAME DETAILS

* THIS DIMENSION IS ½" FOR 2¾" FRAME.



2¾" & 3¼" FRAMES

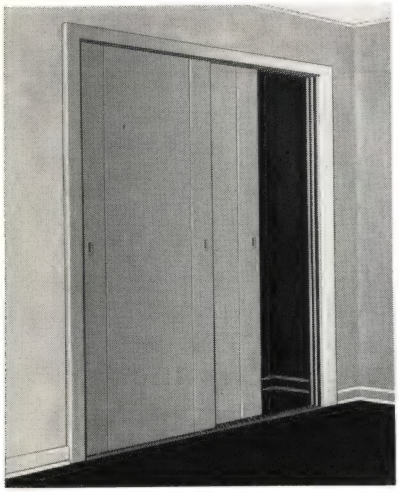


4¼", 5¼", & 6¼" FRAMES

2¾" FRAMES ARE FORMED FROM 16 GA. STOCK. ALL OTHERS ARE 18 GAUGE.

★ WAREHOUSE STOCK FRAMES ARE 5¼" AND 6¼" DEPTHS.

TRUSCON INTERIOR STEEL DOORS—SERIES 51 and 51B



SLIDING CLOSET DOORS

These modern Sliding Doors provide total closet accessibility, more usable floor space and materially reduce construction costs. Outstanding economy is obtained through the elimination of material and labor required, (1) to construct and plaster approximately one-half the area occupied by the full width of the Sliding Door opening, and (2) to furnish and install frame, swing door and hardware.

Series 51 and 51B Flush Type Sliding Closet Doors are precision made of prime quality cold rolled sheets heavily reinforced for rigidity, thus insuring perfect fit and permanent trouble-free operation. All Truscon doors are bonderized to provide maximum resistance to corrosion, and finished with a prime coat of baked-on paint. Each door panel is equipped with two noiseless nylon rollers, nylon top guides and rubber bumpers at jambs to provide smooth, quiet operation.

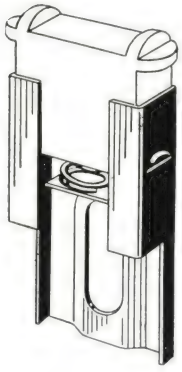
Finger pulls are fitted into each side of both panels at the factory. Units are available in four standard widths, 3′-0″, 4′-0″, 5′-0″ and 6′-0″. Height of doors is 6′-8″ or 7′-10″.

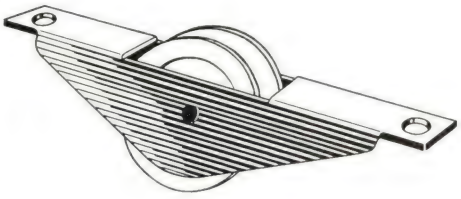
SERIES 51B—FRAMED UNITS

Series 51B Sliding Closet Doors differ from the Series 51 only in that they are equipped with a knocked-down door frame matching that of the swing doors in appearance and assembly. Materials are packaged in sturdy cartons with the exception of the door frames. The necessity of wood bucks and trim is eliminated in this type of installation. See page 73.

SERIES 51—"KD" PACKAGE UNITS

Series 51 Sliding Closet Doors are shipped from warehouse stock as complete units, packaged in sturdy cartons containing two door panels, all necessary hardware, and accurately punched header, jamb and track sections; also all screws for assembly and installation in wood frame partitions. Wood trim is not included. See pages 74 and 75.





Nylon Top Guide and Nylon Roller for Silent and Smooth Operation.



SPECIFICATIONS

1. Material and Construction — Doors shall be constructed of No. 20 U. S. gauge prime quality cold rolled steel, roll formed and mechanically stiffened to achieve flatness and rigidity. Panels shall be reinforced at approximately 17″ centers. Stiffeners shall be U shaped steel transverse sections, securely welded to the inside of the panel. The top and bottom of doors shall be reinforced and closed with die formed steel channels securely spot welded to the inside of both panels.

2. Hardware — Each door panel shall have two noiseless nylon rollers, steel head keepers with sound reducing nylon top guides, and rubber bumpers, all for field attachment, and a pair of finger pulls attached in the shop.

3. Head, Jamb and Sill Members — Head and jamb members shall be roller die formed to conceal edges of door panels, and shall be constructed of No. 22 U. S. gauge steel, accurately punched for attachment to wood jamb studs and header in Series 51 doors, or securely screwed to the frame for Series 51B doors. Sill shall be of steel, roller die formed into double track section and punched for attaching to floor. Furnish necessary screws and nuts to assemble unit and, for Series 51 doors, for installing in openings built and prepared by others.

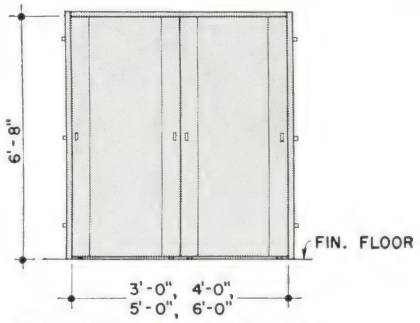
4. Frames (for Series 51B doors only) — Frames shall be of flush face, non-rabbeted design with the head and jamb guides attached in field. Otherwise, they shall be of the same material, design and construction as the swing door frames, and similarly anchored. Hinges and lock preparation shall be omitted.

5. Shop Painting — Doors, head and jamb members, and frames shall be bonderized for maximum rust protection and paint adherence, in addition they shall receive one shop coat of high grade gray paint, oven-baked.

TRUSCON INTERIOR STEEL DOORS—SERIES 51B

FRAMED SLIDING CLOSET DOORS

TYPES, SIZES AND DETAILS



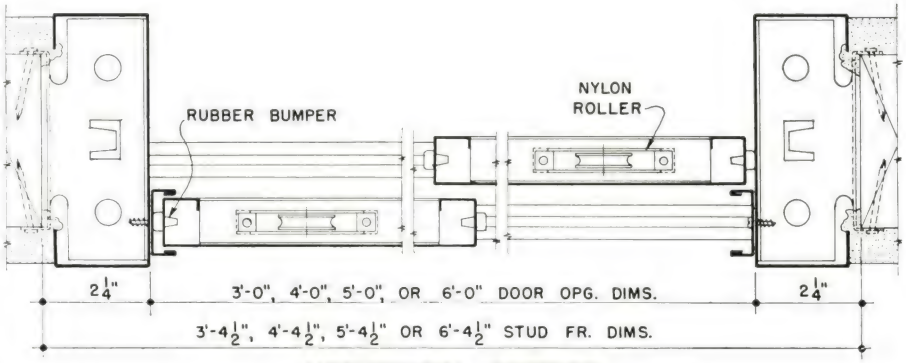
SLIDING CLOSET DOORS
8 FRAMES - SERIES 51B

DOOR SYMBOLS - SERIES 51B

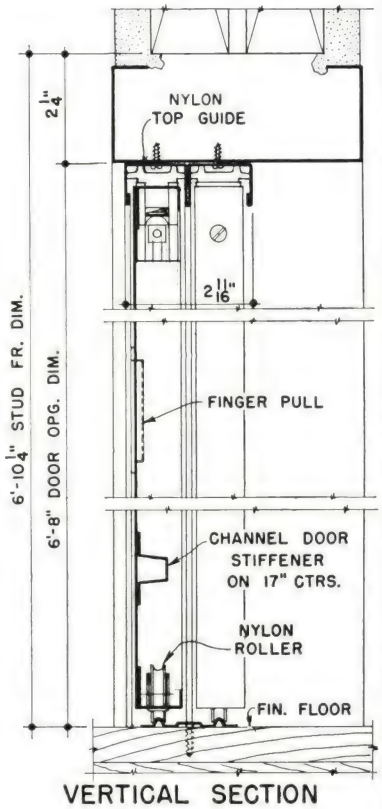
★ 3068 - 6F
★ 4068 - 6F
★ 5068 - 6F
★ 6068 - 6F

SUFFIX "6F" INDICATES STANDARD SLIDING CLOSET DOOR EQUIPPED WITH A $6\frac{1}{4}$" FRAME. FOR OTHER FRAME DEPTHS USE 2F FOR $2\frac{3}{4}$", 3F FOR $3\frac{1}{4}$", ETC.

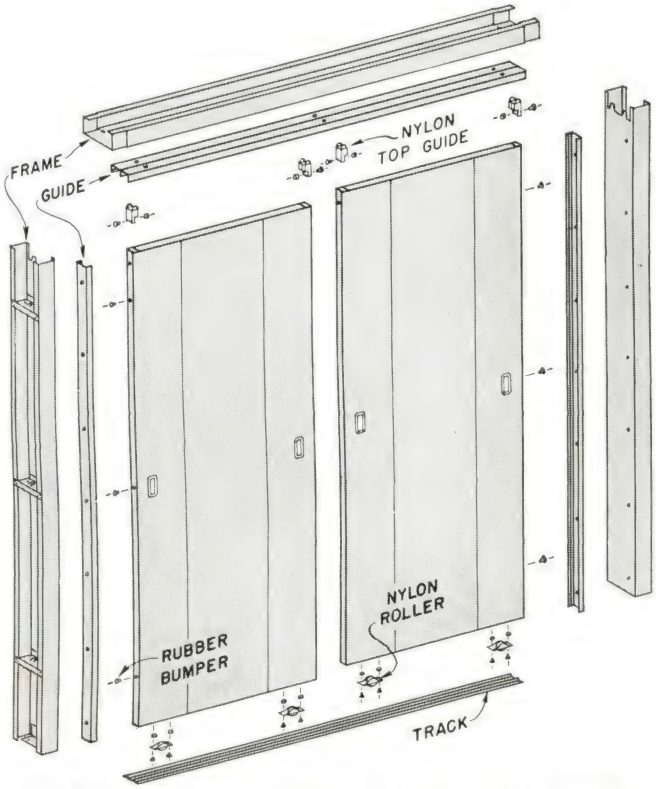
★ DENOTES TYPES STOCKED IN WAREHOUSE. WITH FRAME DEPTHS OF $5\frac{1}{4}$" AND $6\frac{1}{4}$".



HORIZONTAL SECTION

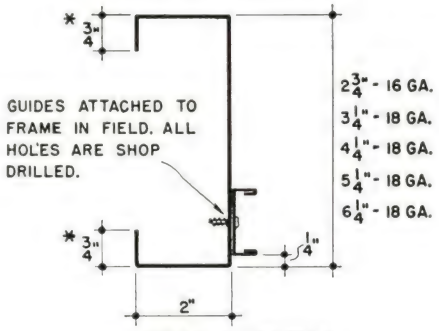


VERTICAL SECTION



EXPLODED VIEW OF DOOR, GUIDES AND FRAME

* THIS DIMENSION IS $\frac{1}{2}$" FOR $2\frac{3}{4}$" FRAME.



FRAME DETAIL

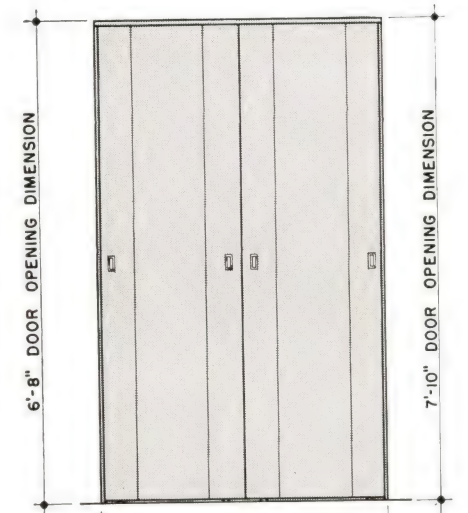
NOTES

- HARDWARE ASSEMBLY IS THE SAME AS FOR SERIES "51" SLIDING CLOSET DOORS.
- JAMB ANCHORS, FLOOR ANCHORS AND TOP STRUTS FOR FRAMES OF SERIES "51B" SLIDING CLOSET DOORS ARE THE SAME AS FOR SERIES "50" SWING DOORS.

TRUSCON INTERIOR STEEL DOORS—SERIES 51

"PACKAGE" TYPE SLIDING CLOSET DOORS

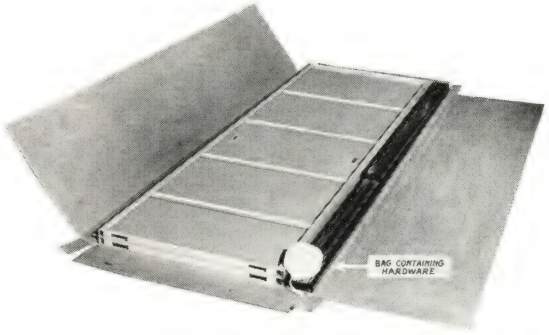
TYPES, SIZES AND ASSEMBLY DETAILS



TYPES	
3068	3'-0" DOOR OPG. DIM.
4068	4'-0" DOOR OPG. DIM.
5068	5'-0" DOOR OPG. DIM.
6068	6'-0" DOOR OPG. DIM.

TYPES	
40710	4'-0" DOOR OPG. DIM.
50710	5'-0" DOOR OPG. DIM.

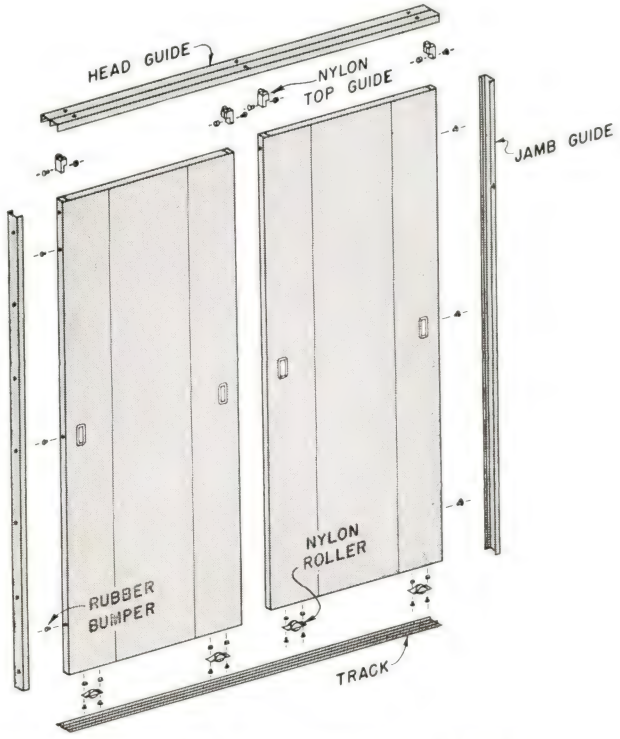
TYPES STOCKED IN WAREHOUSE



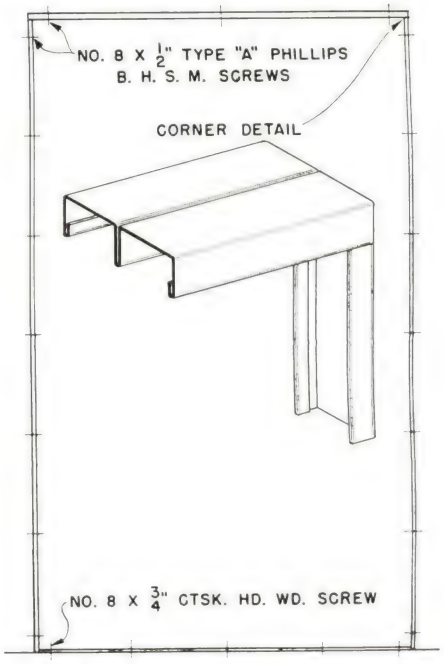
Sliding Closet Door Units Series 51 are shipped to the job complete in one package, ready for assembly. Illustration shows doors, with stiffeners welded to reverse side, bag containing all necessary hardware, metal header, jambs and track sections.

HARDWARE ASSEMBLY NOTES

- HARDWARE IS TO BE ATTACHED TO THE DOOR AFTER THE DOOR HAS BEEN PAINTED.
- FINGER PULLS ARE FACTORY INSTALLED.
- ROLLERS ARE INSERTED FROM THE OUTSIDE AND FASTENED WITH NO. 8-32 X $\frac{3}{8}$" F. H. M. S. AND SQ. NUTS.
- RUBBER BUMPERS SHOULD BE WET AND INSERTED INTO PREPARED HOLES IN THE DOOR AND THE POINT OF THE BUMPER PULLED THROUGH THE HOLE FROM THE OPPOSITE SIDE.
- TOP GUIDES ARE AT FIRST ATTACHED LOOSELY TO THE UPPER HOLES WITH THE GUIDE DOWN AGAINST THE TOP OF THE DOOR. GUIDES ARE FASTENED WITH NO. 8-32 X $\frac{3}{8}$" F. H. M. S. AND SQ. NUTS. AFTER THE DOOR HAS BEEN INSTALLED IN THE HEAD GUIDE AND FLOOR TRACK, THE GUIDES ARE ADJUSTED UPWARD UNTIL THE DOOR IS SECURE ON THE TRACK AND STILL FREE TO OPERATE. TIGHTE THE SCREWS AND NUTS.



EXPLODED VIEW OF DOOR AND GUIDES

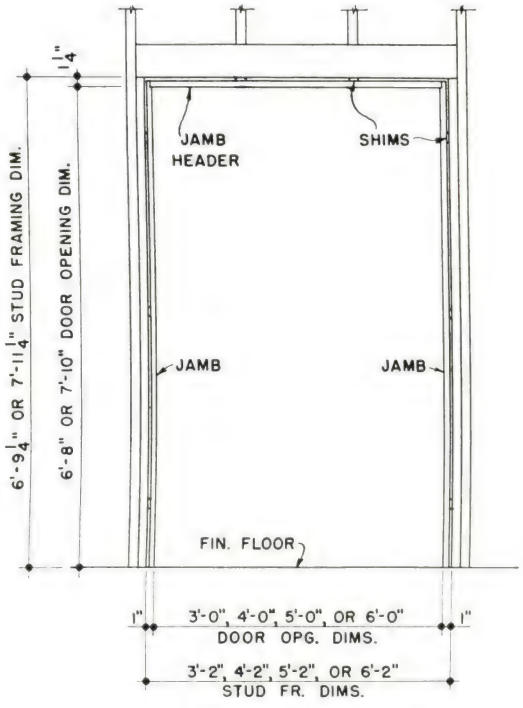


ELEVATION OF DOOR GUIDES

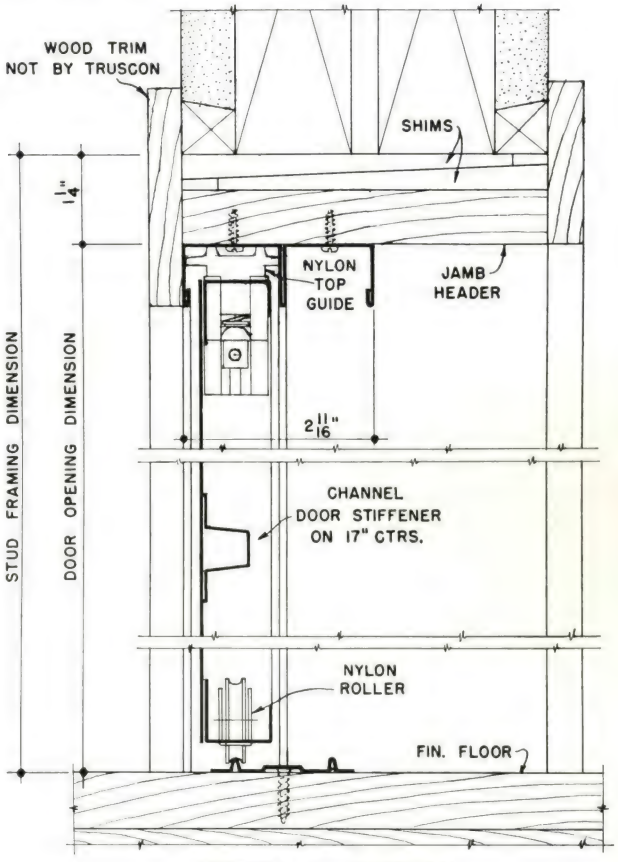
TRUSCON INTERIOR STEEL DOORS—SERIES 51

"PACKAGE" TYPE SLIDING CLOSET DOORS

INSTALLATION DETAILS



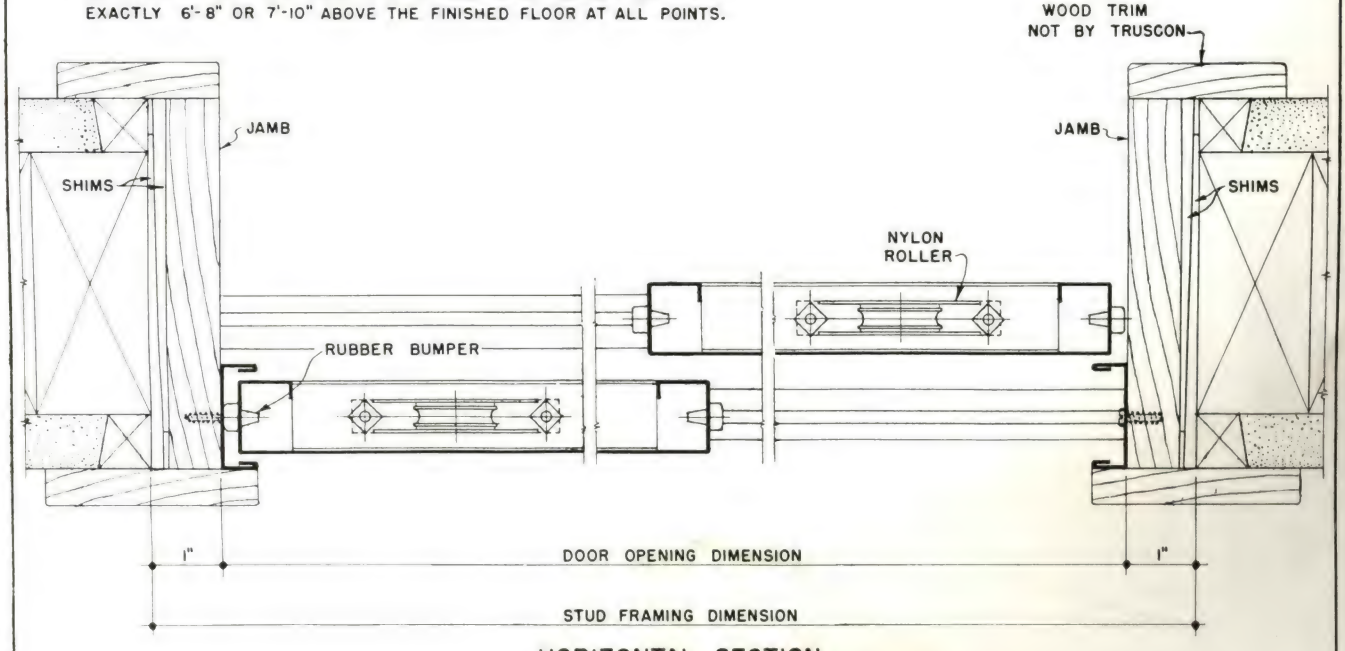
FRAMING DIMENSIONS



VERTICAL SECTION

NOTES

- STUD FRAMING IS ERECTED ESSENTIALLY THE SAME AS FOR A CONVENTIONAL DOOR JAMB. THE WIDTH BETWEEN STUDS SHOULD BE 2" GREATER THAN THE OPENING WIDTH OF THE DOOR.
- THE JAMB IS TO BE MADE OF ¾" STOCK AND INSTALLED AFTER WALL AND FLOOR HAVE BEEN COMPLETED. IT IS IMPORTANT THAT THE UNDERSIDE OF THE JAMB HEADER BE EXACTLY 6'-8" OR 7'-10" ABOVE THE FINISHED FLOOR AT ALL POINTS.



HORIZONTAL SECTION

TRUSCON
STEEL DIVISION
REPUBLIC STEEL CORPORATION

SALES OFFICE AND MAIN PLANT • 1315 Albert St., Youngstown 1, Ohio

FACTORIES: YOUNGSTOWN, OHIO • CANTON, OHIO • GADSDEN, ALABAMA

EXPORT DEPARTMENT: CHRYSLER BUILDING, 405 LEXINGTON AVENUE, NEW YORK 17, NEW YORK

DISTRICT SALES OFFICES

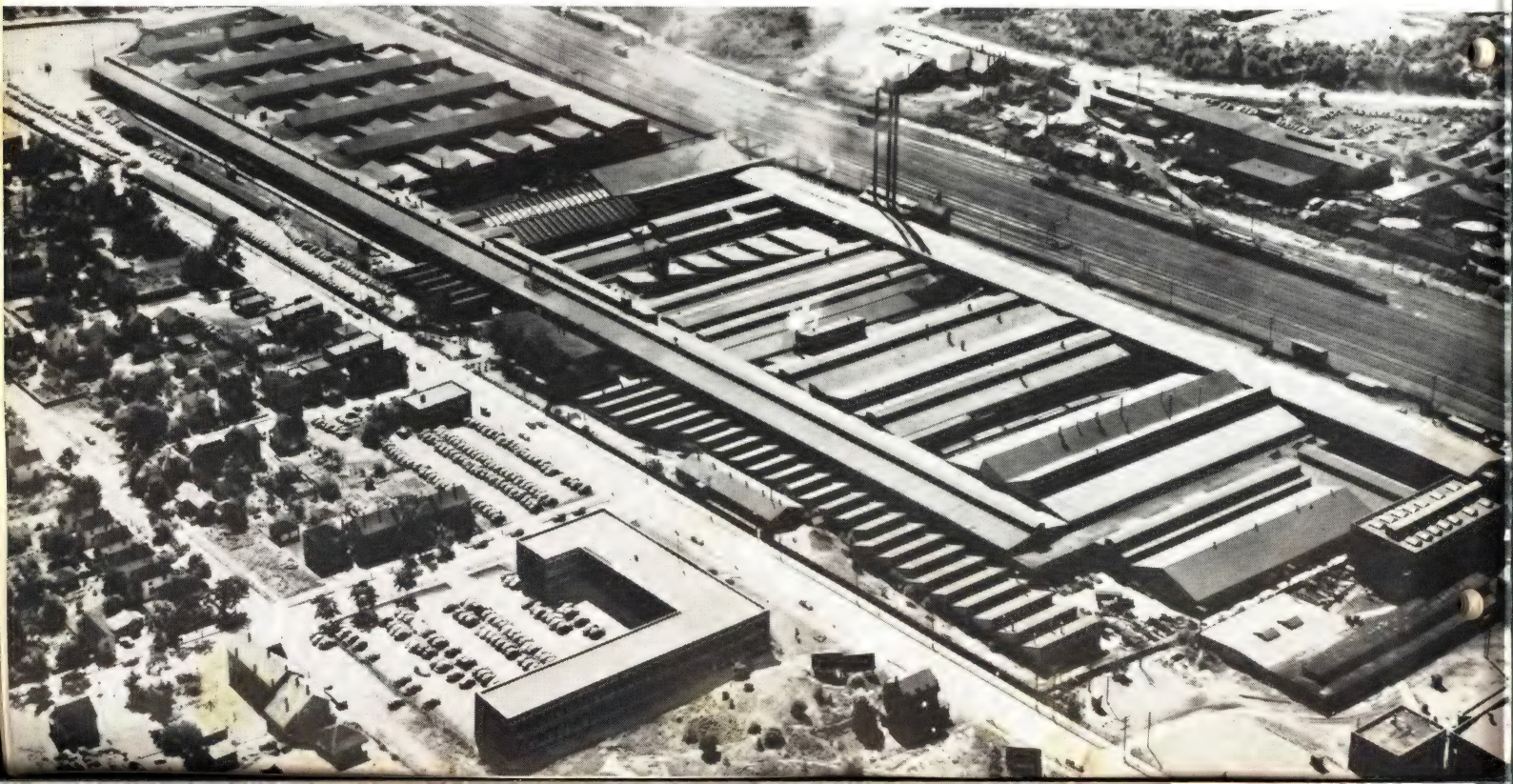
ALBANY 3, N. Y., 45 North Lake Avenue
ATLANTA 3, GA., 610 Rhodes-Haverty Building
BALTIMORE 5, MD., 4600 E. Monument Street
BIRMINGHAM 3, ALA., 911-21 American Life Building
BOSTON 27 (South), MASS., 307 Dorchester Avenue
BUFFALO 3, N. Y., 1426 Rand Building
CHARLESTON, W. VA., 712 Atlas Building
CHATTANOOGA 8, TENN., 625 E. Main Street
CHICAGO 6, ILL., 201 N. Wells Street
CINCINNATI 2, OHIO, 403 Atlas Bank Building
CLEVELAND 15, OHIO, 735 Hanna Building Annex
COLUMBUS 15, OHIO, 818-821 Atlas Building
DALLAS 1, TEXAS, 2900 Routh Street
DAYTON 2, OHIO, 32 N. Main Street
DENVER 2, COLO., 404 Patterson Building
DETROIT 26, MICH., 2011 Park Avenue
GREENSBORO, N. C., 935-6 Jefferson Standard Building
HARRISBURG, PA., 410 N. Second Street
HOUSTON 11, TEXAS, 501 N. Greenwood Street
INDIANAPOLIS 3, IND., 398 Division Street
JACKSONVILLE 2, FLA., 301 Hildebrandt Building
KANSAS CITY 6, MO., 1012 Baltimore Avenue
LITTLE ROCK, ARK., 510 Union Life Building
LOS ANGELES 22, CALIF., P.O. Box 6788, E. Los Angeles Branch
MIAMI, FLA., 46 N.E. Sixth Street
MINNEAPOLIS 2, MINN., 246 Baker Building
NEWARK, N. J., 605 Broad Street
NEW ORLEANS 12, LA., 1051 National Bank of Commerce Building
NEW YORK, 48-18 Northern Blvd., Long Island City 1, N. Y.
NORFOLK 4, VA., 2503 Llewellyn Avenue
OKLAHOMA CITY 4, OKLA., 1640 W. Main Street
OMAHA 2, NEB., 770-75 Insurance Building
PHILADELPHIA 3, PA., 307-12 Architects Building
PHOENIX, ARIZ., 221 C East Camelback Road
PITTSBURGH 19, PA., South Fourth and Bingham Streets
PORTLAND 12, ORE., 2139 N. Kerby Avenue
RICHMOND, VA., 122 N. 8th Street
ST. LOUIS 3, MO., 8th Floor, Shell Building
SAN FRANCISCO 5, CALIF., 16 Beale Street
SEATTLE 99, WASH., 107 W. Harrison Street
SYRACUSE 2, N. Y., 303 Syracuse-Kemper Insurance Building
TOLEDO 4, OHIO, 220 Richardson Building
WASHINGTON 5, D. C., 700 Investment Building
YOUNGSTOWN 1, OHIO, 1315 Albert Street

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ST. LOUIS, MO.
YOUNGSTOWN 1, OHIO

Truscon Steel Division of Republic Steel Corporation, Home Office and Plant, Youngstown 1, Ohio

Printed in U.S.A.



5b
Ve

VENTO Steel Windows



Casement

Basement

Utility

Special Type

VENTO STEEL PRODUCTS CO., INC.
250 COLORADO STREET, BUFFALO 15, NEW YORK

VENTO

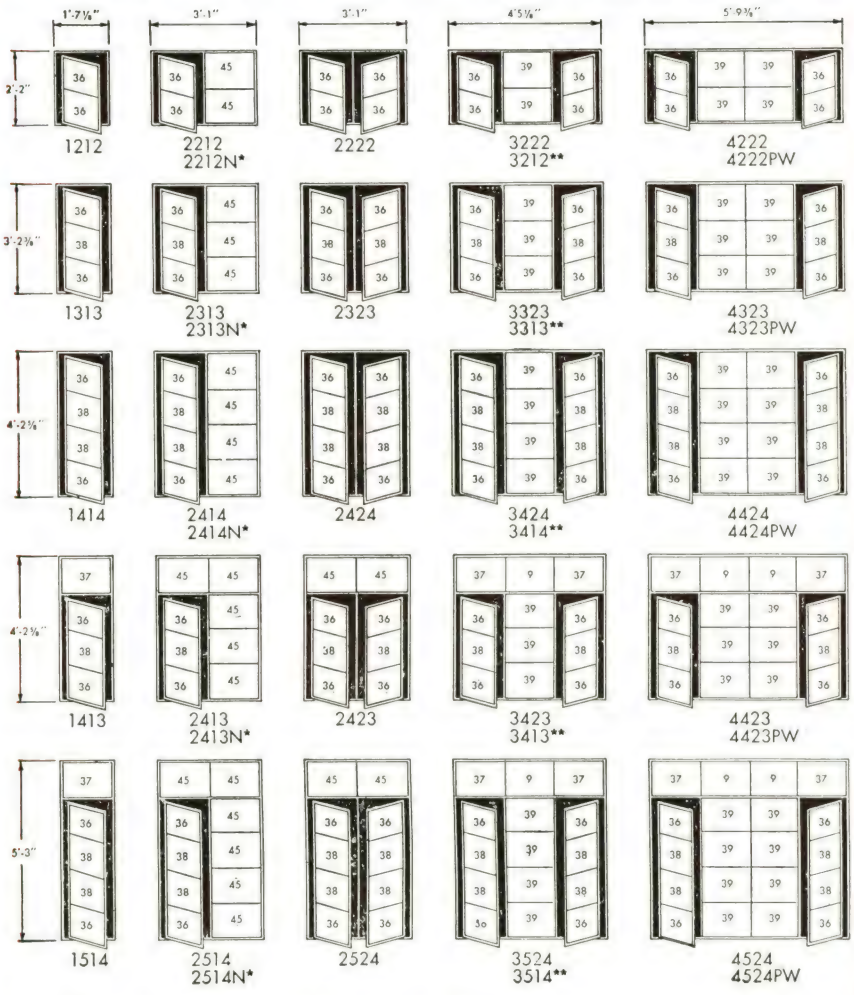
Residence Casement Windows



SPECIFICATIONS:

1. **SPECIFY**—Residence Steel Casement Windows as manufactured by Vento Steel Products Co., Inc. of Buffalo, N. Y.
2. **MATERIAL**— All members except applied fins and weather drips shall be solid, hot rolled shapes made from low carbon, new billet steel. Members, except muntins, shall be not less than 1/8 inch think, and not less than 1 inch in depth. Muntins shall be not less than 5/8 inch on face, 7/8 inch deep, and 7/64 inch thick.
3. **CONSTRUCTION**— Corners shall be accurately mitered and rigidly welded. Outside surfaces shall be smooth and free from open joints. The frame members shall be prepared for attachment of screen fittings. All casement ventilators shall be side hinged to open out and be equipped with extension type hinges. When required and so specified, continuous steel fins for head and jambs are to be furnished, unattached.
4. **HARDWARE**— All windows shall be furnished with Roto or Lever type operating adjusters, as specified, designed to open and close casement ventilators without removing screens, and with cam action locking handles that will securely lock casement ventilators to frames. Hardware to be shipped unattached and applied under Erection clauses.
5. **MULLIONS**— Vertical and/or horizontal mullions shall be provided between all window units in multiple unit openings. They shall be of sufficient strength and rigidity to withstand all normal reactive forces.
6. **FINISH**— Windows shall be thoroughly cleaned, bonderized and given one dip coat of grey primer paint. All relative items such as Erection, Glass and Glazing, Field Painting, and Caulking, to be accomplished by General Contractor or others in the usual prescribed manner.

TYPES AND SIZES



**These 5 types also available in 2 ft. 7⅝" width.*

***These 5 types also available in single center section ventilators.*

PW types furnished with center muntins omitted.

DIMENSIONS shown are window dimensions.

HAND OF SINGLE VENT CASEMENTS is determined by location of hinges as viewed from the outside. Indicate by suffix L or R for left or right hand hinge.

FIXED CASEMENTS — All sizes shown are also available in fixed types.

PICTURE WINDOWS — All sizes shown (fixed or ventilated types) are available when specified as "picture windows" at no extra cost. All muntins, horizontal muntins or vertical muntins may be omitted, as required.

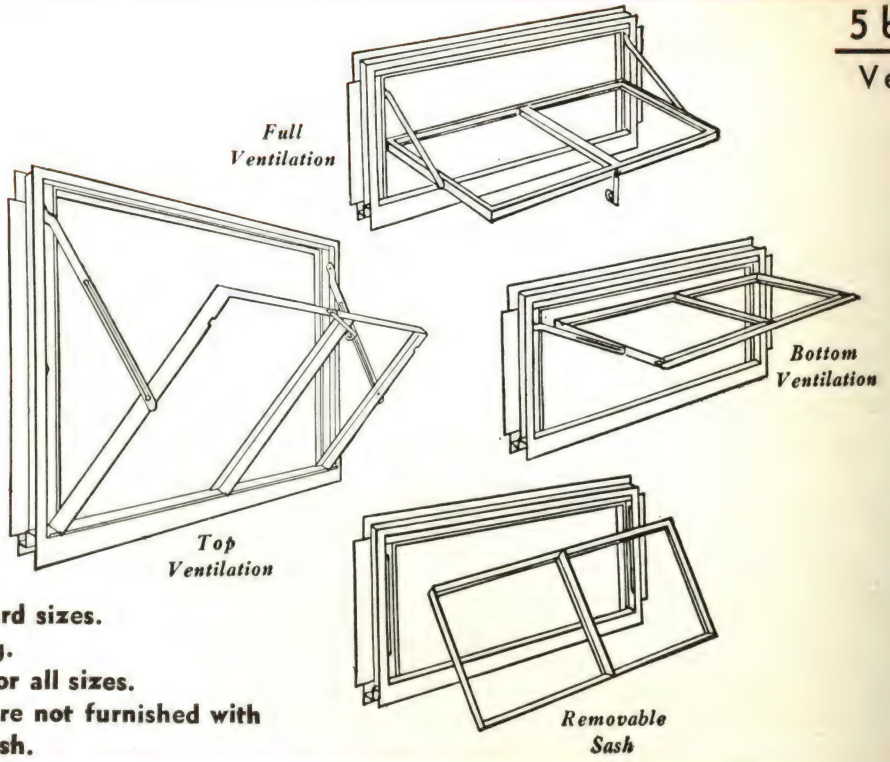
MULTIPLE CASEMENT WINDOWS may be obtained, for sizes larger than those shown, by combining two or more of the above sizes (fixed and ventilated types) with vertical or horizontal mullions at slight extra cost.

GLASS SCHEDULE		
MARK	W	H
36	16	11¼
37	17¼	12
38	16	12
39	15⅓	12
45	17⅓	12
9	15¾	12

STEEL FINS are designed for anchorage of casements into masonry, block and some brick veneer-frame walls. Specify type of construction when fins are required.

VENTO

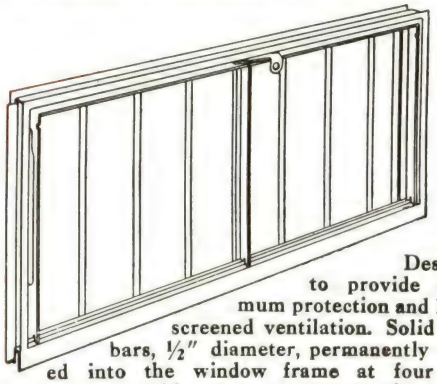
"Champion" Basement Windows



- Available in three standard sizes.
- Putty or puttyless glazing.
- Screens and storm sash for all sizes.
- Glazing clips and putty are not furnished with Champion putty type sash.

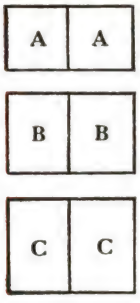
Vento Champion

BARRED CASEMENT WINDOW



Designed to provide maximum protection and 100% screened ventilation. Solid steel bars, ½" diameter, permanently welded into the window frame at four inch centers prevent outside entry or passage of material from the inside. Highly recommended for use in basements, alley elevations and all commercial buildings. *Available in the three standard basement size, putty or puttyless types.*

1. **VENTILATION**— Well balanced ventilators insure effortless operation in obtaining the three positions of opening shown. Sash can be fully opened from the bottom to facilitate coal delivery and the passage of lengthy items. Sash is easily removed for washing or glazing.
2. **WEATHERTIGHT**— Double contact construction, with leak proof watershed sill, stops wind and rain.
3. **HEAVY DUTY CONSTRUCTION**— Sturdy 14 gauge channel frame provides maximum strength and rigidity. Fins are welded to the jambs for easy installation in block or poured concrete walls.



TYPES AND SIZES

	Glass Sizes	Overall Dimensions
A	15" x 12"	32⅞" x 15"
B	15" x 16"	32⅞" x 19"
C	15" x 20"	32⅞" x 23"

VENTO "*Thrifty*" Basement Windows

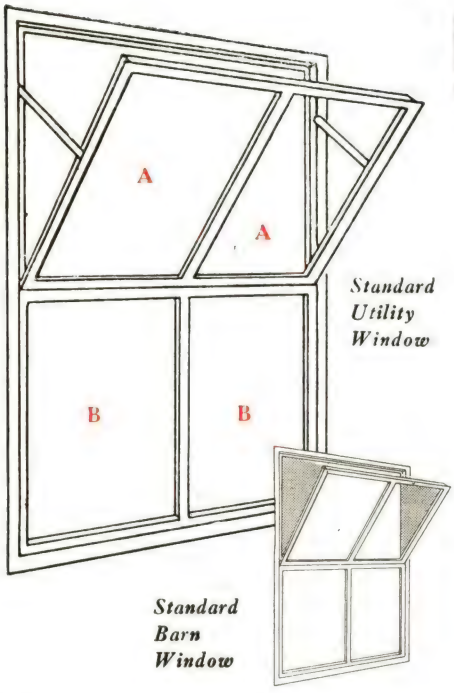




A real economy window especially designed to meet the requirements of lower cost housing. Its simplicity of design provides an attractive window of sturdy construction, smooth operation, two position ventilation and easy ventilator removal for glazing and washing purposes. Fin flanges are provided at the jambs to facilitate quick installation. Available in three standard sizes, putty type only.

	Glass Sizes	Overall Dimensions	Masonry Opening
A	15" x 12"	34" x 14¾"	32¾" x 14"
B	15" x 16"	34" x 18¾"	32¾" x 18"
C	15" x 20"	34" x 22¾"	32¾" x 22"

VENTO Utility and Barn Windows



Standard Utility Window

Standard Barn Window

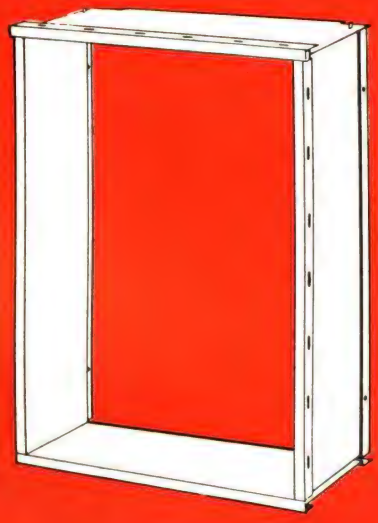
	Glass Sizes	Overall Dimensions	Masonry Opening
A	14⅞"x19⅞"	34"x44"	32⅞"x43¼"
B	15½"x20"		

Specially Designed for Frame, Brick, Cinder or Concrete Block Construction

STANDARD PUTTY OR PUTTYLESS TYPE

VENTO CHAMPION UTILITY WINDOWS are designed for application to all types of construction. They are manufactured from heavy solid steel bar shapes to give lasting service and satisfaction. Ventilator tilts in at top for normal ventilation and protection against drafts and rain. These utility types are used extensively for farm buildings, small commercial buildings, stores, dairies, garages, service stations, etc. Each sash furnished with a positive cam action lock. All sizes are supplied in the putty style. Puttyless type are available in the 4 light and 6 light style only.

VENTO CHAMPION BARN WINDOWS are similar to the utility types in design, construction and size and include side draft shields. AVAILABLE IN THE 4 LIGHT AND 6 LIGHT STYLE ONLY FOR PUTTY AND PUTTYLESS GLAZING.



VENTO Steel Casings

Vento Steel Casings are made of 18 gauge hot rolled carbon steel, cleaned, bonderized and finished with one prime coat of grey paint. They provide speed in erection and save money by eliminating the cost of plaster returns, stools and trim. Vento Casings fit all standard size casement windows and mullioned windows up to 6 lights in width. Available in 4½" or 5¼" standard jamb widths.

VENTO Formed Steel Lintels

Economical lintels of ample load bearing capacity for any window or door opening up to seven feet in width for masonry type of construction. Finished with one prime coat of grey paint. When specifying lintels allow a minimum of 4 inches of bearing on each side of opening.



BLOCK CONSTRUCTION

Vento Block Lintels are available from 2 ft. 6 in. to 5 ft. Formed from 10 gauge hot rolled steel with stiffening crimp in center. Beveled edge provides masonry bond and seat for mortar. Saves costs through use with standard 8-inch blocks.

BRICK CONSTRUCTION

Vento Lintels for brick construction come in two sizes: 3½"x3½" in lengths from 2 ft. 6 in. to 5 ft. made of 11 gauge hot rolled steel; also 5½"x3½" in lengths from 5 ft. 6 in to 8 ft. made of 10 gauge material.

VENTO STEEL PRODUCTS CO., INC.

250 COLORADO STREET, BUFFALO 15, NEW YORK

5c
An

DETAIL CATALOG NO. 551
1955

COMPLETE **WOOD** WINDOW UNITS

Andersen *Windowalls*



Andersen Casement Window Units



Andersen Gliding Window Units



Andersen Pressure Seal Window Units



Andersen Flexivent Window Units

- FLEXIVENT WINDOW UNIT . . . . . Page 3
- CASEMENT WINDOW UNIT . . . . . Page 10
- GLIDING WINDOW UNIT . . . . . Page 14
- PRESSURE SEAL WINDOW UNIT . . . . . Page 18

Basement Unit . . . . . Page 22

A.I.A. FILE NO. 16L

FROM ANDERSEN CORPORATION

YOUR CHOICE OF 4 COMPLETE WOOD WINDOW UNITS...

carefully engineered...

precisely manufactured

Andersen WINDOWALLS, America's best-known wood window units, are manufactured by Andersen Corporation, Bayport, Minnesota. Andersen Window Units are sold only through regular millwork channels.

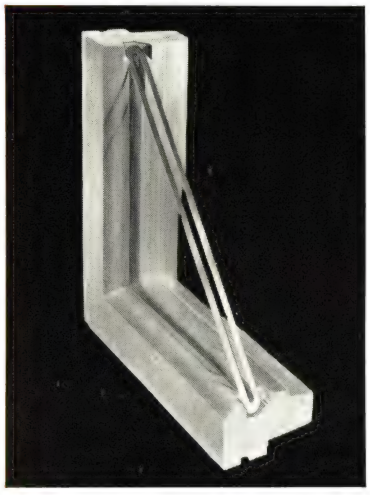
Through the years, the exclusive use of quality materials, accurately milled and fitted, has earned for Andersen Windows a permanent reputation for satisfaction with architects, builders and their clients.

INSTALLATION—Famous Andersen WINDOWALLS will give years of outstanding service *if they are properly installed and maintained.* Proper installation is easy and rapid when manufacturer's instructions are followed. See page 23 of this catalog for specifications summarizing installation procedure.

NOW AVAILABLE FROM STOCK . . .

NEW WELDED INSULATING GLASS IN ANDERSEN CASEMENT WINDOW UNITS AND ANDERSEN FLEXIVENT WINDOW UNITS

For one-light sash of Andersen Casement Windows in both the 1-6 and 1-10½ widths and all Flexivent Window Units including Flexiview fixed sash.



CORNER SECTION OF SASH

Note welded edges of glass panel and the groove glazing. This new improved glazing method eliminates face putty, makes a stronger and tighter job and improves the appearance over face glazing. No stops with brad holes to fill—no cracks or joints to open up.

TO ORDER this type of glazing, specify corresponding unit numbers for one light Casement sash (see pages 11 and 12) or for Flexivent sash (see page 5). Then add "glazed with Andersen Welded Insulating Glass."

Andersen Welded Insulating Glass is made by an improved method developed by one of the country's leading window glass manufacturers. Two panes of quality window glass (*not* plate glass) are hermetically sealed, with the edges electrically fused, to make a perfect all-glass seal, using no metal or other bonding material.

Through a small hole drilled in one corner, air between the two panes is removed and replaced with specially dried air that is pressurized to withstand atmospheric pressure in all parts of the country, except in the higher mountain altitudes. It is not recommended for permanent installation in elevations over 3000 feet.

Andersen Welded Insulating Glass offers two big advantages to homeowners. Most important is elimination of handling and washing of removable storm panels or sash. In addition, homeowners enjoy insulation of double glazing all year around.

The coefficient of heat transmission for Andersen Welded Insulating Glass is .675 BTU under standard conditions as compared to 1.13 BTU for single glass.

Andersen Flexivent Window Units

Quality — Versatility — Economy

ANDERSEN *FLEXIVENT* WOOD WINDOW UNIT

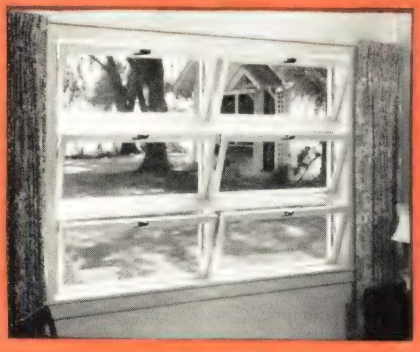
Here's the most versatile window you ever saw! Literally hundreds of combinations are possible.

The Andersen Flexivent Window can be installed in any of three positions—a different sash operation for each position. Combine Flexivents in stacks, ribbons or groups. Choice of fixed or operating sash. Combine Flexivents with fixed glazing. Or build them into big WINDOWALLS using the new Andersen Flexiview Unit, picture window partner to the Flexivent.

The combinations possible are almost limitless. You see only a few examples on this page.

Flexivent Window Units are engineered for easy operation, superior weathertightness. Sixteen sizes—up to 44 3/8″ by 49″ glass size. Yet with all its features, it is definitely an economy window.

Versatile FLEXIVENT — 3 Sash Operations!



HOPPER STYLE. Sash open inward. Installed in combination with new Flexiview Units provide a WINDOWALL with picture window beauty plus plenty of ventilation.



AWNING STYLE. Sash open outward. In this position, Flexivents provide complete ventilation even during rains. Optional equipment is Roto Lock Underscreen Operator.



CASEMENT STYLE. Sash open outward. When placed on end, the versatile Flexivent makes a weathertight, low-cost casement. Caution: Do not install as inswinging casements.

Versatile FLEXIVENT . . . Use in ribbons, stacks, groups!



RIBBON INSTALLATION of Flexivents is ideal for bedrooms. They provide plenty of ventilation plus a feeling of privacy with the extra wall space homeowners so often want.



STACK of Flexivents makes an attractive awning window for most any room in the home. Easy to assemble. Easy to install. Extremely weathertight. Gives ventilation even during rain.



LARGE GROUPS of Flexivents give big windows. Shown here are awning, fixed and hopper sash. Large Flexivent groups have proved ideal for schools, factories, institutions.

Andersen Flexivent Window Units

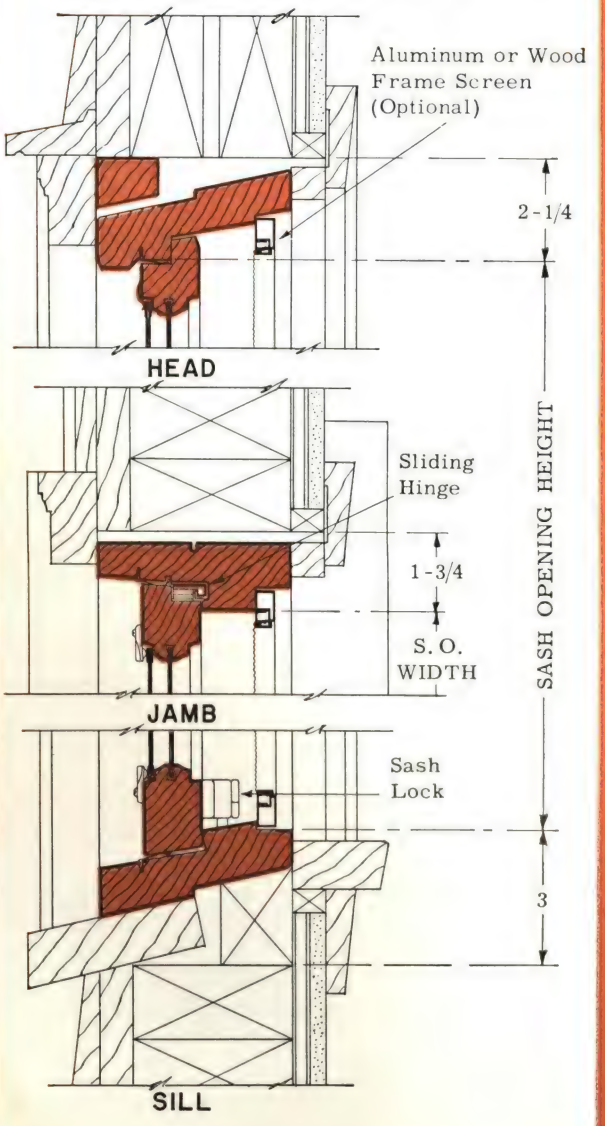
Specially designed dual purpose head and sill members and an interchangeable lock permit reverse installation to provide either projected sash (awning vent) or inward opening sash (hopper vent) with the same basic unit. The head member shown in the detail at left becomes the sill when installed in the reverse position as shown in the right hand detail.

Sash are glazed with quality vision tested glass by a new improved groove glazing method.

Factory assembled unit as furnished by Andersen includes *frame* and *sash* shown within the heavy lines, with sash hung on *sliding hinges* and *weatherstrips* installed.

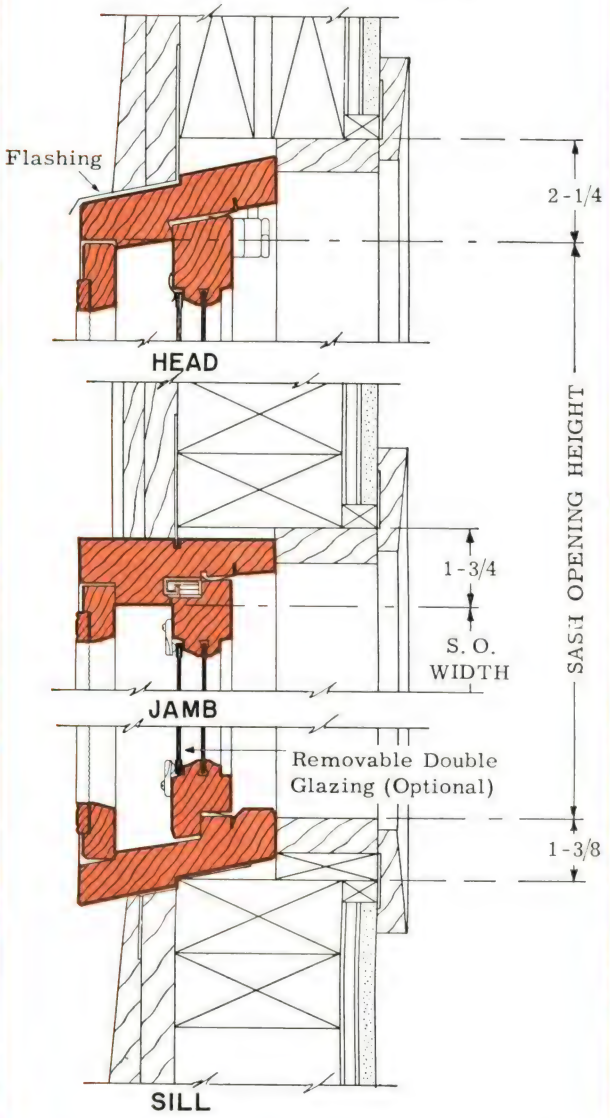
Exterior casings, subsills and other parts required to complete the installation are to be supplied locally.

OUTSWINGING
OR AWNING VENT POSITION



DETAIL No. FO-10. Unit installed in frame wall with exterior casing and subsill. Can also be installed without casing and subsill as shown in detail at right.

INSWINGING
OR HOPPER VENT POSITION



DETAIL No. FI-10C. Unit installed in frame wall without use of exterior casing and subsill. Can also be installed with casing and subsill as shown in detail at left.

LIC. NO. 129 WATER REPELLENT PRESERVATIVE APPROVED NATL. WOODWORK MFRS. ASSN.

Andersen Toxic Preservative Treating protects frame and sash from moisture, decay and termites. Where exterior casings are furnished by others, Andersen recommends that you specify treatment with approved toxic preservatives.

NOTE: The new 3′8″ widths are especially suited to 4′ panel wall construction and modular masonry block walls.

OPENING SIZES FOR MULTIPLE UNIT COMBINATIONS

OVER-ALL SASH OPENING WIDTH—The sum of the individual sash openings plus 3″ for each mullion section.

OVER-ALL ROUGH STUD OPENING WIDTH—Add 3½″ to over-all sash opening width.

OVER-ALL MASONRY OPENING WIDTH—(2″ Brick Moulding)—Add 6″ to over-all sash opening width.

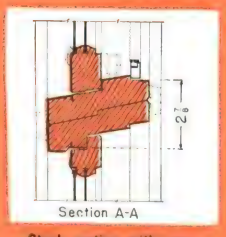
OVER-ALL SASH OPENING HEIGHTS—The sum of the individual sash opening heights plus 2⅞″ for each stack section.

OVER-ALL ROUGH STUD OPENING HEIGHT—If 1⅛″ x 4″ subsill is used, add 5¼″ to over-all sash opening height. If no subsill is used, add 3⅝″ to over-all sash opening height.

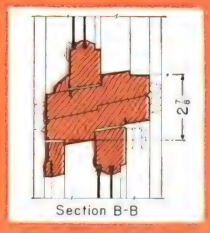
OVER-ALL MASONRY OPENING HEIGHT—(2″ Brick Moulding and 1⅛″ subsill)—Add 5¾″ to over-all sash opening height.

DETAIL SECTIONS

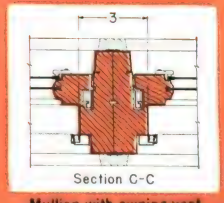
SCALE—1½″ = 1′-0″



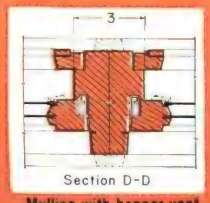
Stack section with awning vent sash—also casement mullion.



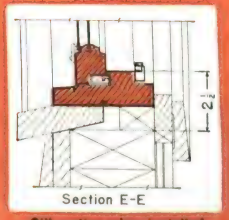
Stack section with upper sash fixed and lower sash hopper vent.



Mullion with awning vent sash.



Mullion with hopper vent sash.

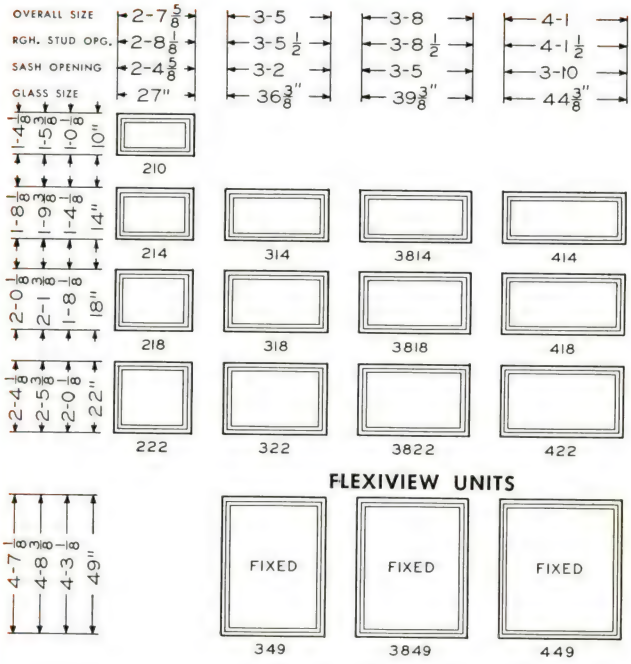


Sill section when installed as a casement.



Stack section with both sash hopper vent.

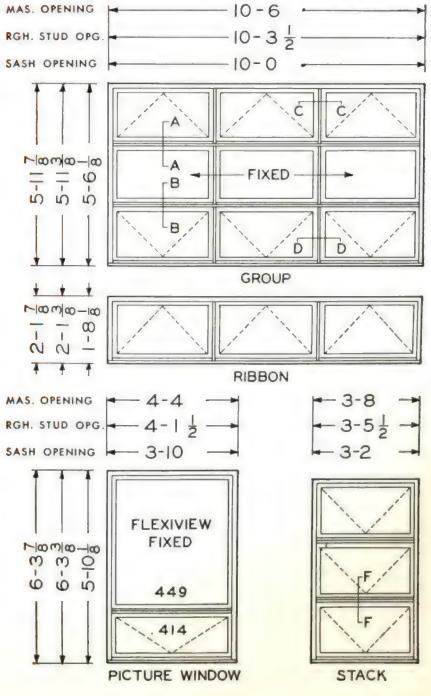
TABLE OF SIZES



Units can be easily and quickly joined with corrugated fasteners or by toe nailing reinforced by trim members as shown in sectional details.

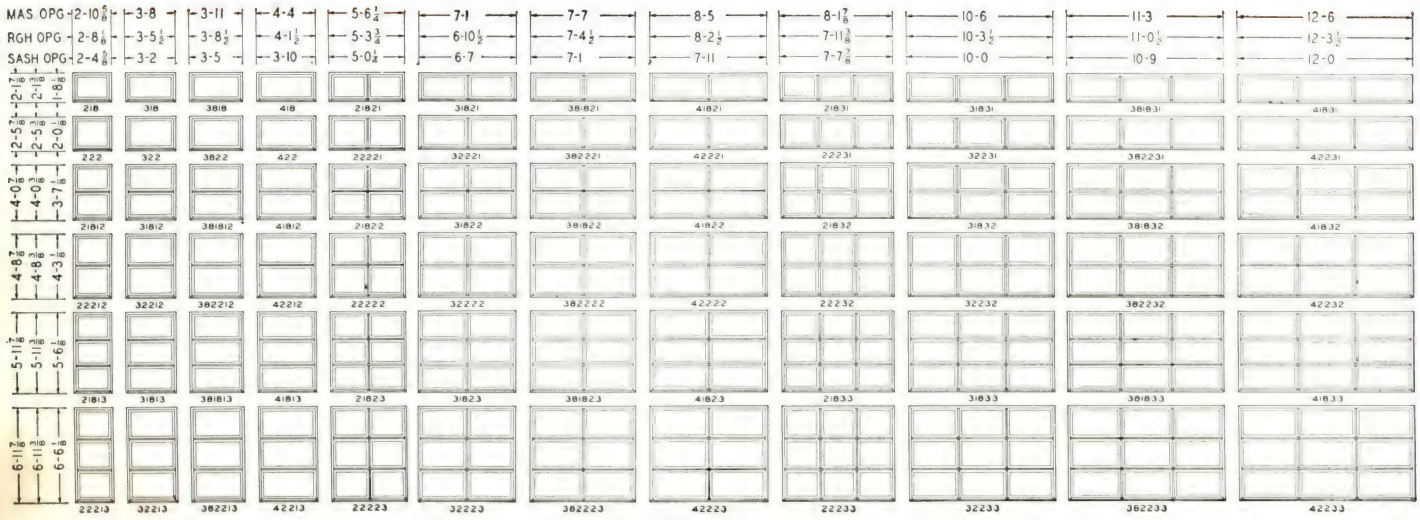
TYPICAL ARRANGEMENTS

FLEXIVENT UNIT NO. 318



Andersen Flexivent Window Units

TABLE OF SIZES FOR RIBBONS, STACKS AND GROUPS

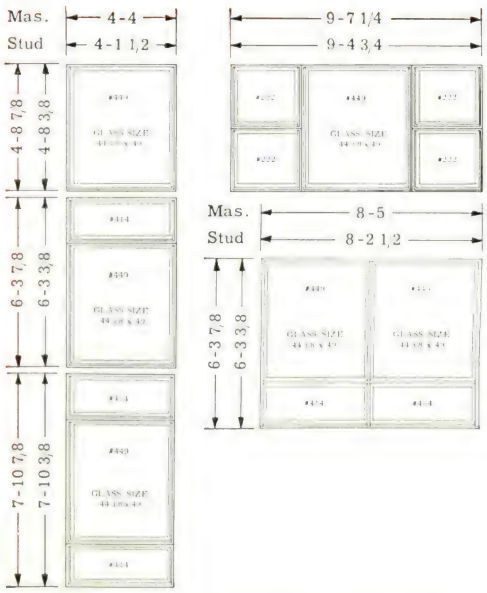


NEW *FLEXIVIEW* PICTURE UNITS ADD MORE FLEXIBILITY, ECONOMY TO FLEXIVENT LINE

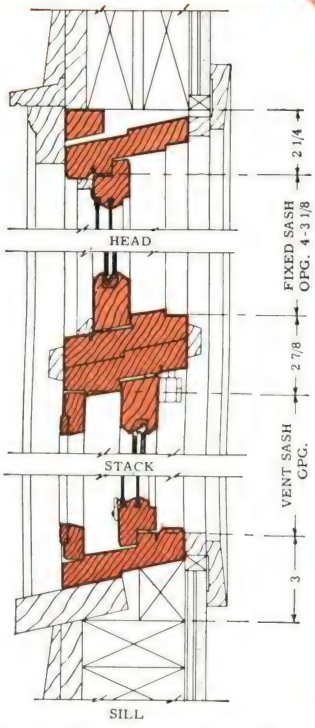
Addition of the new fixed sash Flexiview Picture Units to the Andersen Flexivent line brings even greater flexibility and economy to the popular Flexivent Window. The new Flexiview now makes possible the grouping of Flexivents into picture window combinations that make the Flexivent line truly complete.

Flexiview Units are precision made with the same frame members as Flexivents. They can be combined with either operating or fixed Flexivent Units to form WINDOWALLS with remarkably low over-all cost per square foot. This low cost is largely gained through the economy of a fixed opening's saving on screen and hardware.

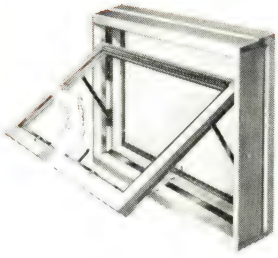
Flexiview Picture Units are completely packaged units, factory-assembled and glazed either DS with quality window glass or with Andersen Welded Insulating Glass. Removable double glazing panels are furnished in the Flexiview sizes (optional).



Shown above are some suggested combinations possible with the Andersen Flexiview Unit. Many different combinations can be forced to meet your needs. Note how large WINDOWALL openings can be formed where a greater amount of glass area is wanted. All opening dimensions shown are based on details shown elsewhere in this folder.



Above vertical section shows Flexiview Unit with operating Flexivent below. Flexiview frame and sash members are identical with Flexivent Unit.



Assembled Unit



Screen



Removable Double Glazing

ASSEMBLED UNIT—Pine frame assembled and all joints sealed with caulking compound. Weatherstripping applied and operating sash hung on sliding hinges. Protected with Andersen chemical preservative against moisture, decay and termites. Sash glazed with select quality window glass. Unit engineered so that it can be installed as inswinging hopper vent, outswinging awning vent, or as an outswinging casement, without altering frame, sash, or hardware.

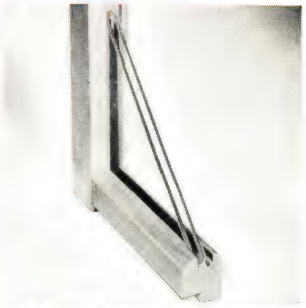
SCREEN—Choice of aluminum or wood frame screen with aluminum screen cloth. Locks applied, all necessary hinges, strike plates, screws, etc. furnished but not applied by Andersen.

REMOVABLE DOUBLE GLAZING—Aluminum frame with select quality window glass. Aluminum drip strip, fasteners, screws, etc. furnished but not applied by Andersen.

WELDED INSULATING GLASS—Sash available with welded insulating glass. Two panes of quality window glass hermetically sealed, with the edges electrically fused to make a perfect all glass seal, with no metal or other bonding material.

SASH LOCK—Rugged sash lock pulls sash rail tight against sill to insure positive contact with weatherstrip. On larger sizes, two locks (one at each end of sash rail) insure tight closing for weathertight seal.

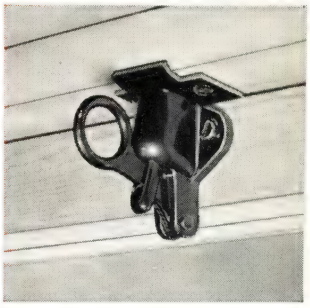
SNAP LOCK—Easy-to-install snap type sash lock is designed for hopper vent Flexivent sash located above normal reach. Can be operated with a hook or standard make window pole.



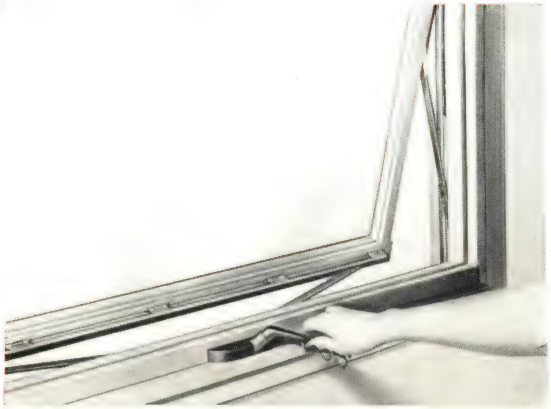
Welded Insulating Glass



Sash Lock



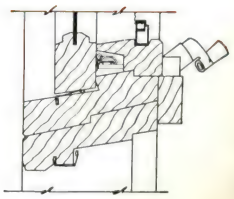
Snap Lock



ROTO LOCK OPERATOR

For Outswinging Awning Style Sash

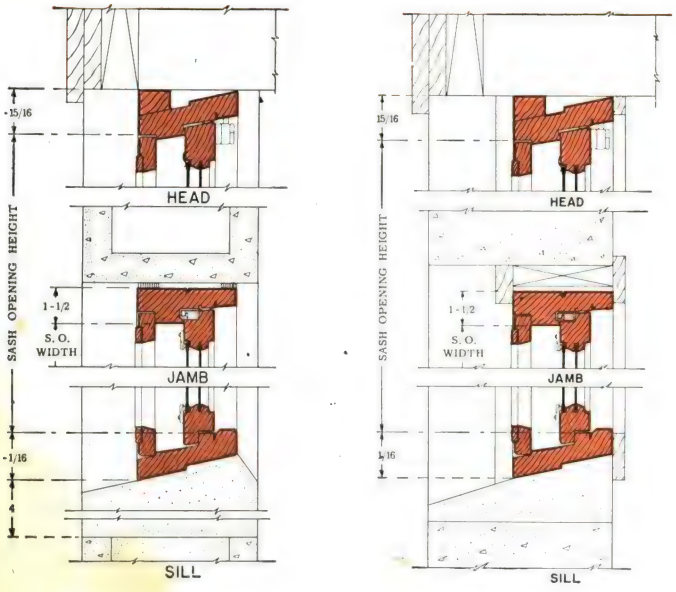
A new under-screen operator for awning style ventilating units. The centrally located roto gear, dual arm operator provides positive control, snug corner closing and self locking in any position. Crank and housing have antique bronze lacquer finish. A special pine stop is furnished with each operator. Inside screens for use with this operator are furnished with aluminum frame only. This operator can be easily installed on existing awning style Flexivent installations.



STOP DETAIL

Special milled pre-fitted pine stop furnished with each Roto-Lock Operator. Detail shows how to trim out at transom section when using Roto-Lock Operator.

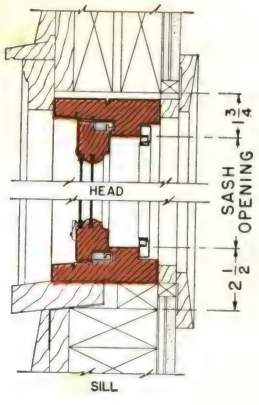
Andersen Flexivent Window Units



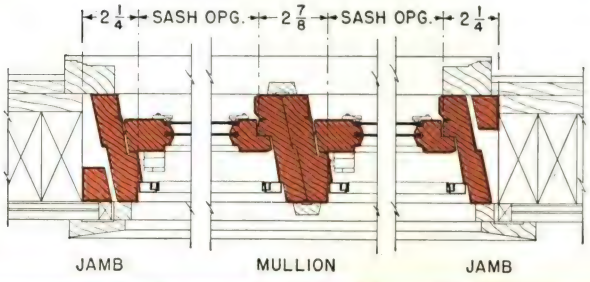
AS A BASEMENT WINDOW

The 200 Series Flexivent Unit sizes are especially suited for use as basement window units. The special filler piece at the top as shown in the detail is supplied as a part of the assembled unit. Any of the other Flexivent sizes can also be used in the same way if desired.

These modular sizes will fit typical 16x8 block walls for masonry openings 2 blocks wide by 2, 2½, 3 and 4 blocks high. Detail at left shows typical installation in concrete block wall with poured concrete sill. Detail at right is for poured walls.







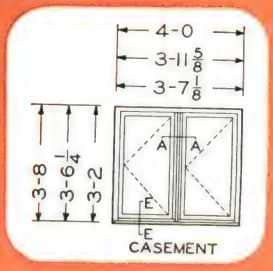
AS OUTSWINGING CASEMENT

Flexivent Window Units can be installed in a vertical position with outward opening sash to form an excellent low-cost casement window unit. The regular side jambs form the sill and head jamb as indicated in the vertical section detail.

The regular head and sill members become side jambs as shown in the plan detail which also shows a mullion section formed by joining two units. See page 5 for sash opening sizes.

The plan detail shows the recommended method of joining to form a mullion unit with right-hand sash. If left-hand sash are preferred, simply install the unit in the reverse position.

DO NOT INSTALL AS AN INSWINGING CASEMENT!



TYPICAL FLEXIVENT INSTALLATIONS IN SCHOOL AND HOUSING PROJECTS



Workmen install 9-light group of Flexivents in a new home. Group was assembled at shop and then trucked to the building site. This is a view of 350-house Green Acres Village, Buffalo, New York's largest development being built by Pearce & Pearce Co., Inc.



Interior view of model home in 60-house Westward Ho project going up in suburban St. Paul, Minnesota. Builder of Westward Ho is Donnay-Reitz, Inc. All homes are open plan construction allowing effective use of Flexiview Picture Window Combinations.



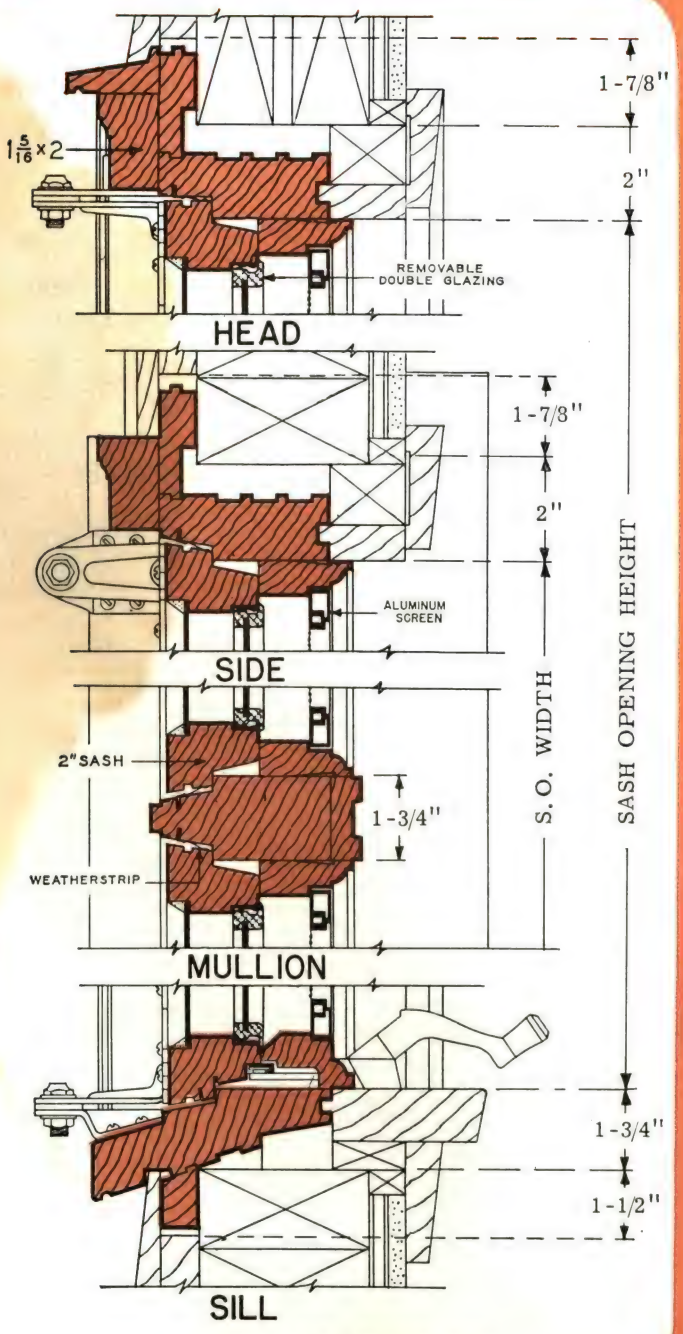
Large 32-sash groups of Unit No. 218 feature use of Flexivents in Holy Rosary School at Erskine Lakes, N. J. Architect is Brother Cajetan J. B. Baumann, O. F. M., A. I. A. Installation of fixed and operating sash give plenty of light and ventilation for classrooms.



Newly completed homes in 450-house Chestnut Hill Estates, developed by Lee & Kornreich, Builders on the outskirts of Newark, Delaware. Notice extreme versatility of Flexivents for installation in groups, ribbons and stacks.

Andersen Casement Windows

C-10—Installation of standard unit in frame wall. Note reversible windbreaks for either ¾ or ½ inch sheathing. Plaster reveal inside finish can be used in place of extension jambs and casing trim. The same standard unit is used in all types of wall construction. Additional installation details furnished on request. Extension jambs and other trim members should be ordered separately to conform to individual requirements.



Scale—Three Inches Equal One Foot.

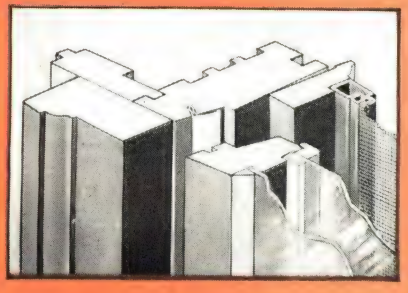
THE ANDERSEN CASEMENT UNIT combines advantages of weathertight wood construction with beauty of contemporary narrow line design. Full weatherstripping, double glazing and leakproof frame give exceptional window insulation. Precision manufacture means it's easy to operate, easy to install, highly weathertight, attractive in appearance.

ENGINEERED FOR EFFICIENT SERVICE. Extra thick 2″ sash with reinforced corner joints mean sash cannot stick or bind. Compression weatherstrips assure tightness with free-and-easy operation. Ejecting lock releases sash, easily breaks paint bind. Holds sash firmly shut. Works independently of screen. Extension hinges permit easy washing of outside glass from inside. Roto-gear underscreen operator holds sash in any open position.

COMPLETE UNIT INCLUDES:

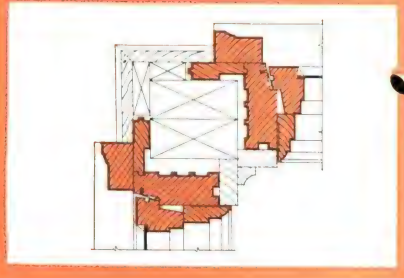
FRAME • INSIDE STOPS • MULLION CASINGS • WEATHERSTRIPPING GLAZED SASH • COMPLETE HARDWARE FOR VENTILATING SASH INSIDE SCREEN (optional) • DOUBLE GLAZING (optional)

Section through jamb at right shows location of compression weatherstrip, removable double glazing on inside of sash and inside screen. Note sash construction with two point "refrigerator door" contacts and full ⅛″ clearance between sash and frame.



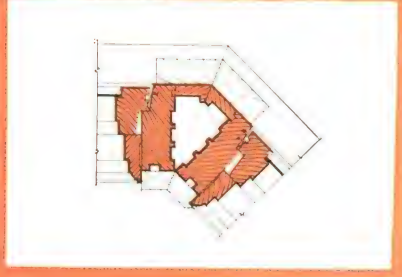
Corner Window Detail —⅛ Scale

Angle iron or steel column can be used in place of 2x4's. Sash may be either swinging or stationary.



Angle Bay Detail —⅛ Scale

Section through angle mullion made from standard units. Specify long sill horn for mitering. Exterior casings not furnished by Andersen.



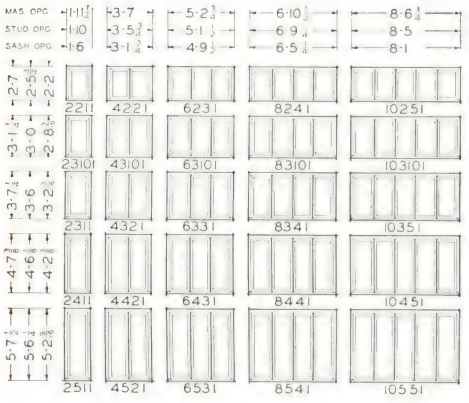
LIC. NO. 129 WATER REPELLENT PRESERVATIVE APPROVED NATL. WOODWORK MFRS. ASSN.

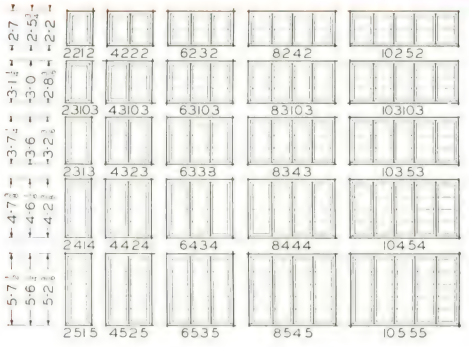
Andersen Toxic Preservative Treating protects frame and sash from moisture, decay and termites. Where exterior casings are furnished by others, Andersen recommends that you specify treatment with approved toxic preservatives.

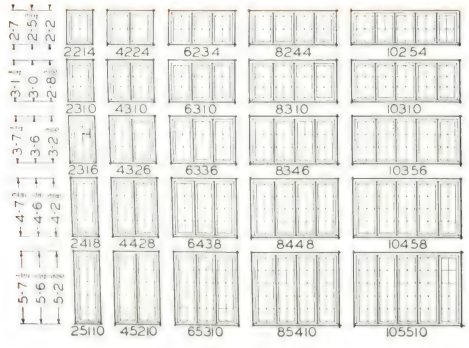
STOCK SIZES AND LAYOUTS

GLASS SIZES—For 1'6" sash, divided lights are 8x12 except in the 2'8-3/16" high sash which have 8x10 glass. Horizontal lights are 16¼x12 and 16¼x10. Single lights are 16¼ wide and the heights are as follows: 24-5/16, 30½, 36½, 48-11/16, 60⅞. For the 1'10½" sash, the glass is 20¾" wide. Heights are the same as for the 1'6" sash.

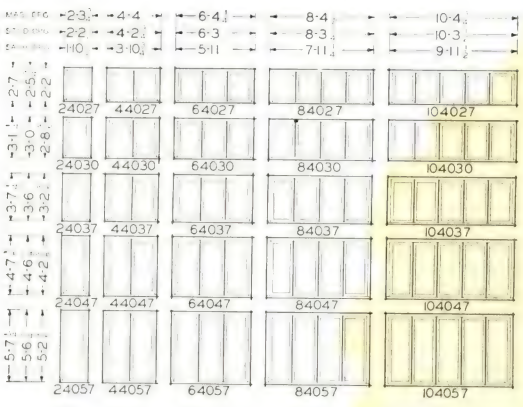
SERIES N—1'6" WIDE

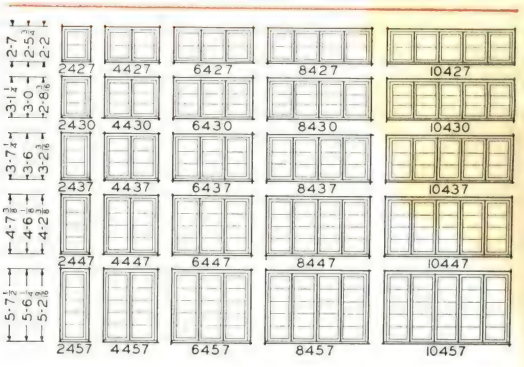






SERIES W—1'10½" WIDE





GLASS—Selected quality vision-tested glass used in all Andersen Casement sash and removable double glazing.

SASH CAN BE FURNISHED one light open on special order for glazing by others with obscure glass, leaded glass or other special glass up to ⅛ inch thick.

SASH OPENING WIDTHS are from jamb to jamb and include the 1¾" mullion posts for multiple openings.

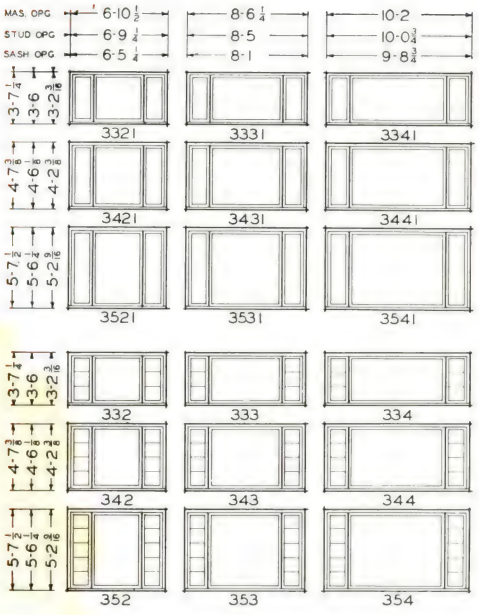
MASONRY OPENING widths are figured from back edge of side brick moulding and heights from the top edge of head brick moulding to the bottom outside edge of the sill.

Sash may be swinging or stationary. Specify number of swinging sash in each unit and how they should be hinged as viewed from the outside. Also list the correct number of screens needed.

Andersen Casement Units

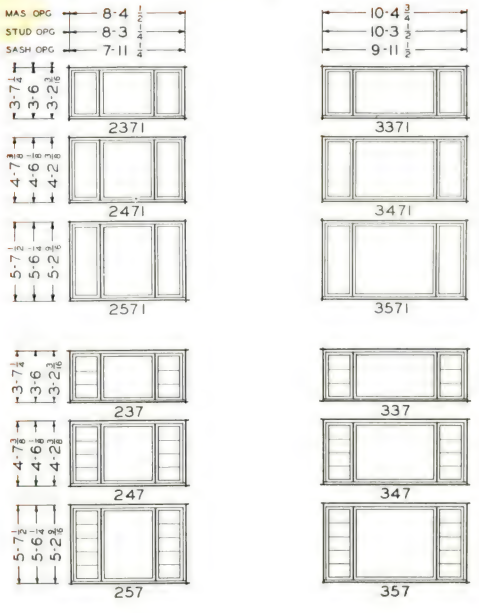
STOCK SIZES AND LAYOUTS

SERIES N



8 x 12 divided light flanking sash also available in Series N Picture Windows.

SERIES W



CASEMENT PICTURE WINDOW UNITS

Andersen Casement Picture Window Units offer the important advantage of adequate ventilation in combination with a view framing single light "picture" sash.

These units are assembled by Andersen distributors from stock parts, using the same frame members as those furnished for standard multiple sash casement units, except that the mullion posts are omitted for the picture sash opening.

The open stationary picture sash is designed for glazing by Andersen distributors with 1″ thick Twindow or Thermopane insulating glass. Single glass can also be used.

See your Andersen dealer or near-by distributor for further information regarding other picture window arrangements which can be made up from stock parts, including picture sash without flanking casements or with ventilating casement sash on one side only—also window wall groupings of fixed picture sash with ventilating sash casement units.

TABLE OF SIZES FOR PICTURE SASH SERIES N

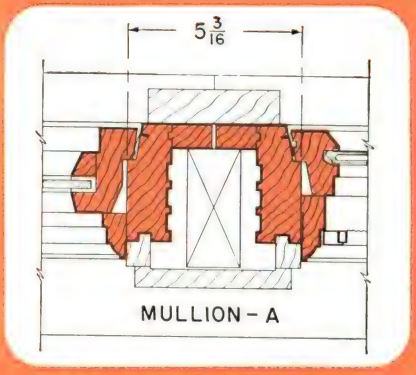
UNIT NO.*	SASH OPENING	GLASS RABBET	EXACT GLASS SIZE FOR 1″ INSULATING GLASS	EXACT GLASS SIZE FOR ¼ INCH PLATE
332	3-1¾ x 3-2 3/16	35 15/16 x 36½	35½ x 36	35¾ x 36¼
333	4-9½ x 3-2 3/16	55 11/16 x 36½	55¼ x 36	55½ x 36¼
334	6-5¼ x 3-2 3/16	75 7/16 x 36½	75 x 36	75¼ x 36¼
342	3-1¾ x 4-2⅜	35 15/16 x 48 11/16	35½ x 48⅛	35¾ x 48½
343	4-9½ x 4-2⅜	55 11/16 x 48 11/16	55¼ x 48⅛	55½ x 48½
344	6-5¼ x 4-2⅜	75 7/16 x 48 11/16	75 x 48⅛	75¼ x 48½
352	3-1¾ x 5-2 9/16	35 15/16 x 60⅞	35½ x 60⅜	35¾ x 60⅝
353	4-9½ x 5-2 9/16	55 11/16 x 60⅞	55¼ x 60⅜	55½ x 60⅝
354	6-5¼ x 5-2 9/16	75 7/16 x 60⅞	75 x 60⅜	75¼ x 60⅝

*NOTE—Sizes are the same for corresponding one light and divided light units.

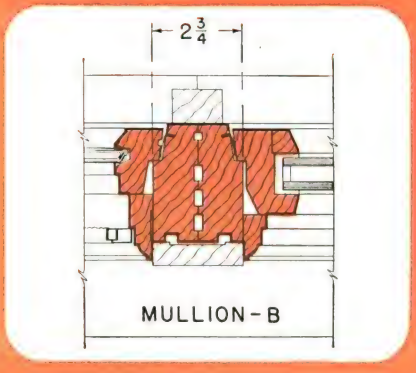
TABLE OF SIZES FOR PICTURE SASH SERIES W

UNIT NO.*	SASH OPENING	GLASS RABBET	EXACT GLASS SIZE FOR 1″ INSULATING GLASS**	EXACT GLASS SIZE FOR ¼ INCH PLATE
237	3-10¾ x 3-2 3/16	44 15/16 x 36½	44½ x 36	44¾ x 36¼
337	5-11 x 3-2 3/16	69 3/16 x 36½	68¾ x 36	69 x 36¼
247	3-10¾ x 4-2⅜	44 15/16 x 48 11/16	44½ x 48⅛	44¾ x 48½
347	5-11 x 4-2⅜	69 3/16 x 48 11/16	68¾ x 48⅛	69 x 48½
257	3-10¾ x 5-2 9/16	44 15/16 x 60⅞	44½ x 60⅜	44¾ x 60⅝
357	5-11 x 5-2 9/16	69 3/16 x 60⅞	68¾ x 60⅜	69 x 60⅝

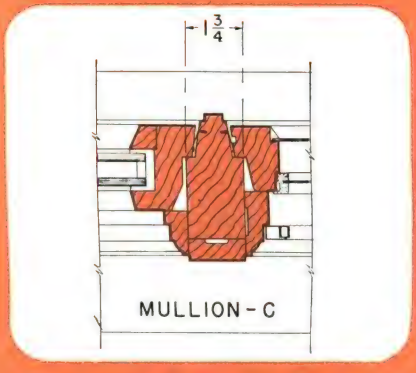
*NOTE—Sizes are the same for corresponding one light.
**Check with your Andersen dealer or distributor as to availability of these sizes.



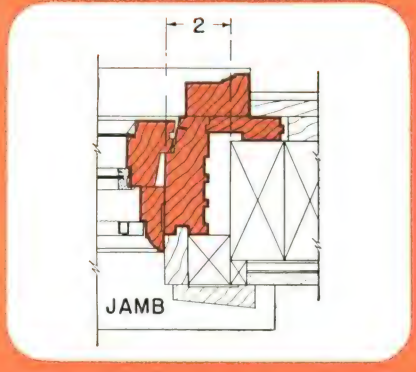
MULLION A. Used where load bearing structural members are needed.



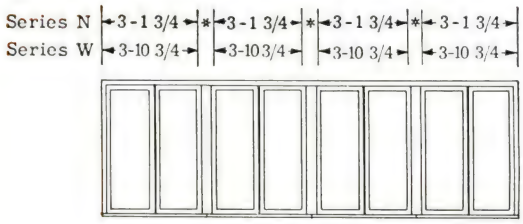
MULLION B. Side jambs are joined back to back to form narrow mullions. Sill may be butted or scarfed.

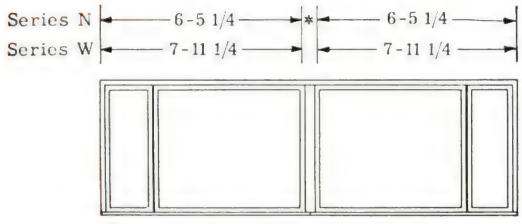


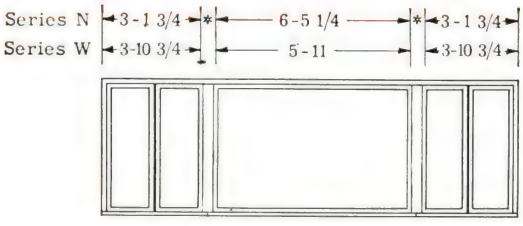
MULLION C. Standard mullion furnished by Andersen.

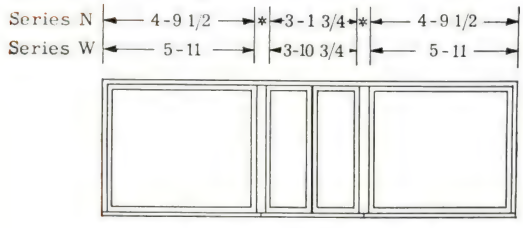


COMBINING STANDARD UNITS FOR LARGE WINDOWALL INSTALLATIONS









*Either mullion A, B or C can be used. Be sure to use correct mullion dimension when figuring opening sizes.

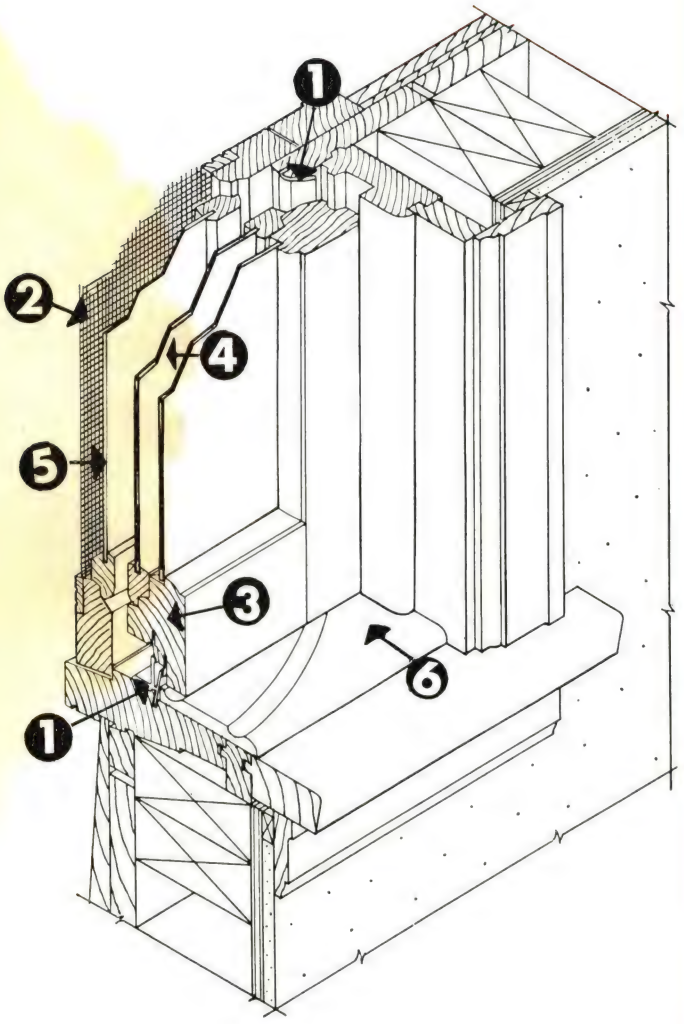
OVERALL SASH OPENING WIDTH. The sum of the individual sash opening for each unit, plus 5-3/16″ for each mullion A used, plus 2¾″ for each mullion B used, and plus 1¾″ for each mullion C used.

ROUGH OPENING WIDTH. Add 4″ to overall sash opening.

MASONRY OPENING WIDTH. Add 5¼″ to overall sash opening.

See your millwork dealer or nearby Andersen distributor for further information or write Andersen Corporation.

Andersen Gliding Window Units



FOR MODERN WINDOWALLS

Andersen Gliding Windows with horizontal sliding action allow wide range of sizes with ventilating sash—from ribbon type to large picture window openings for every room in the house. Ideal for enclosed porches and breezeways.

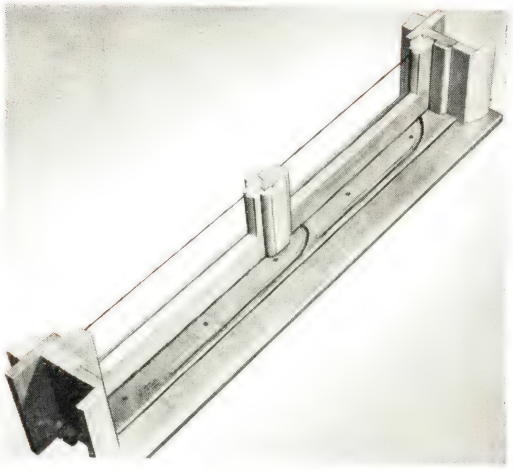
NOTE THESE SUPERIOR FEATURES

1. **WEATHERSTRIPPING**—Compression and interlocking type completely installed. Double weatherstrip contact with metal sill channel.
2. **OUTSIDE SCREEN**—(Optional)—Pine frame, fine mesh Alcoa Alclad Aluminum wire cloth. Special hardware locks screen tightly on inside. Can be easily put on or removed from inside.
3. **SASH**—1½″ thick, quality glass bedded and glazed with elastic glazing compound, fitted and complete with hardware installed.
4. **DOUBLE GLAZING**—(Optional)—Wood frame, fits on outside of gliding sash, controls condensation and heat loss—can be left on year around—easily removed for cleaning.
5. **STORM-SCREEN FEATURE**—Double glazing panel also fits on inside of screen to make an outside storm sash for closing openings during rough construction—or for triple glazing to provide extra insulation against heat loss and condensation.
6. **PLASTIC SILL TRACK**—Makes sash operate smoother and easier. Has a permanent natural wood finish that cleans easily.

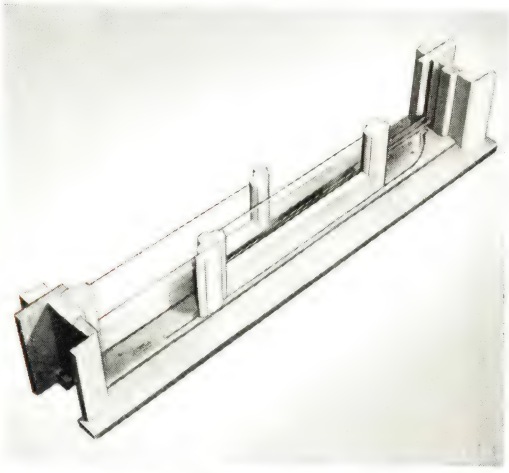
Frame is of leakproof construction with famous Andersen Lock Sill Joint and weathertight blind stops. Complete hardware for sash, screen and double glazing. Iridite treated heavy zinc plating with statuary bronze finish on lock handle. Triple action lock draws sash tightly together at top, bottom and center.

COMPLETE UNIT INCLUDES:

FRAME, NEW DESIGN • SASH • WEATHERSTRIPPING
SCREEN (optional) • REMOVABLE DOUBLE
GLAZING (optional), WITH FASTENERS INSTALLED
COMPLETE HARDWARE • PLASTIC SILL TRACK
PLASTIC FACED HEAD TRACK.



Here's how horizontal sliding action works. View from top of window shows that when closed, sash are in line in the same plane like a casement window. When open, right-hand sash glides on an inner track so sash pass by each other.

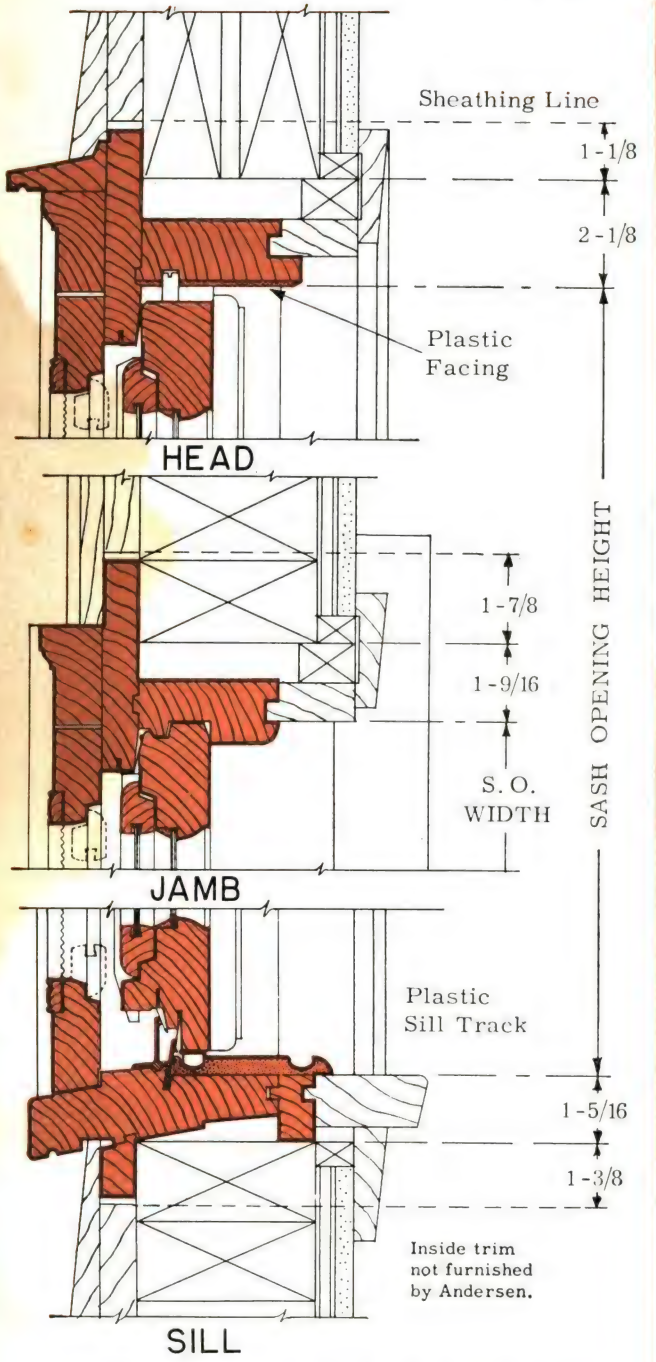


Sash is partly open. Note that right-hand sash has glided in its track so that it is passing by the other. Sash remain in any open position without rattling to provide excellent ventilation all through the house.



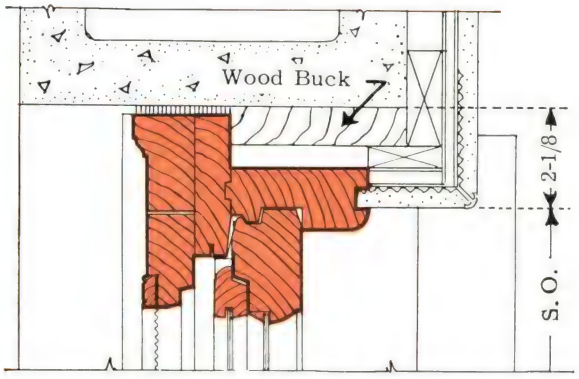
Sash are easily removed. No tools, no magic tricks needed. Simply slide either sash to full open position. Then lift up and pull slightly toward you. All outside glass surfaces can be easily and safely washed inside the home.

INSTALLATION DETAILS



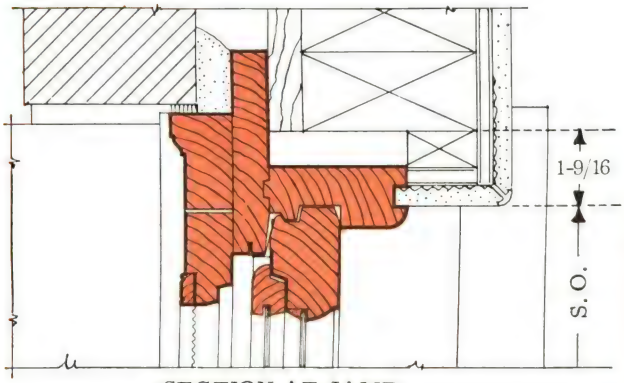
G-10—Standard unit in frame wall with lath and plaster inside finish and ¾" sheathing. The extension blind stop can be rabbeted for ½" sheathing and this should be specified when ordering the unit. Extension jambs and other trim should be ordered separately to conform to individual requirements. Installation is similar for stucco or brick veneer or for dry wall inside.

Detail shows Removable Double Glazing panel in place on outside of sliding sash. This same panel also fits in rabbet on inside of the screen to provide an outside storm sash for closing openings during rough construction.



SECTION AT JAMB

Detail shows standard unit in block wall. Note use of wood bucks anchored to block opening as recommended for all Andersen Window Units in masonry walls. Modular openings require ¾" thick wood bucks and extension blind stop must also be trimmed flush with brick moulding as shown in detail G-10 can be used in place of plaster reveal.



SECTION AT JAMB

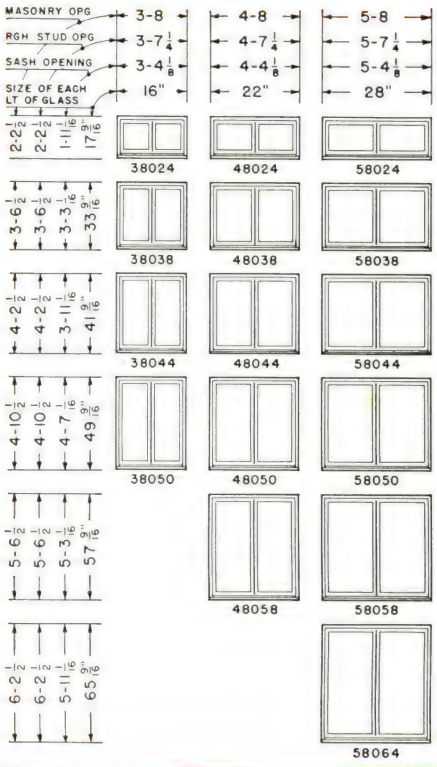
Detail shows installation of standard unit in brick veneer wall with windbreak outside of sheathing. Can also be set flush with sheathing. Note plaster reveal inside finish instead of casing trim as shown in detail at left.

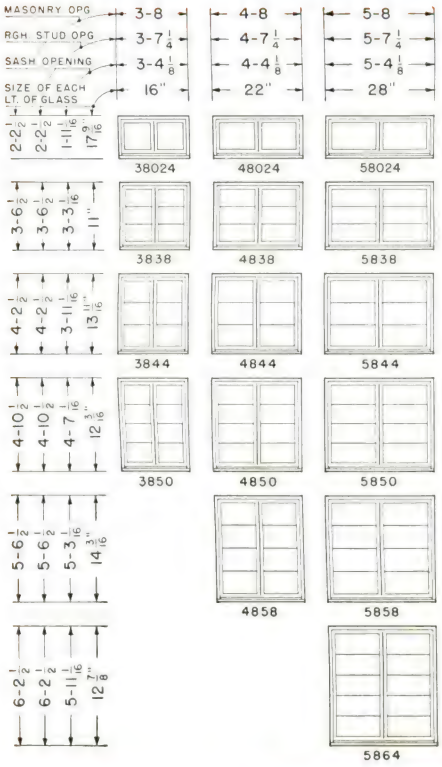
NOTE—Complete 1/4 scale installation details will be found in the Tracing Detail File. This will be mailed on request.

See Installation Specifications on page 23.

LIC. NO. 129 WATER REPELLENT PRESERVATIVE APPROVED NATL. WOODWORK MFRS. ASSN

Andersen Toxic Preservative Treating protects frame and sash from moisture, decay and termites. Where exterior casings are furnished by others, Andersen recommends that you specify treatment with approved toxic preservatives.





MODULAR SIZES

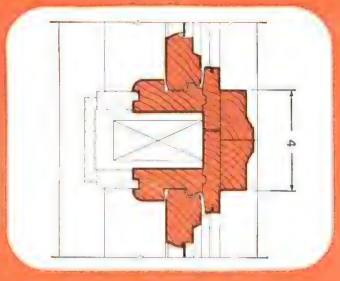
Sizes conform to the modular standards for masonry openings and glass lights are cut accordingly in order to maintain the 4-inch module. Masonry openings are exact overall unit dimensions. Widths are measured from back of brick mouldings and heights from top of brick moulding to bottom edge of sill. The masonry opening height dimensions are less than the modular opening to allow for the lintel and the slope of the masonry sill.

MULTIPLE OPENINGS

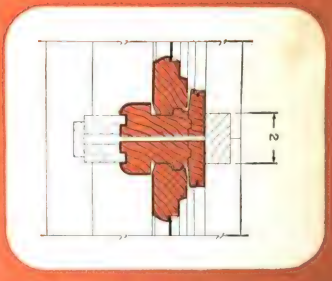
Multiple openings are formed by joining single units with side casings back to back and sill horns butt jointed to form 4-inch modular mullions, or jambs can be placed back to back to form a 2-inch narrow mullion as shown in detail below.

The overall masonry opening width for a multiple unit using the 4-inch modular mullion is the sum of the single masonry opening widths. For the overall rough stud opening width, deduct ¾ inch from the overall masonry opening.

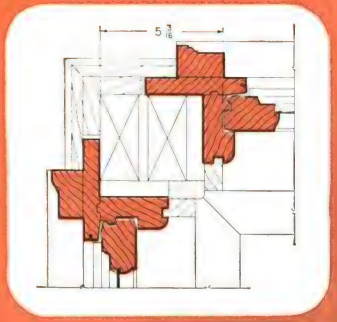
ADAPTATION DETAILS



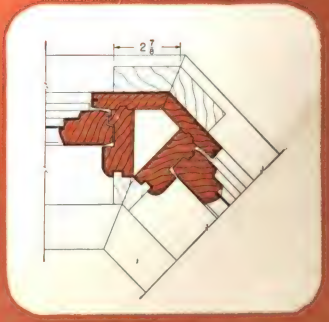
STANDARD MULLION—Detail shows 4-inch mullion made by placing two standard single units together with sill horns butt jointed and regular casings back to back.



NARROW MULLION—Where a load bearing support is not required, single units can be joined to form a 2-inch mullion as shown above.



CORNER—Detail shows corner construction with standard two-inch sill horns and casing. Long sill horns can be furnished for special corner casings.



ANGLE BAY—Detail shows 45° angle bay mullion using standard units with long sill horns and special outside casings (not furnished by Andersen).

THE COMPLETE DOUBLE HUNG WINDOW UNIT

with removable sash and sturdy Storm-Screen Combination

No other double hung window works like the Pressure Seal . . . with the invisible pressure strips that make the window highly weathertight, that permit floating sash action, that make possible effortless removal of both sash.

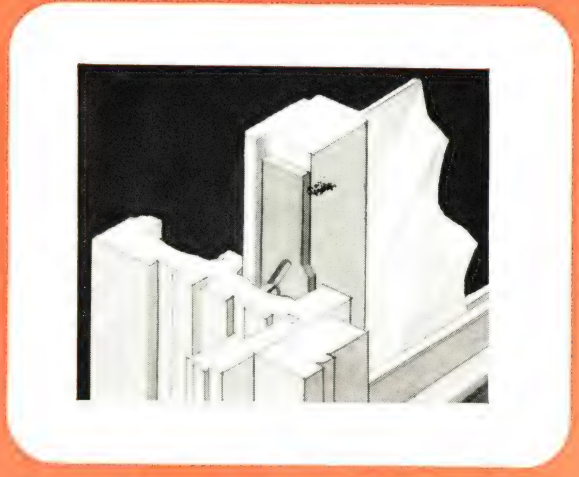
You have never seen a double hung window so easy to install and operate. With thumb levers depressed, sash float freely in sash runs. There just is no dragging friction to hinder movement. When levers are open, sash are held firmly in any open position. Metal-covered parting stop insures smooth operation.

SASH LIFT RIGHT OUT



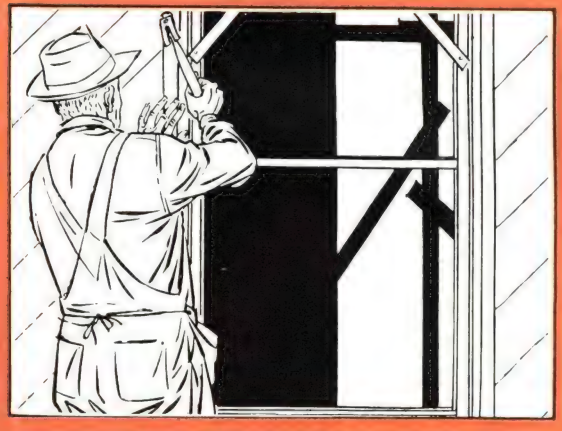
No strong-man tactics, no tools of any kind are required to remove the sash on Andersen Pressure Seal Windows. Sash are not hung on weights and chains, or connected to springs or balances. Simply depress thumb levers and open sash fully. Keep levers down. Slide sash easily to the left. It lifts out of the opening instantly, effortlessly. Both sash can be removed in seconds.

PRESSURE STRIP HOLDS SECRET



Exclusive Pressure Strip Action is key to exceptional weathertightness, smooth sash action, and sash removability. Wedge-like action of aluminum pressure strips forces sash against metal covered parting stop. Closes cracks and eliminates necessity for conventional weatherstrip on sides. Sash are completely free when thumb levers are depressed, held tight when levers are released.

QUICK AND EASY INSTALLATION REDUCES FINAL COSTS



NAIL FRAME IN ROUGH OPENING

The frame is set in rough openings and held in place by nailing wide blind stop to studs. A weathertight wall joint is assured.

Sash come complete with pressure strips, weatherstripping and operating mechanism installed, ready to be slipped in place from the inside. No weights to



SLIP SASH INTO PLACE

hang. No counterbalancing devices to install.

The standard frame detail can be used in any type of wall. The moulded inside stop on the side jamb greatly simplifies trimming out. A special fitted stool is included and only a simple inside casing or band moulding is required to complete the job.

Andersen Pressure Seal Units

INSTALLATION DETAILS—SCALE 3″ = 1′0″

Details show installation in standard frame wall with reversible wide blind stop in proper position for ¾″ sheathing. Position is reversed for ½″ sheathing. Installation is the same in brick veneer wall with blind stop flush with sheathing.

Standard left and right-hand jambs are furnished for mullion posts. The deep sash run in right-hand jamb is required for sash removal. Note how moulded inside stops form a mullion casing. Regular casing can be added if desired.

THE COMPLETE UNIT INCLUDES:

FRAME—Special leakproof construction with reversible wide blind stop, and undersill windbreak. Also includes combination inside stop and trim member.

SASH—1½″ thick, glass bedded and glazed with elastic glazing compound.

GLASS—Selected quality vision tested glass.

PRESSURE STRIPS — Installed in sash at factory.

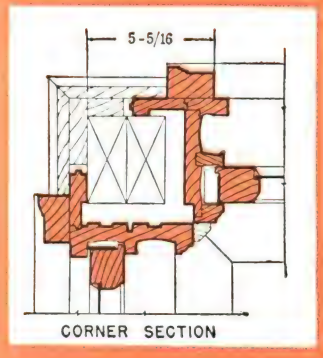
WEATHERSTRIPS—Check and bottom rail strips attached to sash.

OPERATING MECHANISM — Installed in sash at factory.

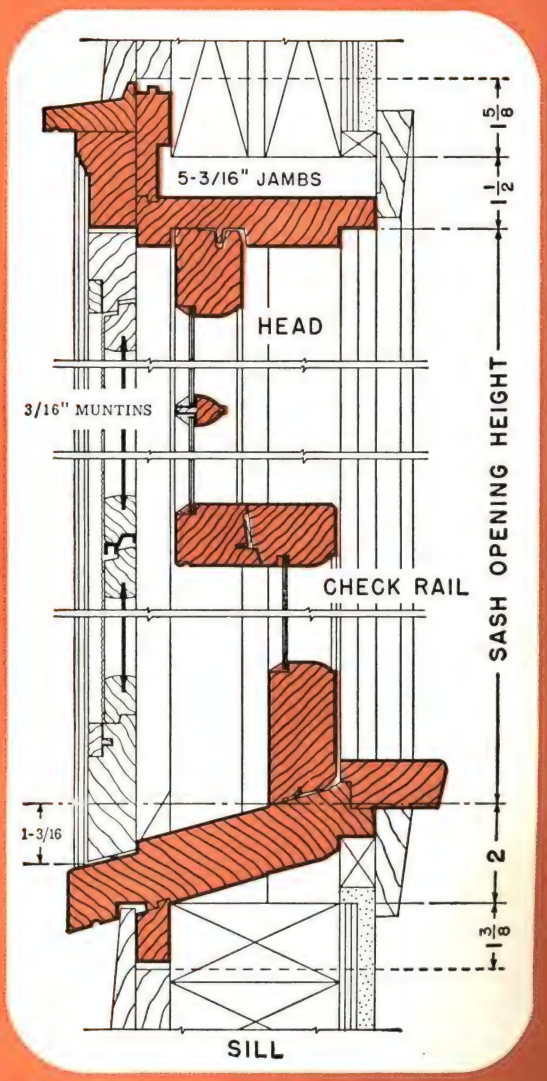
STOOL—Clear Pine, 2¼″ width only.

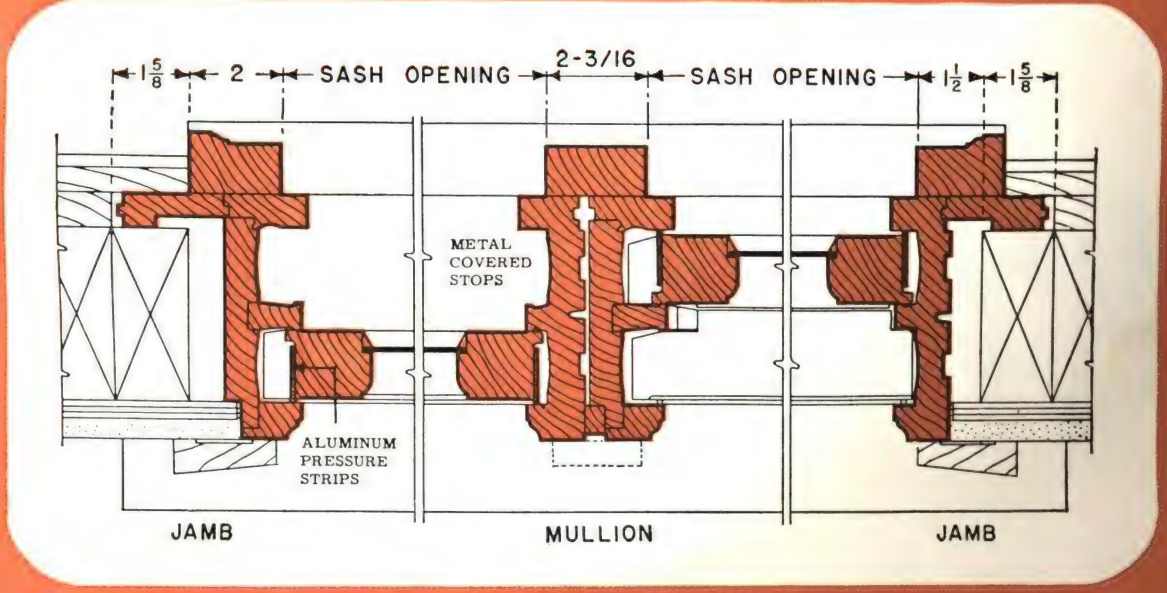
COMBINATION STORM-SCREEN (Optional) See page 20.

Exposed wood parts treated with Andersen Chemical Preservative and Water Repellent Solution.



Detail shows corner construction with standard 2-inch casing and regular sill horns. Long sill horns can be furnished on special order for use with special corner casings (not furnished by Andersen).





LIC. NO. 129 WATER REPELLENT PRESERVATIVE APPROVED NATL. WOODWORK MFRS. ASSN.

Andersen Toxic Preservative Treating protects frame and sash from moisture, decay and termites. Where exterior casings are furnished by others, Andersen recommends that you specify treatment with approved toxic preservatives.

Andersen Pressure Seal Units

Glass sizes shown for Types 61 and 81 are for bottom sash only. SEE TYPES 66 and 88 for glass sizes in top sash.

WINDOW TYPES			11	22	66	88	61	81	23	69	82
SASH OPENING	ROUGH STUD OPENING	MASONRY OPENING	GLASS SIZE	GLASS SIZE	GLASS SIZE	GLASS SIZE	GLASS SIZE	GLASS SIZE	GLASS SIZE	GLASS SIZE	GLASS SIZE
2-0x3-2	2-3½x3-5½	2-4x3-6¾	20½x16¼	20½x8	6⅝x8		20½x16¼				
3-10	4-1½	4-2¾	20¼	10	10		20¼				
4-2	4-5½	4-6¾	22¼	11	11		22¼				
4-6	4-9½	4-10¾	24¼	12	12		24¼				
5-2	5-5½	5-6¾	28¼	14	14		28¼				
5-6	5-9½	5-10¾							20½x12	6⅝x12	
2-4x3-2	2-7½x3-5½	2-8x3-6¾	24½x16¼	24½x8	8x8		24½x16¼				
3-10	4-1½	4-2¾	20¼	10	10		20¼				
4-2	4-5½	4-6¾	22¼	11	11		22¼				
4-6	4-9½	4-10¾	24¼	12	12		24¼				
5-2	5-5½	5-6¾	28¼	14	14		28¼				
5-6	5-9½	5-10¾							24½x12	8x12	
2-8x3-2	2-11½x3-5½	3-0x3-6¾	28½x16¼	28½x8	9 5/16x8		28½x16¼				
3-10	4-1½	4-2¾	20¼	10	10		20¼				
4-2	4-5½	4-6¾	22¼	11	11		22¼				
4-6	4-9½	4-10¾	24¼	12	12		24¼				
5-2	5-5½	5-6¾	28¼	14	14		28¼				
5-6	5-9½	5-10¾							28½x12	9 5/16x12	
3-0x3-2	3-3½x3-5½	3-4x3-6¾	32½x16¼	32½x8		7 15/16x8		32½x16¼			
3-10	4-1½	4-2¾	20¼	10		10		20¼			
4-2	4-5½	4-6¾	22¼	11		11		22¼			
4-6	4-9½	4-10¾	24¼	12		12		24¼			
5-2	5-5½	5-6¾	28¼	14		14		28¼			
5-6	5-9½	5-10¾							32½x12		7 15/16x12
3-4x3-2	3-7½x3-5½	3-8x3-6¾	36½x16¼	36½x8		8 15/16x8		36½x16¼			
3-10	4-1½	4-2¾	20¼	10		10		20¼			
4-2	4-5½	4-6¾	22¼	11		11		22¼			
4-6	4-9½	4-10¾	24¼	12		12		24¼			
5-2	5-5½	5-6¾	28¼	14		14		28¼			
5-6	5-9½	5-10¾							36½x12		8 15/16x12

ROUGH STUD OPENING FOR MULTIPLE UNITS—Add sash opening widths plus 2-3/16 inches for each mullion—then add 3½ inches to this figure for overall rough opening width.

MASONRY OPENINGS FOR MULTIPLE UNITS—Add sash opening widths plus 2-3/16 inches for each mullion—then add 4 inches to this figure for overall masonry opening width.

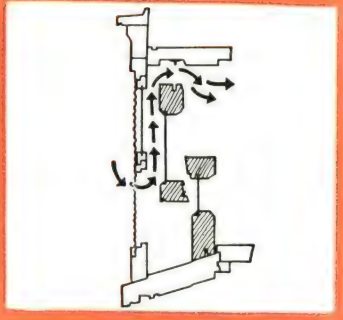
NOTICE TO BUILDERS—Sheathing should be applied before frames are installed. Be sure to make proper allowance for the extension blind stop as indicated on Installation Details.



THE ANDERSEN STORM-SCREEN COMBINATION (optional) comes complete. Full length fitted screen, aluminum screen cloth, hanging hardware and adjusters (not installed), two storm panels with fasteners applied.



EASY TO CHANGE! Lightweight storm panels fit easily into recessed screen. Never any stretching or struggling. Storm panels slip effortlessly into place from inside. Storm-Screen change is complete in less than a minute!



RAINY WEATHER VENTILATION—Upper storm panel can be left in place to provide ventilation during rain or long absences from home. Helps avoid rain damage to walls or plaster. Means one less panel to change and store.

PICTURE WINDOW UNITS

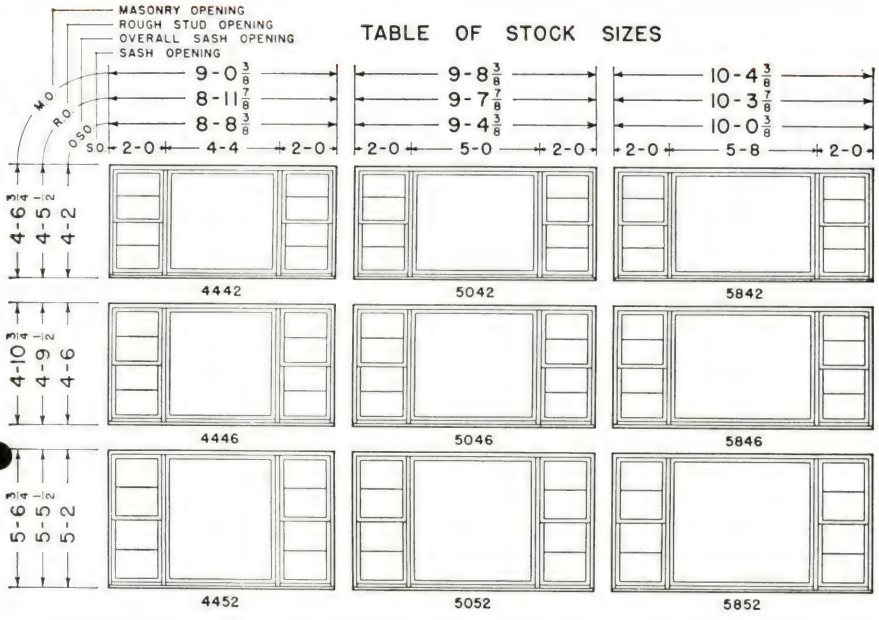
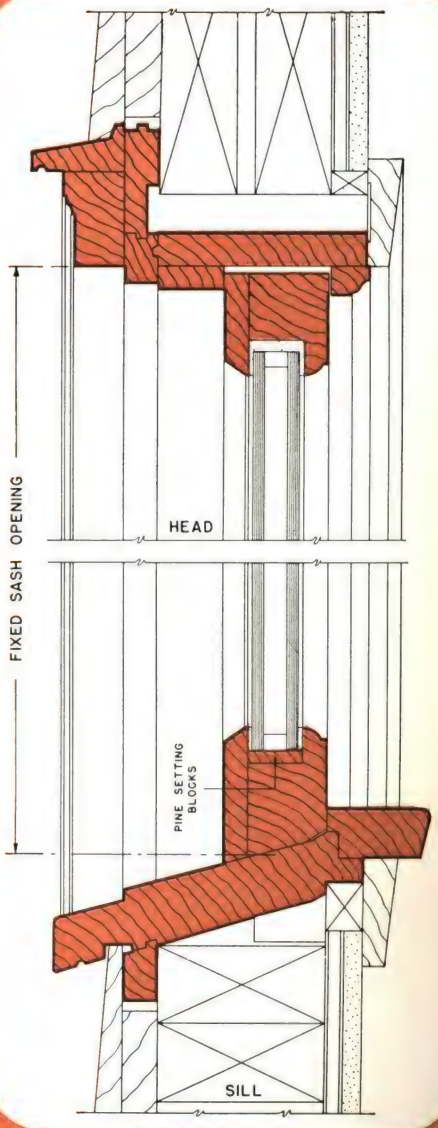


TABLE OF STOCK SIZES

Side units also furnished in glass layouts 61, 66 and 11.

TABLE OF SIZES FOR PICTURE WINDOWS

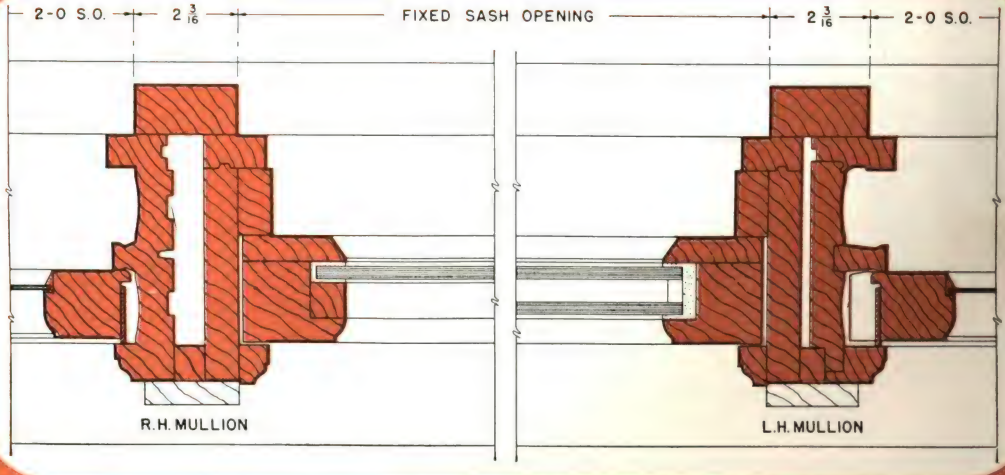
UNIT NO.	GLASS RABBET	EXACT GLASS SIZE FOR	
		THERMOPANE OR TWINDOW	¼ INCH PLATE
4442	49 x 46½	48½ x 46	48¾ x 46¼
5042	57 x 46½	56½ x 46⅛	56¾ x 46¼
5842	65 x 46½	64½ x 46	64¾ x 46¼
4446	49 x 50½	48½ x 50	48¾ x 50¼
5046	57 x 50½	56½ x 50	56¾ x 50¼
5846	65 x 50½	64½ x 50	64¾ x 50¼
4452	49 x 58½	48½ x 58	48¾ x 58¼
5052	57 x 58½	56½ x 58⅛	56¾ x 58¼
5852	65 x 58½	64½ x 58	64¾ x 58¼



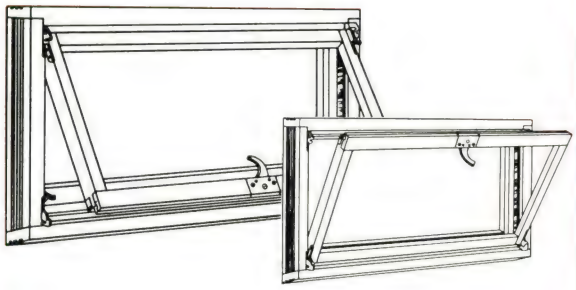
The stationary picture window sash is designed for either single or double glazing as shown in plan detail, including Thermopane or Twindow one inch thick. This sash is furnished without glass by Andersen.

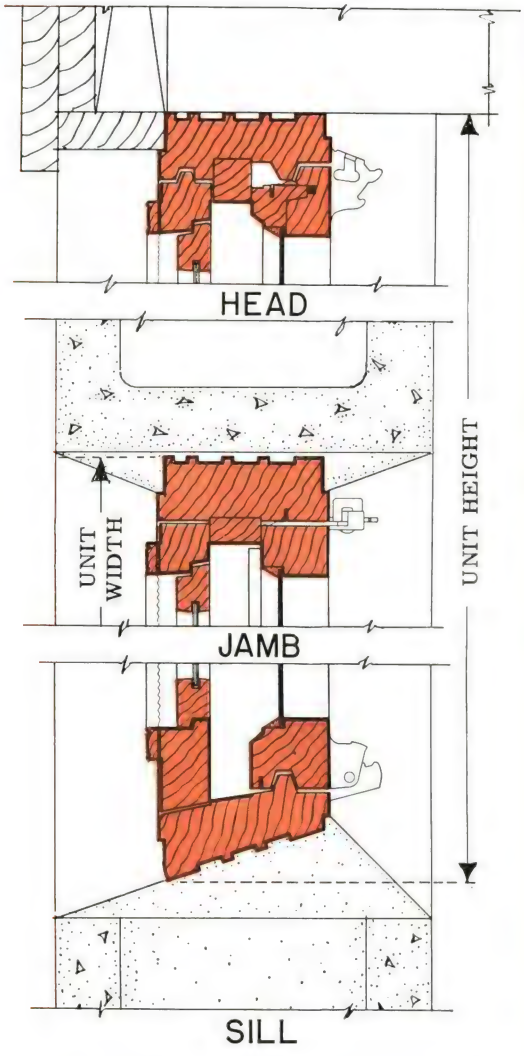
Standard Pressure Seal Double Hung Units are furnished for the side openings in the 2'0" sash opening width only. Inside casings and apron shown on detail not furnished by Andersen.

Scale 3" = 1'0"



Andersen Basement Units





DETAIL B-40. Shows typical installation in concrete block wall with poured sill.

A practical and widely used factory assembled wood basement window that successfully combines the weathertight and insulating advantages of wood windows with the large glass areas and quick installation of metal basement windows.

Comes as a complete, factory assembled unit with frame set-up, sash glazed and hung, screen fitted and installed and all hardware installed.

REVERSIBLE SASH

Dual purpose hinges permit swinging the sash from either top or bottom. Hinge members for both positions are attached and sash can be instantly reversed or removed without tools.

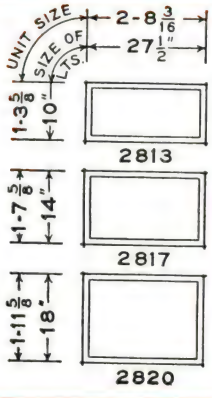
THE COMPLETE UNIT INCLUDES

FRAME • GLAZED SASH • WEATHERSTRIPPING • SCREEN HARDWARE • STORM PANEL (if specified) • CHEMICAL PRESERVATIVE TREATING

MODULAR SIZES

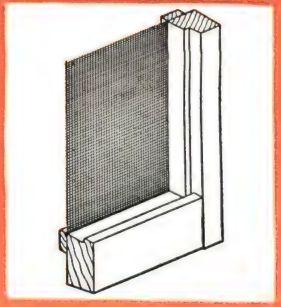
Sizes have been standardized to fit typical 16 x 8 inch block walls for masonry openings 2 blocks wide by 2, 2½ and 3 blocks high.

Modular sizes include one width and three heights, all glazed one light.

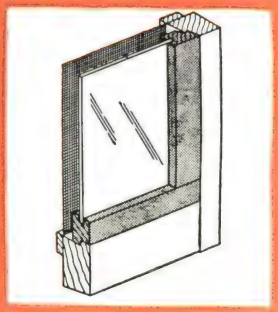


NEW STORM-SCREEN FEATURE

The screen now furnished with the Basement-Utility Unit is rabbeted to receive a glazed storm panel that goes on from the inside. This replaces the outside storm sash and comes with fasteners attached.



Corner section of screen showing rabbet for glazed storm panel.



Sectional view showing storm screen with storm panel in place (optional equipment).

LIC. NO. 129 WATER REPELLENT PRESERVATIVE APPROVED NATL. WOODWORK MFRS ASSN

Andersen Toxic Preservative Treating protects frame and sash from moisture, decay and termites. Where exterior casings are furnished by others, Andersen recommends that you specify treatment with approved toxic preservatives.

Andersen Installation Information

THE IMPORTANCE OF PROPER INSTALLATION

An outstanding development in the home building field is the improvement in residential fenestration, as exemplified by the factory fabricated complete window unit. Andersen Corporation pioneered the development of these window units complete with factory glazing, weatherstripping, insulating glass and operating hardware, and are today producing some of the finest window units available. All parts are precision manufactured and fitted and these window units are designed and engineered to give many years of satisfactory service to homeowners.

Proper installation and maintenance, however, is an important factor in the successful use of factory fabricated complete window units. Builders can save themselves a lot of time and trouble, as well as call-backs for refitting and adjustments by handling Andersen Window Units the same as any other precision manufactured product, and by carefully observing a few simple instructions.

Andersen Wood Window Units are easy to install and they save the builder a lot of time and expense, but it is important that builders realize that different techniques and methods are required than for the old style site fabricated windows. Written Installation Specifications are highly desirable and we offer the following suggestions and recommendations for the guidance of specification writers.

GENERAL RECOMMENDATIONS

The following recommendations and suggestions apply to all Andersen Units.

1. Leading joints and priming frame—White leading the joints between sill and side jambs when setting up the frame is recommended, also painting the frame parts with at least a priming coat.

2. Paint sash BEFORE rough construction—Sash that are hung in the units before installation in the wall opening, as in the case of the Andersen Casement and Flexivent Units, should be given at least two coats of paint before or immediately following installation, as a protection against damage from dirt and moisture during rough construction and while the house is drying out following plastering.

3. Keep removable sash out of opening—The removable sash of the Andersen Gliding and Pressure Seal Units should be painted out of the opening and should not be installed until the job is ready for inside trim. Openings can be closed with storm sash, combination storm-screens or the screen covered with Celloglass or similar material.

4. Lap paint onto glass—When painting the outside of the sash, the putty should be painted and the paint lapped slightly onto the glass.

5. Keep paint off weatherstrips—Metal weatherstrips should not be painted and should be carefully cleaned if paint gets on them.

6. Adequate headers—Rough openings should be framed with adequate headers and supports so as to avoid any pressure on the window unit from overhead loads. This is especially important in framing for the Gliding Unit and the Casement Picture Window Unit.

7. Keep unit plumb and square—When installing the window unit in the rough opening, care should be taken to see that it is plumb and square. Also, be careful to avoid crowding the jambs and sill with plaster, blocking, insulation or anything that might cause inward bowing. It is recommended that bracing be left on until ready to apply inside trim.

8. Protection during plastering—Unless the window units are properly protected, considerable damage may be caused by spattering and droppings during plastering. Chemicals in the plaster, if left on the hardware, will discolor and scratch the finish, often to the point where it cannot be restored. Plaster is also difficult to clean from wood muntin bars and other wood parts, and plaster damage often adds considerably to the cost of finishing the window units.

We recommend that the opening be completely covered with a cloth or some translucent material such as Celloglass. *The saving in cleaning and finishing the unit will more than pay for the cost of such protection.*

9. Check unit before trimming out—Just before applying finish trim, the contractor should check all openings and make sure sash and frame are true and square and operate properly. Blocking and plumbing and any necessary adjustments to insure proper sash operation can be easily made at this stage. Damaged or missing parts should be repaired or replaced at this time.

10. FINAL INSPECTION—Before turning the job over to the owner, a few minutes spent on each unit cleaning up weatherstripping and checking for proper contacts, also checking operating hardware, will pay good dividends in consumer satisfaction and may avoid troublesome call-backs later on. Cleaning up excess paint and plaster and a little wax applied to the right places will work wonders in restoring the original "factory" operation to balky window units.

INSTALLATION AND MAINTENANCE MANUALS

These manuals give complete instructions for the proper installation and maintenance of Andersen Window Units. They are supplied to dealers and distributors to be furnished with each job or otherwise distributed to all interested parties.

Andersen Corporation assumes full responsibility for suitable materials and accurate manufacture according to details and specifications. Further responsibility must necessarily depend on the full cooperation of the architect, building contractor and homeowner in seeing that these installation and maintenance instructions are carefully observed.

Andersen Distributors

Andersen Window Units are available to established lumber and millwork dealers from the warehouse stocks of the following wholesale distributors.

ALABAMA
BIRMINGHAM—Birmingham Sash & Door Co., 901 North 28th St.

CALIFORNIA
OAKLAND—Mill Built Distributors, Inc., 2500 Union St., Twinoaks: 3-5535
SANTA ANA—Coast Millwork, 1012 Fuller St., Box 1911

COLORADO
DENVER—The Denver Reserve Supply Co., 901 Wazee St.
DENVER—Richardson Lumber Co., 601 West 48th Ave.
PUEBLO—Richardson Lumber Co., No. Freeway at 22nd St.

CONNECTICUT
ANSONIA—Cleary Millwork Co., Inc., 126 Canal Street
NEW HAVEN—Brockway-Smith-Haigh-Lovell Co., Box 133

DELAWARE
WILMINGTON—Morgan Millwork Co.

DISTRICT OF COLUMBIA
WASHINGTON, D.C.—Morgan Millwork Co., 1401 S. Fern St., Arlington, Va.

FLORIDA
JACKSONVILLE—Huttig Sash & Door Co., 2303 Market St.

ILLINOIS
CHICAGO—Associated Door & Plywood Co., 2141 South Throop St.
CHICAGO—Morgan Sash & Door Co., 2287 Blue Island Ave.
CHICAGO—Roberts Sash & Door Co., 920 West Cullerton St.
DECATUR—Morgan Sash & Door Co., 3200 No. 22nd St.
PEORIA—Wahlfeld Mfg. Co., 1101 South Washington
ROCK ISLAND—Rock Island Millwork Co., 2525 Fourth Ave.

INDIANA
GOSHEN—Goshen Sash & Door Co.
INDIANAPOLIS—Midland Building Industries, Inc., 907 E. Michigan St.

IOWA
CEDAR RAPIDS—Williams & Hunting Co.
MASON CITY—Mason City Millwork Co., Inc.

KANSAS
WICHITA—United Sash & Door Co.

KENTUCKY
LEXINGTON—Combs Lumber Co., Box 359
LOUISVILLE—Huttig Sash & Door Co., 1735 W. Burnett Ave.

LOUISIANA
ALEXANDRIA—Davidson Sash & Door Co., Inc.
BATON ROUGE—United Sash & Door Co., P.O. Box 961.
LAFAYETTE—Davidson Sash & Door Co., Inc.
LAKE CHARLES—Davidson Sash & Door Co., Inc.
NEW ORLEANS—New Orleans Sash & Door Co., 1212 South Roman St.

MAINE
PORTLAND—Brockway-Smith-Haigh-Lovell Co.

MARYLAND
BALTIMORE—Morgan Millwork Co., 129 W. North Ave.

MASSACHUSETTS
BOSTON—Brockway-Smith-Haigh-Lovell Co., 465 Medford St., Charlestown District
SPRINGFIELD—Brockway-Smith-Haigh-Lovell Co., Box 1129
SPRINGFIELD—Martin Lumber Co., 983 Page Blvd.

MICHIGAN
DETROIT—Kimball & Russell, Inc., 2127 Fenkell Ave.
FLINT—Flint Sash & Door Co., Inc., East Side Station, Box 6146
GRAND RAPIDS—Grand Rapids Sash & Door Co., 1453 Buchanan Ave. S.W.
KALAMAZOO—Grand Rapids Sash & Door Co.
LANSING—Grand Rapids Sash & Door Co., 1300 Turner St.
SAGINAW—Flint Sash & Door Co., 2429 Holland Avenue
TRAVERSE CITY—Grand Rapids Sash & Door Co.

MINNESOTA
DULUTH—The Radford Company, Box 215
DULUTH—Scott-Graff Company
MINNEAPOLIS—E. E. Bach Millwork Co., 3121 Hiawatha Ave.
ST. PAUL—Pacific Mutual Door Co., Pillsbury & Territorial Rd.

MISSISSIPPI
JACKSON—Jackson Sash & Door Co.

MISSOURI
KANSAS CITY—American Sash & Door Co., Benton Plaza & Bellefontaine
ST. LOUIS—Huttig Sash & Door Co., 8900 Page Blvd.

MONTANA
BILLINGS—Building Service, Inc.
GREAT FALLS—Building Service, Inc., 925 8th Ave. North
MILES CITY—Richland Lumber Co.

NEBRASKA
OMAHA—Disbrow & Co., 12th & Nicholas Streets

NEW JERSEY
GLOUCESTER CITY—J. R. Quigley Co., 811 Market Street
HARRISON—Bosman & Casson, 4th St. & Railroad Avenue
MIDLAND PARK—Black Millwork & Lumber Co., Inc.
NEWARK—Whittier Lumber & Millwork Co., 27-49 Haynes Ave.
ROSELLE—Reeb Millwork Co.

NEW YORK
ALBANY—Iroquois Millwork Corp., Mill St. at Tivoli
ALBANY—Robbins Door & Sash Co., Railroad Ave., P.O. Box 5063
BETHPAGE, L.I.—Sturtevant Millwork & Lumber Corp.
BUFFALO—Iroquois Door Co., Exchange & Larkin Streets
BUFFALO—The Whitmer-Jackson Co., Inc., 367 Hamburg St.
ITHACA—Robbins Door & Sash Co., 416 Taughannock Blvd.
MEDINA—The Whitmer-Jackson Co., Inc.
MIDDLETOWN—Robbins Door and Sash Co.
ONEONTA—Robbins Door and Sash Co.
OZONE PARK, L.I.—Hussey-Williams Co., Inc., 90-15 95th Ave
ROCHESTER—The Whitmer-Jackson Co., Inc., 534 Broad St.
SYRACUSE—Iroquois Door Co., Fourth North at Hiawatha

NORTH CAROLINA
CHARLOTTE—Huttig Sash & Door Co., 1018 Jay Street

NORTH DAKOTA
BISMARCK—Bardwell-Robinson Co.
BISMARCK—Builders Supply Co.
FARGO—Bardwell-Robinson Co.

OHIO
CINCINNATI—Acme Sash & Door Co., 1250 Tennessee Ave.
CINCINNATI—Cincinnati Sash & Door Co., 4500 Reading Road (29)
CLEVELAND—The Whitmer-Jackson Co., Inc., 1996 West Third St.
COLUMBUS—Huttig Sash & Door Co., 902 W. Goodale St.
DAYTON—Dayton Sash & Door Co., 8 Norwood Avenue
DAYTON—Ohio City Sash & Door Co., 721 Germantown St.
TOLEDO—Allen A. Smith Co., 1216 W. Bancroft St.
YOUNGSTOWN—The Whitmer-Jackson Co., Inc., 3650 Connecticut Avenue

OKLAHOMA
TULSA—General Sash & Door Co., Box 2707

OREGON
SALEM—Oregon Pulp & Paper Co., Lumber Division

PENNSYLVANIA
ALLENTOWN—Robbins Door & Sash Co.
BETHLEHEM—Reeb Millwork Corp.
CRESSONA—J. R. Quigley Co.
FRACKVILLE—Robbins Door & Sash Co.
HARRISBURG—Morgan Millwork Co.
HARRISBURG—J. R. Quigley Co.
LANCASTER—J. R. Quigley Co.
PHILADELPHIA—J. R. Quigley Co., 2867 E. Allegheny Ave.
PITTSBURGH—Iron City Sash & Door Co., 36th Street and B. & O. R. R.
SCRANTON—Robbins Door & Sash Co., 301 Green Ridge Street.
WILKES-BARRE—Robbins Door & Sash Co., P. O. Box 307
WILLIAMSPORT—Robbins Door & Sash Co., Foot of Penn St.

SOUTH DAKOTA
SIOUX FALLS—Jordan Millwork Co.
WATERTOWN—Watertown Sash & Door Co.

TENNESSEE
KNOXVILLE—Huttig Sash & Door Co., 900 North 6th Avenue
MEMPHIS—Memphis Sash & Door Co., Box 437
NASHVILLE—Huttig Sash & Door Co., Fessey Park Road

TEXAS
AMARILLO—Amarillo Sash & Door Co., 1100 Grant Street
AMARILLO—United Sash & Door Co., Box 446
AUSTIN—Davidson Sash & Door Co.
DALLAS—Huttig Sash & Door Co., 6519 Cedar Springs Road
FORT WORTH—Texas Sash & Door Co., 201 Rupert St., Box 1905
HOUSTON—Houston Sash & Door Co., 813 McKee Street
LUBBOCK—Lubbock Sash & Door Co.

UTAH
SALT LAKE CITY—Utah Lumber Co., 333 W. 1st South

VIRGINIA
ARLINGTON—Morgan Millwork Co., 1401 So. Fern St.
ROANOKE—Huttig Sash & Door Co., Campbell Ave. at 18th St. S.W.

WASHINGTON
SPOKANE—Exchange Lumber and Manufacturing Co., P. O. Box 1514

WISCONSIN
OSHKOSH—The Radford Company
WAUKESHA—Wilbur Lumber Company

Andersen Corporation · BAYPORT, MINNESOTA · WINDOW SPECIALISTS FOR MORE THAN 50 YEARS

BILT-WELL DOUBLE-HUNG WINDOW UNITS

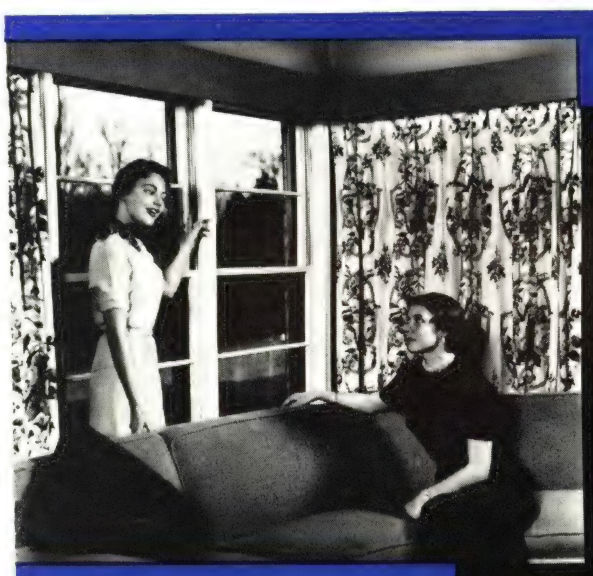
These precision-made windows are twice as weathertight and require only 1/10th the lifting effort of ordinary windows. This is made possible by the patented flexible jamb-liner shown in the section enlarged, and is exclusively Bilt-Well.

Bilt-Well Windows are complete weatherstripped units—sash and frame manufactured in modular sizes, and standardized for various standard walls —brick veneer, solid masonry and wood frame walls.

An adaptable blind stop, removable portion of jambs, and removable sill strip make Bilt-Well Double-Hung Windows adjustable to various thicknesses of sheathing, dry-wall or plaster. The flexibility of standardized Bilt-Well Windows is important to Architects and Builders.

Compare Bilt-Well Windows with any window on the market today, point for point, feature for feature, for economy and durability.

Bilt-Well Windows are made of clear kiln-dried Ponderosa Pine—a natural insulator. They are toxic, water repellent treated in strict accordance with National Woodwork Manufacturer's Association standards. The frame is comprised of heavy (1⅛″ thick) jambs and 1⅜″ thick sill. The sash are 1⅜″ thick, prefitted and glazed with a high special quality glazing compound and standard brands of fine quality glass. The sash are counter-balanced with guaranteed overhead spring balances for utmost ease of operation. Bilt-Well Double-Hung Windows are available in all modular sizes, widths from 1′-4″ to 3′-8″ and heights from 2′-6″ to 6′-6″ inclusive. Standard designs are shown on the following pages.





Only Bilt-Well Windows have this patented flexible weatherstrip that adjusts with climatic changes, just like the thermostat on your furnace! Minimum friction plus perfect counterbalancing adds up to a Bilt-Well Window that is twice as weathertight with 1/10th the lifting effort of ordinary windows! This patented feature offers savings in fuel, savings in labor on installation, and savings in trouble-free service that eliminates call backs.

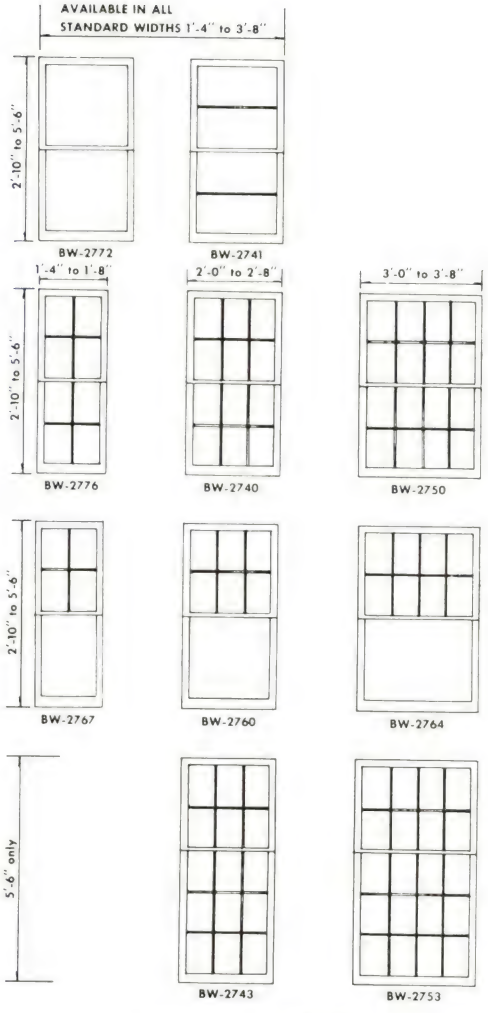
Build Well with BILT WELL WOOD WORK

CARR, ADAMS & COLLIER COMPANY . Dubuque, Iowa

BILT-WELL DOUBLE-HUNG WINDOW UNITS

To an architect, Bilt-Well Windows are all important, first because they are made by experienced, skilled craftsmen whose abilities and "know-how" are real attributes to the modern woodworking industry; and second, because Bilt-Well Windows are offered in stock designs and modular sizes.

On this page, the stock Bilt-Well Double-Hung window designs are shown.

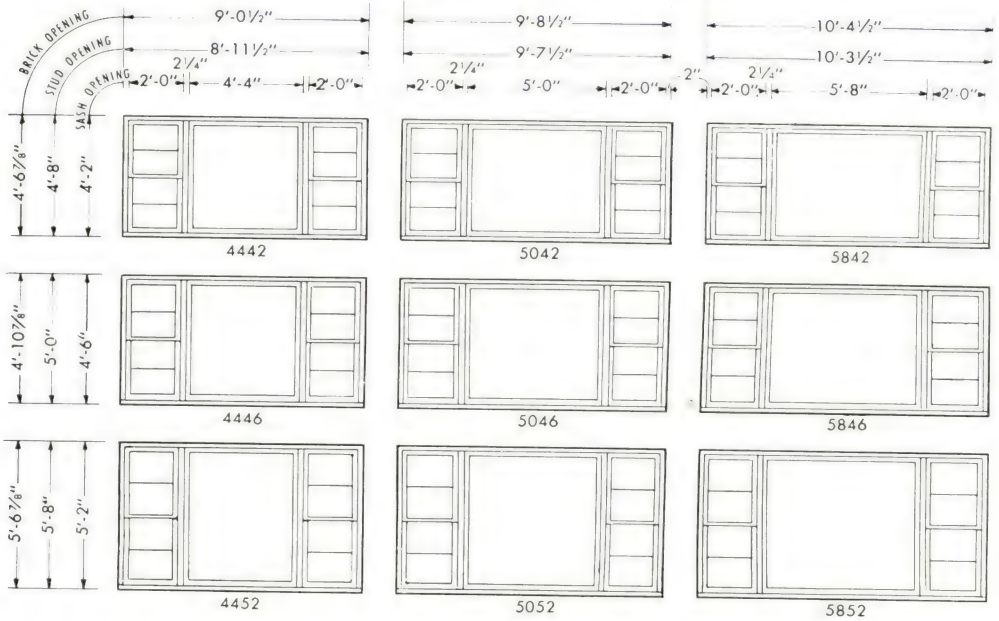


Top Sash 24" glass opn'g Bot. Sash 36" glass opn'g

STANDARD STOCK BILT-WELL DOUBLE-HUNG WINDOW UNIT SIZES

Opening Size	Opening Size	Opening Size	Opening Size
1-4 x 2-6	2-0 x 2-6	2-8 x 2-10	3-4 x 2-10
2-10	2-10	3-2	3-2
3-2	3-2	3-6	3-6
3-6	3-6	3-10	3-10
3-10	3-10	4-2	4-2
4-2	4-2	4-6	4-6
4-6	4-6	4-10	4-10
4-10	4-10	5-2	5-2
5-2	5-2	5-6	5-6
5-6	5-6	5-10	5-10
5-10	5-10	6-2	6-2
	6-2	6-6	6-6
1-8 x 3-2	6-6	3-0 x 2-10	3-8 x 3-6
3-6	2-4 x 2-6	3-2	3-10
3-10	2-10	3-6	4-2
4-2	3-2	3-10	4-6
4-6	3-6	4-2	4-10
4-10	3-10	4-6	5-2
5-2	4-2	4-10	5-6
5-6	4-6	5-2	5-10
5-10	4-10	5-6	6-2
6-2	5-2	5-10	6-6
6-6	5-6	6-2	
	5-10	6-6	
	6-2		
	6-6		

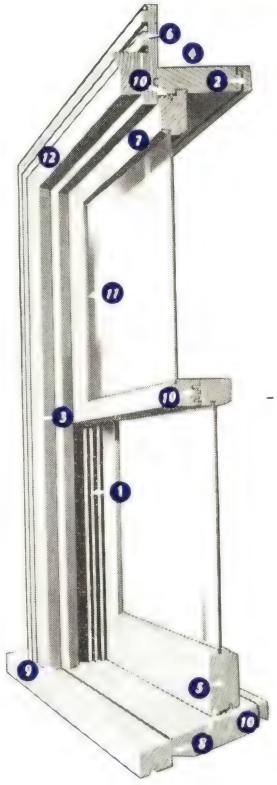
STANDARD BILT-WELL DOUBLE-HUNG WINDOWS WITH CENTER PICTURE SASH



Build Well with BILT-WELL WOOD WORK

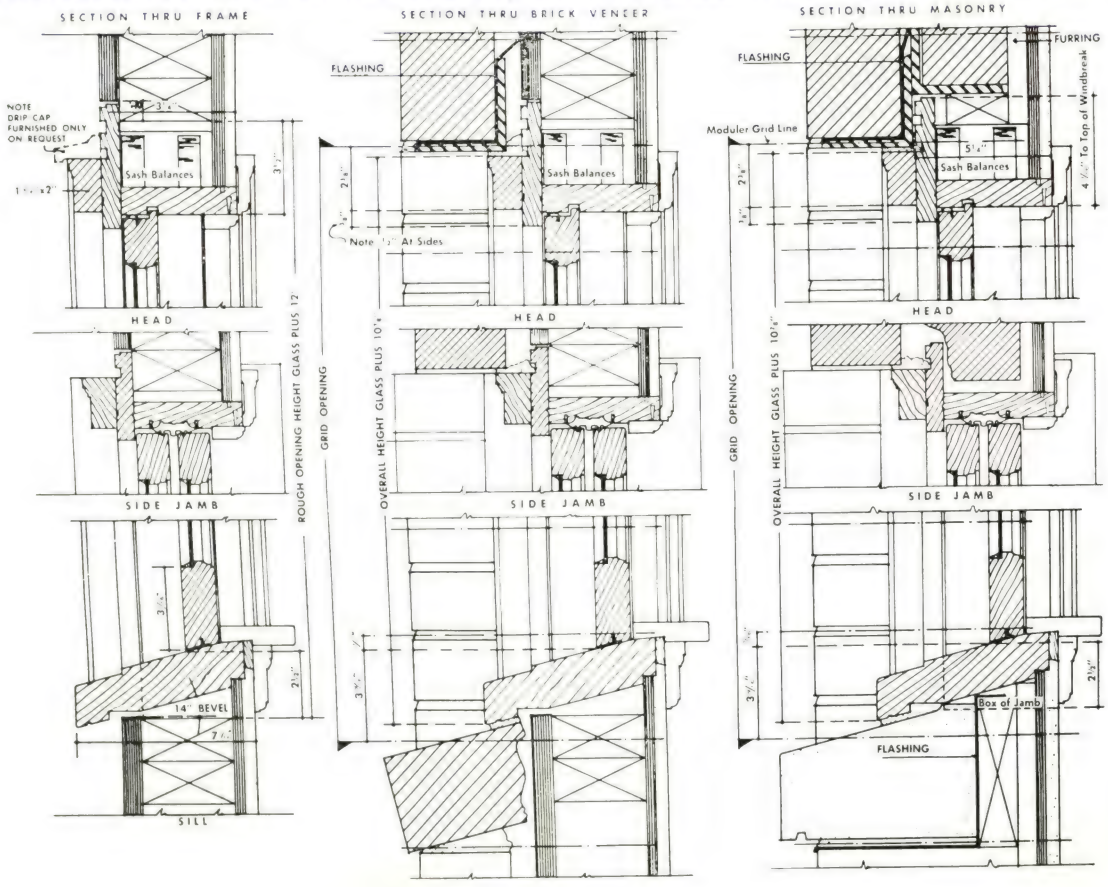
CARR, ADAMS & COLLIER COMPANY . Dubuque, Iowa

HERE ARE THE PRINCIPLE POINTS WHICH MAKE BILT-WELL DOUBLE-HUNG WINDOWS TODAY'S OUTSTANDING WINDOW UNITS!



1. Patented flexible jamb-liner provides weathertightness and ease of operation. Its flexibility automatically compensates for dimensional variations due to climatic changes.
2. Designed for ¾" plaster wall, yet may be easily converted for standard drywall by removing the exjamb.
3. Accurately machined and factory pre-fitted. Easy to assemble and simple to install in the wall.
4. Overhead spring balances provide finger-tip operation and perfect counter-balancing, allows sash to stay in any given position. Four balances to a unit, guaranteed for the life of the building.
5. Made of thoroughly seasoned kiln-dried Ponderosa Pine of uniform quality.
6. Wide overlapping one piece blind stop for easy nailing and weathertight installation. Adaptable to ¾" or ½" sheathing.
7. Bilt-Well Windows meet rigid AWWI requirements for air-infiltration, proving to be twice as weathertight as that which is specified as a minimum.
8. Bilt-Well Windows are "water-repellent preservative treated" in strict accordance with approved NWMA standards.
9. Sturdily constructed with 1⅛" jambs and 1¾" sills. Available knocked-down with all weatherstrip applied at the factory.
10. Weathertight seals between sash and frame at head and sill, and between meeting rails of sash, make Bilt-Well Windows twice as weathertight, affording substantial fuel savings.
11. Sash is removable before inside stops are applied without having to remove weatherstrip. Important to builders and contractors.
12. Standardized for all conventional types of walls and construction.

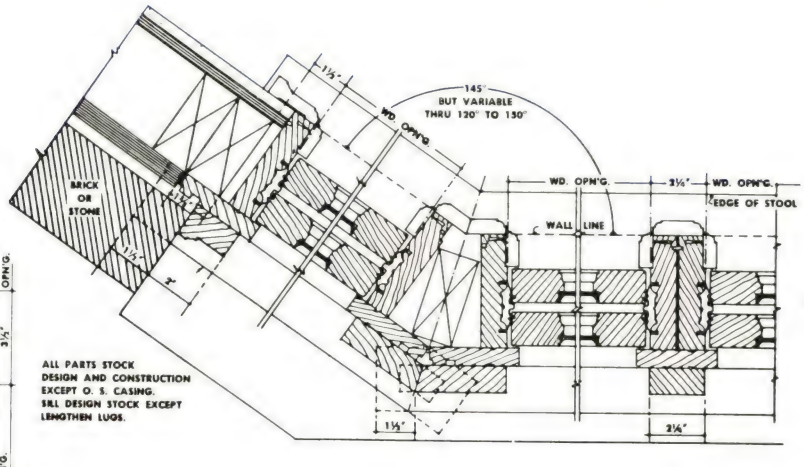
STANDARDIZED FOR WOOD FRAME, BRICK VENEER AND SOLID MASONRY WALLS

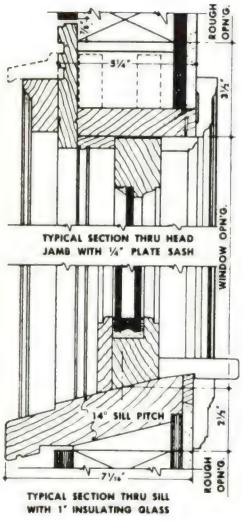


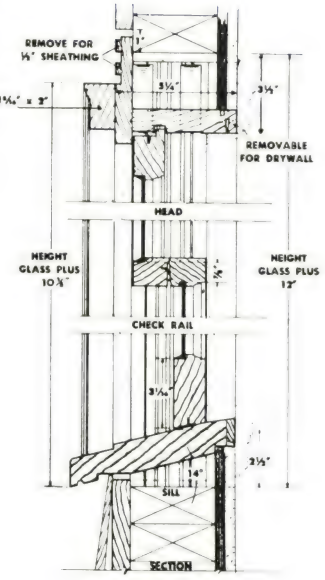
Build Well with BILT-WELL WOOD WORK

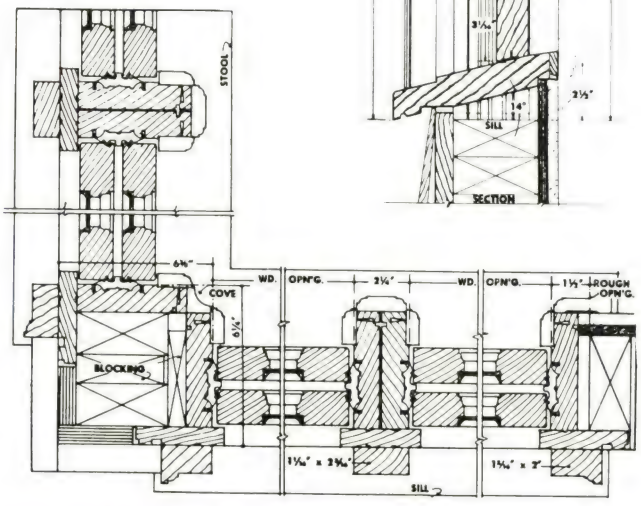
CARR, ADAMS & COLLIER COMPANY . Dubuque, Iowa

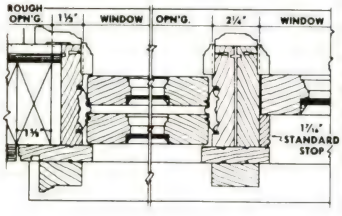
INSTALLATION DETAILS OF BILT-WELL DOUBLE-HUNG WINDOW UNITS

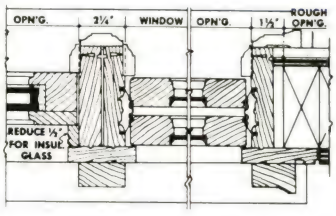












Build Well with BILT-WELL WOOD WORK

DISTRIBUTORS OF BILT-WELL DOUBLE-HUNG WINDOW UNITS

ARKANSAS
Jonesboro—Carr-Adams Mfg. Company

COLORADO
Denver—Materials Supply Company

GEORGIA
Savannah—Neal-Blun Company

IDAHO
Boise—Intermountain Glass Co.

ILLINOIS
Chicago—C. L. Ibsen Company
Peoria—Carr & Johnston Company

INDIANA
Indianapolis—Adams-Rogers Company

IOWA
Des Moines—Carr & Moehl Company
Dubuque—Carr, Adams & Collier Co., Jobbing Division
Ft. Dodge—Carr & Moehl Company

KANSAS
Kansas City—R. L. Sweet Lumber Company

KENTUCKY
Lexington—Combs Lumber Company
Louisville—Byron Sash & Door Company

MARYLAND
Baltimore—The Sanders Company

MASSACHUSETTS
Framingham—Gregg & Son, Inc.

MICHIGAN
Grand Rapids—Grand Rapids Sash & Door Company

MINNESOTA
Minneapolis—Carr-Cullen Company

MISSOURI
St. Louis—Carr-Adams Mfg. Company

MONTANA
Great Falls—Lumber Yard Supply Company

NEBRASKA
Hastings—Adams & Kelly Company
Omaha—Adams & Kelly Company

NEW JERSEY
Gloucester City—J. R. Quigley Company, Inc.

NEW YORK
Albany—Concord Lumber Company, Inc.
Newburgh—Cameron Lumber Company, Inc.
Rochester—Concord Millwork Corporation

NORTH CAROLINA
Charlotte—Miller Mill Work Corporation

OHIO
Canton—The Interstate Sash & Door Company
Cleveland—Industrial Wholesale Lumber Company
National Sash & Door Company, Inc.
Mansfield—National Sash & Door Company, Inc.
Toledo—The Collier-Glasson Company
Youngstown—Youngstown Sash & Door Company

PENNSYLVANIA
Cressona—J. R. Quigley Company, Inc.
Harrisburgh—J. R. Quigley Company, Inc.
Lancaster—J. R. Quigley Company, Inc.
Philadelphia—Lumber & Millwork Company of Philadelphia
J. R. Quigley Company
Pittsburgh—Georgia-Pacific Plywood Company

SOUTH DAKOTA
Rapid City—Robbins & Stearns

TENNESSEE
Knoxville—Tennessee Concrete & Supply Company
Nashville—The Tennessee Glass Company
Warren Brothers Company

TEXAS
Sweetwater—Sweetwater Sash & Door Company

UTAH
Salt Lake City—Knudsen Builders Supply Company

VIRGINIA
Norfolk—Building Supplies Corporation

WASHINGTON
Yakima—Cascade Lumber Company

WEST VIRGINIA
Bluefield—Bluefield Sash & Door Company, Inc.

WISCONSIN
Oshkosh—Marquart Millwork Company

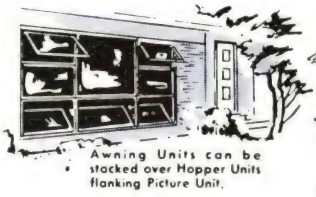
CARR, ADAMS & COLLIER COMPANY . Dubuque, Iowa

BILT-WELL AWNING WINDOWS for multiple use

Easy, simple operation, maximum weathertightness, scientific ventilation control and utmost flexibility of unit arrangement. Bilt-Well Awning Windows are complete units, assembled and ready to install. They are designed to offer utmost flexibility —1. they can be stacked vertically, 2. joined horizontally for ribbon windows, 3. reversed for hopper vents, 4. placed on end for casements, 5. installed to flank picture windows, 6. hopper vent under fixed sash—the very popular window wall, and 7. unlimited combinations of all the above arrangements. In reality Bilt-Well Awning Window Units are "four-in-one" 1. Swing-out Awning Windows, 2. Swing-in Hopper Windows, 3. Swing-out Casements, and 4. Fixed Units. When used in any one of these ways, they give maximum operating efficiency at all times, without worry of complicated hardware to get out of order. The Bar Operator and the Friction slide hinge facilitates easy opening, smooth closing and positive locking without the necessity of opening the screen. Each Bilt-Well Awning Window has all hardware except locking handle installed at the factory, saving installation costs and to insure perfect alignment of hardware.


Arrangement of Awning Units joined together.

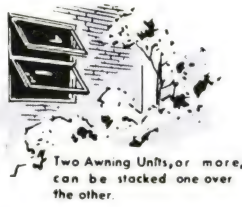

Picture Units can be placed end to end as well as over other Units.

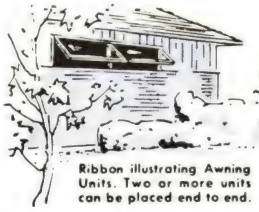

Awning Units can be stacked over Hopper Units flanking Picture Unit.


Flanking Casement Units with Picture Unit in center.

Note: Bilt-Well Awning, Hopper, and Fixed Units can be grouped in any combination.


Awning Units stacked joined to Picture Unit.


Two Awning Units, or more, can be stacked one over the other.


Ribbon illustrating Awning Units. Two or more units can be placed end to end.


Awning Units become Casement when placed on end.


Single Casement Unit-Awning Unit placed on end.

"B" Unit—Bar Operator. Completely assembled furnished with hardware installed. Opens out easily with exclusive releasable bar operator without opening inside screen. (This same unit placed on end makes a bar operated casement unit).

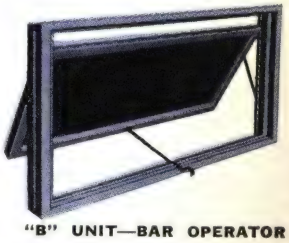
"L" Unit—Locking Handle. Completely assembled furnished with all sash hardware installed except locking handle. Opens in with screen placed outside. (This same unit opening out with locking handle placed on reverse side makes an awning window, and on end opening out makes a casement window. Operation as awning or casement with locking handle requires lifting screen to open, therefore, bar operator unit is recommended for these applications).

"F" Unit—Fixed Unit. Unit supplied without operating hardware with sash fixed in frame.
Wood frame or aluminum frame screens are available for all operating sash. Double Glazing Panels are available for all three awning window units—B, L and F.

Picture Unit. Made in six sizes—3 widths equal to units with 36, 39 and 44″ glass, and two heights equal to two units with 18″ or 22″ glass stacked in height. Furnished K.D. carton packed including stops for glazing with ⅛″ thick glass through ¾″ double thermal glass.

The Bilt-Well Awning Window Bar Operator Unit "B" is the MOST ECONOMICAL manually operated unit of all competitive units offered today.

Build Well with BILT WELL WOOD WORK


"B" UNIT—BAR OPERATOR


"L" UNIT—LOCKING HANDLE


PICTURE UNIT


"F" UNIT—FIXED UNIT

CARR, ADAMS & COLLIER COMPANY
Dubuque, Iowa

BILT-WELL AWNING WINDOWS — PICTURE UNITS — STOCK UNITS

MATERIAL : Units and Exterior Trim Ponderosa Pine toxic water repellent treated to NWMA Standards. Jamb width 4⅜", sash are 1⅜" thick.

GLAZING: Sash are clamp glazed with SSB glass. Removable bead allows reglazing when necessary. Double glazing panels SSB glass with aluminum surrounds and necessary hardware for attaching same is available for all units except picture unit. Picture unit can be glazed with ⅛" thick through, ¾" insulating glass.

SCREENS: Wood screen is toxic water repellent treated and wired with aluminum cloth.
Aluminum framed screen is wired with aluminum cloth. Hangers and lock included.

WEATHERSTRIP: Sash completely weatherstripped with anodized special alloy aluminum.

HARDWARE: Friction slide hinge completely installed on operating units. Releasable bar operator, statuary bronze finish, completely installed. Locking handle statuary bronze finish, furnished complete with strikes and screws in envelope with instructions, carton packed.

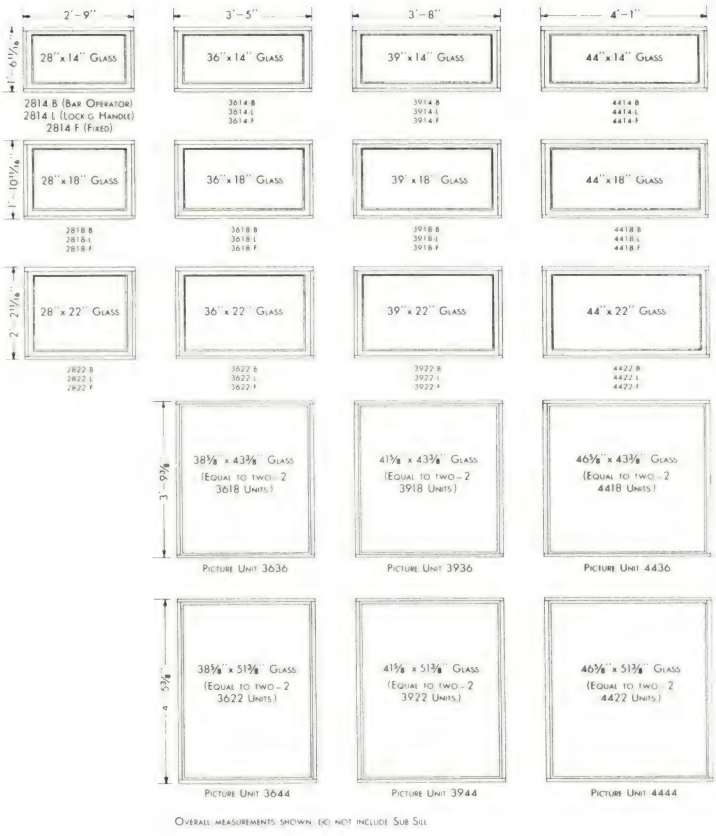
OPERATING AND FIXED UNITS: (set-up) Two of a size to a carton specify size and type B, L or F.

PICTURE UNITS: (K. D.) One to a carton specify size.

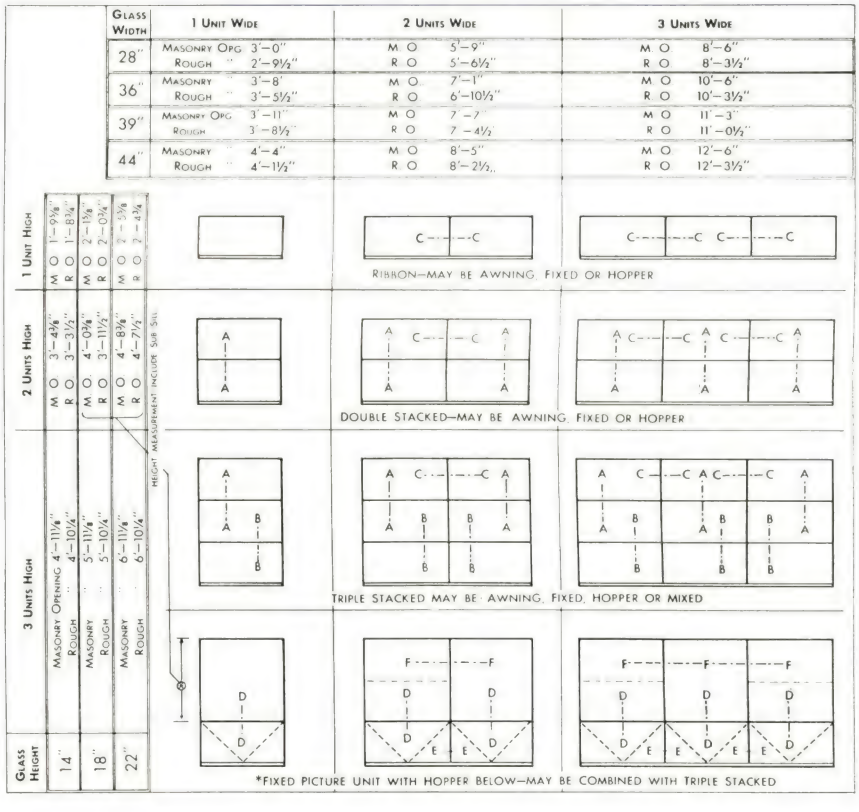
SCREENS: Twelve of a size to a carton. Specify size and type (wood or aluminum).

DOUBLE GLAZING PANELS: Six to a carton. Specify size.

TRIM: Bundled—not carton packed. Specify Size.



BILT-WELL AWNING WINDOWS CAN BE COMBINED IN NUMEROUS WAYS



INSTALLATION

Groupings may be assembled into one unit, on a flat surface with outside face up. Corrugated nails may be used to fasten ends of head and sill of each unit together in groups of three high. Push units together and assemble into one unit using sub sill, brick mold and casing (mull casings extend from head brick mold to sub sill in one piece to permit easy fitting of transom casings). Check for plumb and square and block out and nail where necessary. Check for operation of movable vents, pack space between frame and wall with insulation and complete trim.
Large grouping may be installed by first nailing sub sill in place, plumb in wall. Units may then be installed singly or in preassembled vertical groupings onto sub sill.

PAINTING—Lap paint onto glass $\frac{1}{16}$". Paint unit before installation in the wall, if at all possible. Keep paint off weatherstrip and hardware.

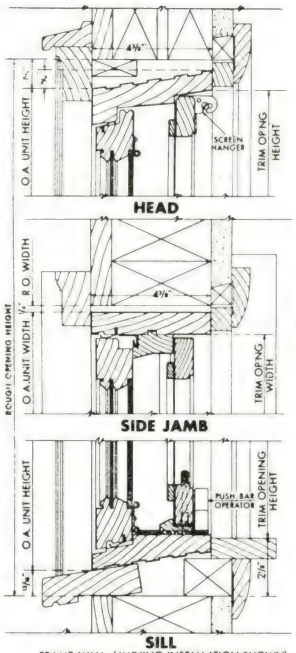
FOR EACH ADDITIONAL UNIT IN HEIGHT, ADD FOR 14" GLASS 1'-6¾", 18" GLASS 1'-10¾", 22" GLASS 2'-2¾".

FOR EACH ADDITIONAL UNIT IN WIDTH, ADD FOR 28" GLASS 2'-9", 36" GLASS 3'-5", 39" GLASS 3'-8", 44" GLASS 4'-1".

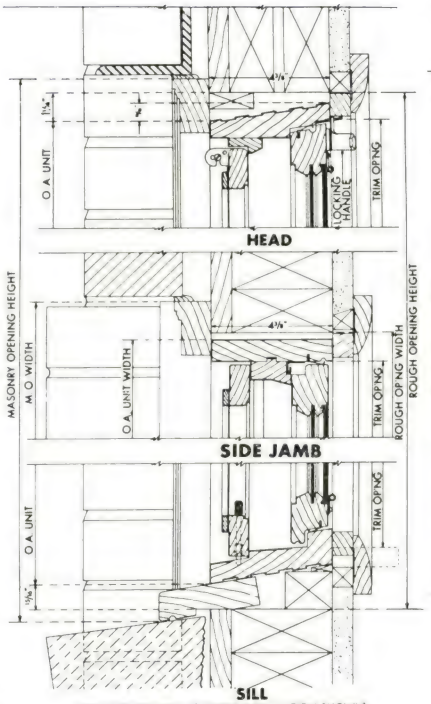
TO DETERMINE TRIM OPENINGS—SUBTRACT 3¼" FROM R. O. HEIGHT—2⅛" FROM R. O. WIDTH.

*NOTE: FIXED PICTURE UNITS ARE MADE IN 3 WIDTHS (36, 39 and 44" GLASS) AND 2 HEIGHTS EQUAL TO TWO UNITS 18" OR 22" STACKED.

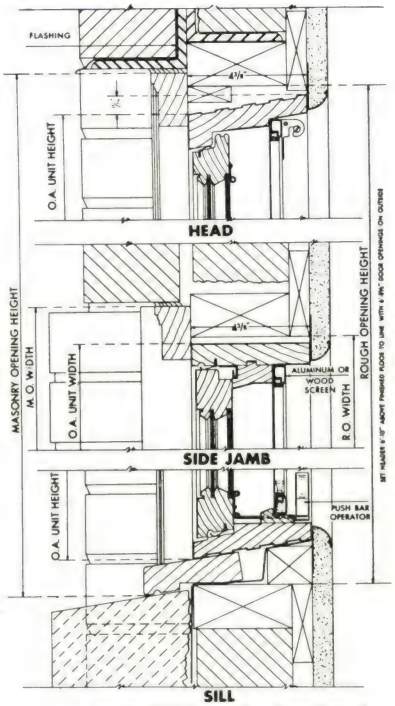
ADAPTABLE TO ALL STANDARD WALL CONSTRUCTION



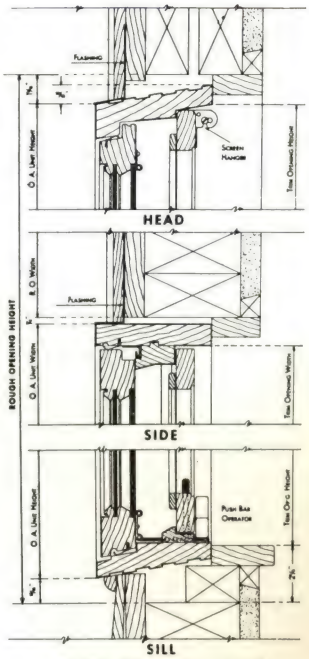
FRAME WALL–(AWNING INSTALLATION SHOWN)



BRICK VENEER WALL–(HOPPER INSTALLATION SHOWN)

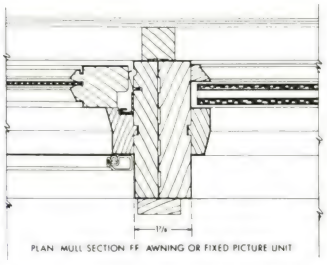


SOLID BRICK WALL–(AWNING INSTALLATION SHOWN)

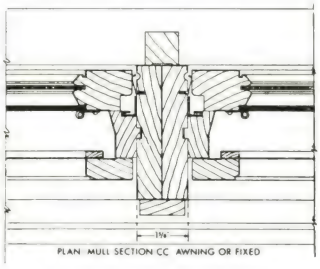


FRAME WALL–(AWNING INSTALLATION SHOWN)

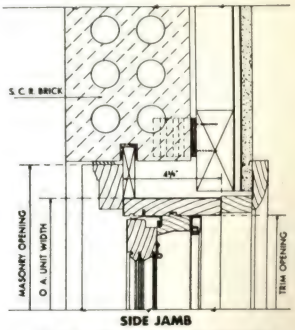
SECTIONAL DETAILS
for joining two or more units



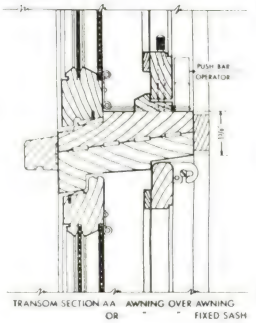
PLAN - MULL SECTION FF - AWNING OR FIXED PICTURE UNIT



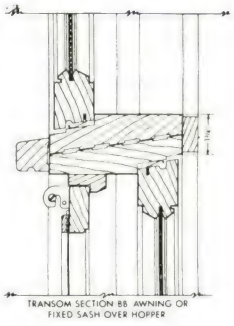
PLAN - MULL SECTION CC - AWNING OR FIXED



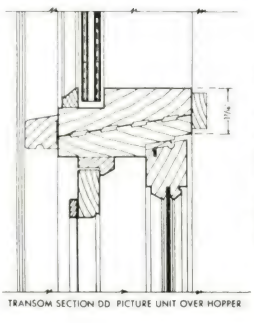
S.C.R. BRICK WALL–(AWNING WINDOW INSTALLATION)



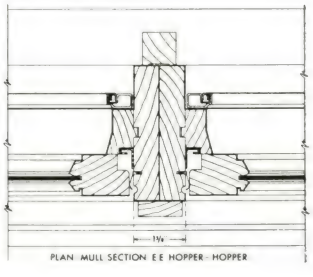
TRANSOM SECTION AA - AWNING OVER AWNING OR FIXED SASH



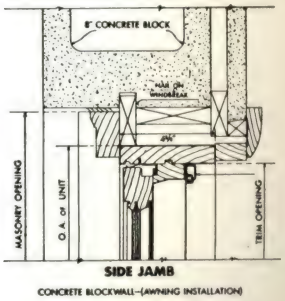
TRANSOM SECTION BB AWNING OR FIXED SASH OVER HOPPER



TRANSOM SECTION DD PICTURE UNIT OVER HOPPER



PLAN - MULL SECTION EE HOPPER - HOPPER



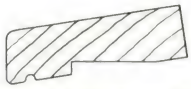
CONCRETE BLOCKWALL–(AWNING INSTALLATION)

EXTERIOR AND INTERIOR TRIM
Awning, Hopper and Casement

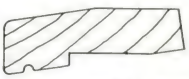
Build Well with BILT-WELL WOOD WORK
REG. U.S. PAT. OFF.

Exterior trim is chemically treated with a pentachlorophenol, toxic, water repellent solution. When cutting more than ¾" from end of piece, it is recommended that ends be dipped in a toxic water repellent solution or painted with a white lead paint.

Note: Casing, Stool and Apron, furnished by others. Usually a Stock Stool can be used by reducing width.



AWNING WINDOW SUB SILL
1 1/16" x 3⅝"



CASEMENT WDW. SUB SILL
1 1/16" x 3⅝"

INTERIOR TRIM
(Awning, Hopper and Casement)



EX-JAMB
11/16" x ⅞"



TRANSOM BAR CASING
1 1/16" x 1 1/16"



BRICK MOLD
1 5/16" x 2"

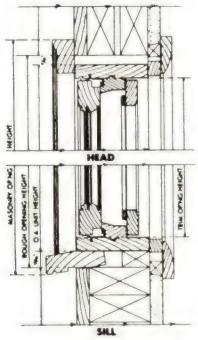


MULL CASING
1 1/16" x 1 1/16"

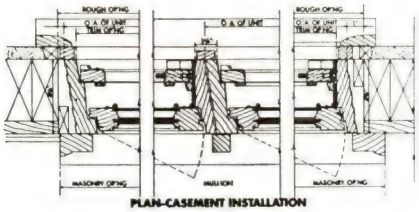
BILT-WELL AWNING UNITS
used as casements with or without picture units

The bar operator unit or the locking handle unit placed on end can be used as a casement, opening out. The bar operator unit is preferred for casement use because the sash can be operated without moving the screen.

We recommend that bar operated casement units, in multiple combinations, be assembled to swing all left or all right to maintain uniform narrow mulls. Locking handle casement units must all hinge from left hand side as viewed from outside (shown on plan view) to place locking handle in proper operating position.





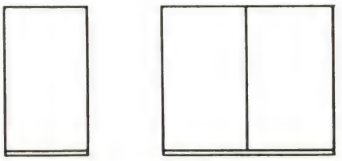


PLAN-CASEMENT INSTALLATION

REQUIRED WALL OPENINGS FOR INSTALLATION
CASEMENT UNITS

Glass Width	1 Unit Wide	2 Units Wide	Each Additional Unit Wide—Add
14"	Masonry Opg. 1'–9⅜" Rough " 1'–8⅛"	M. O. – 3'–4⅛" R. O. – 3'–2⅞"	M. O. – 1'–6¾" R. O. – "
18"	Masonry " 2'–1⅜" Rough " 2'–0⅛"	M. O. – 4'–0⅛" R. O. – 3'–10⅞"	M. O. – 1'–10¾" R. O. – "
22"	Masonry " 2'–5⅜" Rough " 2'–4⅛"	M. O. – 4'–8⅛" R. O. – 4'–6⅞"	M. O. – 2'–2¾" R. O. – "

Glass Height	Casement Unit Heights
28"	Masonry Opg. 2'–11⅞" / Rough " 2'–10½"
36"	Masonry Opg. 3'–7⅞" / Rough " 3'–6½"
39"	Masonry Opg. 3'–10⅞" / Rough " 3'–9½"
44"	Masonry Opg. 4'–3⅞" / Rough " 4'–2½"



HEIGHT MEASUREMENTS INCLUDE SUB-SILL.
TO DETERMINE TRIM OPENINGS SUBTRACT 2¾"
FROM R. O. WIDTH, 3⅛" FROM R. O. HEIGHT.

CASEMENT-PICTURE UNITS
W I D T H S

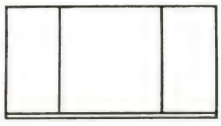
Single Unit	Picture Unit	Single Unit with Casement Each Side		
		3614-3914 or 4414	3618-3918 or 4418	3622-3922 or 4422
Masonry O. 4'–0" Rough O. 3'–10¾"	3636 3936 4436	M. O. 7'–1½" R. O. 7'–0¼"	M. O. 7'–9½" R. O. 7'–8¼"	M. O. 8'–5½" R. O. 8'–4¼"
Masonry O. 4'–8" Rough O. 4'–6¾"	3644 3944 4444	M. O. 7'–9½" R. O. 7'–8¼"	M. O. 8'–5½" R. O. 8'–4¼"	M. O. 9'–1½" R. O. 9'–0¼"

Single Unit



Heights	3636 or 3644	3936 or 3944	4436 or 4444
Masonry Opg. / Rough	3'–7⅞" / 3'–6½"	3'–10⅞" / 3'–9½"	4'–3⅞" / 4'–2½"

Single Unit with Casement Each Side



HEIGHT MEASUREMENTS INCLUDE SUB-SILL.
TO DETERMINE TRIM OPENINGS—SUBTRACT 2¾"
FROM R. O. WIDTH, 3⅛" FROM R. O. HEIGHT.

DISTRIBUTORS OF CARR, ADAMS & COLLIER COMPANY
BILT-WELL AWNING WINDOW UNITS

ARKANSAS
Jonesboro—Carr-Adams Manufacturing Company

CALIFORNIA
Sacramento—Lumber Products

COLORADO
Denver—Materials Supply Co.

DISTRICT OF COLUMBIA
Washington—Kern Distributing Co., Inc.

GEORGIA
Macon—Willingham Sash & Door Company
Savannah—Neal-Blun Company

IDAHO
Boise—Intermountain Glass Co.

ILLINOIS
Chicago—C. L. Ibsen Company
Peoria—Carr & Johnston Company

INDIANA
Indianapolis—Adams-Rogers Company

IOWA
Des Moines—Carr & Moehl Company
Dubuque—Carr, Adams & Collier Co., Jobbing Div.
Fort Dodge—Carr & Moehl Company

KANSAS
Kansas City-R. L. Sweet Lumber Company
Wichita—Wichita Building Material Company, Inc.

KENTUCKY
Louisville—Byron Sash & Door Company

LOUISIANA
New Orleans—Tulane Hardwood Lumber Company, Inc.

MARYLAND
Baltimore—Pacific Mutual Door Company
Bethesda—I. S. Turover

MICHIGAN
Detroit—C. L. Ibsen Company

MINNESOTA
Minneapolis—Carr-Cullen Company

MISSOURI
Joplin—Southwestern Sash & Door Company
Kansas City—Pacific Mutual Door Company
St. Louis—Carr-Adams Mfg. Company

MONTANA
Billings—Billings Sash & Door Company
Great Falls—Lumber Yard Supply Company

NEBRASKA
Hastings—Adams & Kelly Company
Omaha—Adams & Kelly Company

NEW JERSEY
Collingswood—V. G. Read Company, Inc.
Jersey City—Engler Millwork Corporation
South Kearny—C. R. Rudinger, Inc.

NEW YORK
Albany—Concord Lumber Co.
Newburgh—Cameron Lumber Company, Inc.
Queens Village—East Coast Millwork Company, Inc.
Rochester—Concord Millwork Corporation

NORTH CAROLINA
Charlotte—Miller Mill Work Corporation

OHIO
Canton—Interstate Sash & Door Company
Cleveland—Industrial Wholesale Lumber Co., & National Sash & Door Co.
Columbus—Throop-Martin Sash & Door Company
Mansfield—National Sash & Door Co., Inc.
Toledo—Collier-Glasson Co.
Youngstown—Youngstown Sash & Door Company

OKLAHOMA
McAlester—T. H. Rogers Lumber Company
Oklahoma City—Reints Sash & Door Company
Tulsa—Rounds & Porter Company

OREGON
Portland—Hawley Gilbert Company

SOUTH DAKOTA
Rapid City—Robbins & Stearns

TENNESSEE
Knoxville—Tennessee Concrete & Supply Co.
Nashville—Tennessee Glass Co., & Warren Bros. Co.

TEXAS
San Antonio—Steves Sash & Door Company, Inc.
Sweetwater—Sweetwater Sash & Door Company
Waco—Frank Stevens Sash & Door Company

WASHINGTON
Yakima—Cascade Lumber Co.

WISCONSIN
Oshkosh—Marquart Millwork Co.

CARR, ADAMS & COLLIER COMPANY . Dubuque, Iowa

fabrow WINDOW WALL frames



wood

window wall windows

fabrow mfg., inc.

fabrow windows

Fabrow wood windows embody the most desired ingredient in contemporary architecture—large window areas at economical prices. Fabrow windows provide the high style of wood windows at their best, both indoors and out. With insulating glass, such as Thermopane or Twindow, Fabrow windows take the teeth out of winter cold and the wilt out of summer heat, thus removing the necessity of storm sash. With all Fabrow types, your home will have light, flexible ventilation and quieter interiors.

These frames cut on-the-job labor costs, require no mullion strips or splines, assure square, stay-tight assembly.

Fabrow windows are prefabricated in stock sizes; however, special sizes and designs will be accommodated so long as our standard 2″ x 6″ construction is maintained.

■ **Fabrorama window wall** Brings the outdoors indoors to achieve brighter, lighter interiors with large insulated glass areas.

■ **Fabrow ribbon windows** Insure privacy, allow more flexibility in furniture arrangement, permit natural lighting as needed even in houses set close together or near street traffic.

■ **Fabrow corner windows** Allow continuing Fabrorama or ribbon windows past the outside corner of the room to capture an ideal view.





features and advantages

3 distinctive types 21 sizes maximum glass areas Roto-Ventilator controlled ventilation

Each Fabrow wood window frame member is accurately milled, precision cut, and notched from 2″x6″ clear Douglas Fir, water-repellent and toxic-treated. All frames are rabbeted to receive standard sizes of insulating glass (Thermopane, Glass-Seal Thermopane, Twindow or Twindoweld). For greater owner-comfort and greater fuel economy, single, double strength, or plate glass may also be used. Each frame, including mitered glass stops, comes to the job site pre-cut, rabbeted and ready for assembly (or assembled, as desired) without measuring or cutting. Simple, clear instruction sheets accompany each package.

trim, proportional lines Avoids heavy frame appearance, allows maximum see-through glass area.

extra strong construction Without thick, clumsy, view-obstructing frame work. Will not warp, expand, shrink.

clean, dry sills Fabrow Frames embody excellent insulation against heat, cold and sound. No condensation to mess window sills.

toxic-treated To repel fungus, dry rot, termites.

ventilators Fabrow Roto-Ventilator units applicable to window wall, corner and ribbon windows ("Standard" and "A" Series and "Fabrorama"), with screens and weather-stripping.

window types

■ "Standard" and "A" series

The "Standard" Series is designed for 45½" x 25½" standard half-inch insulating glass for the stationary light. The "Standard" Fabrow Roto-Ventilator, which is designed for 42½" x 22½" half-inch standard size insulating glass, may also be installed in any or all openings as desired.

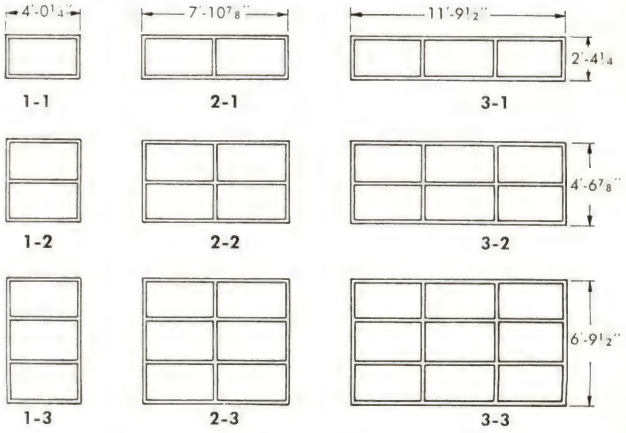
The "A" Series is designed for 36" x 24" standard half-inch insulating glass for the stationary light. The "A" Series Fabrow Roto-Ventilator, which is designed for 33" x 21" non-standard half-inch insulating glass, may also be installed in any or all openings as desired.

The "A" Series allows the architect to use any of the three 3-light-high series in order to establish perimeter baseboard heating ducts. The 1-1 "A" Series, because of its lesser width, facilitates fenestrations for kitchens, bathrooms and small rooms.

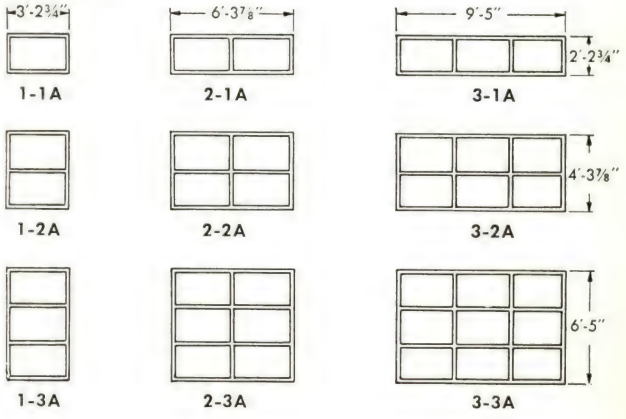


sizes

"Standard" series



"A" series



■ "Fabrorama"



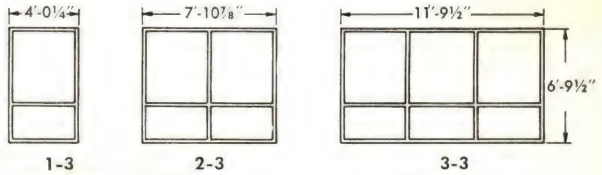
Created at the request of leading architects and builders desiring advanced fenestrations, the new Fabrorama Window Wall brings the outdoors indoors and achieves lighter brighter interiors with larger see through glass areas.

Top light designed for 45⅜" x 52", ⅞" or 1" standard size Thermopane insulating glass.

Bottom light designed for standard ½" size insulating glass measuring 45½" x 25½", or for "Standard" Fabrow Roto-Ventilator which takes 42½" x 22½" x ½" standard size insulating glass.

sizes

"Fabrorama" series



Roto-Ventilators

Carefully designed to provide adequate room ventilation without interfering with the appearance of the large-glass-area of the Fabrow window.

Made to the same standards as all Fabrow Frames. Easy to operate. Easy to install. Weather-tight. Sash 1¾" thick. Opens to approximately 45°.

Ventilators readily replace lights in Fabrow Frames. Downward movement of 2½" from top provides ample ventilation at the top as well as bottom. Roto-Ventilator operates without disturbing screens, drapes or curtains.



■ hardware

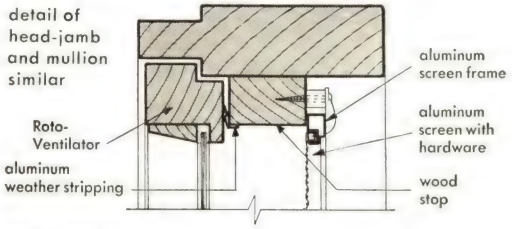
All hardware, including Roto-operators and hinges, is factory installed. Hinges provide combination pivot and counterbalance to eliminate stress on Roto-operator mechanism. Rust-proofed steel hinges with brass sliding shoes and pivots disappear when ventilator is closed.

Roto-operator, worm-gear design, applies force near center of bottom rail . . . equalizes force at both bottom corners to eliminate twist and wracking stresses on ventilator and hinges. Roto-operator also locks the ventilator against intrusion. Case and handle are heavily plated and surfaced with a statuary bronze finish.

■ screens and weatherstrip

One piece solid-edge aluminum wire fine mesh screen does not interfere with ventilator operation. Screen easily removed when glass is to be cleaned.

Factory-machined wood weatherstrip stops, with anodyzed aluminum compression weatherstrip installed in these stops, give positive weather-tight and air-tight seal.



■ storm sash

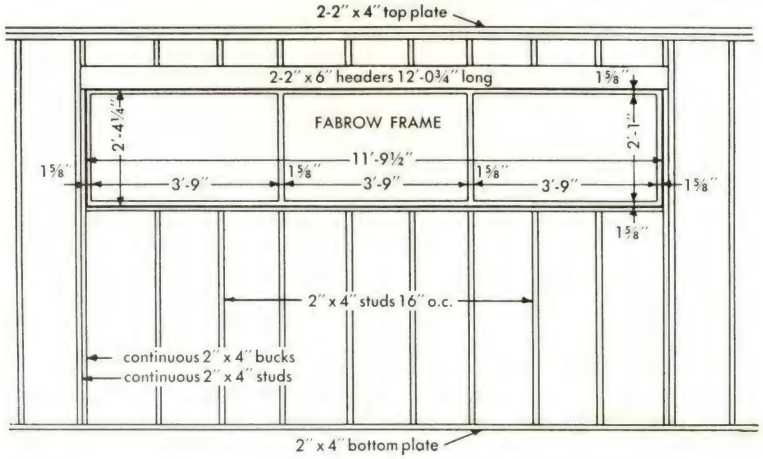
Aluminum frame storm sash are fixed to the inside of the windows and are available for units using double strength glass.

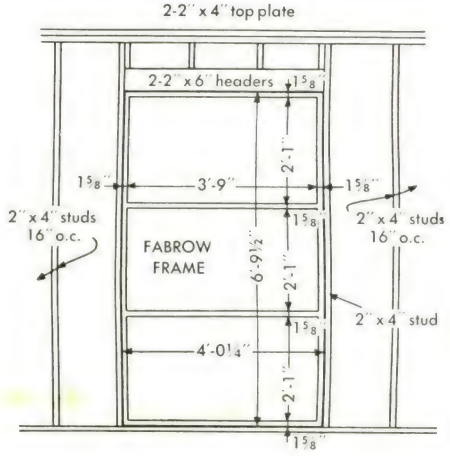
load bearing details for Fabrow units

Fabrow Frames are structural panel window frames that are used in single or multiple panels. In the drawing at left below, the effect of the panel window units is a series of short 2" x 6" columns, 3'-11" O.C., and 2'-3" long. The rough stud opening is 11'-9½" x 2'-4¼", exactly the outside dimension of the window. By building the panel window unit solidly into the wall construction, the units will only require two 2" x 6" headers over one or a series of horizontal openings. This saves on structural timber normally required.

In the drawing at right below, the rough stud opening is 4'-0¼" x 6'-9½", exactly the outside dimension of the window. By building the panel window solidly into the wall construction, the vertical frame members substitute for the buck normally required on each side of the jamb openings. This saves two 2" x 4" pieces per window opening.

Our technical bulletin on stress, strain and roof loads will be sent on request to architects, contractors and builders.

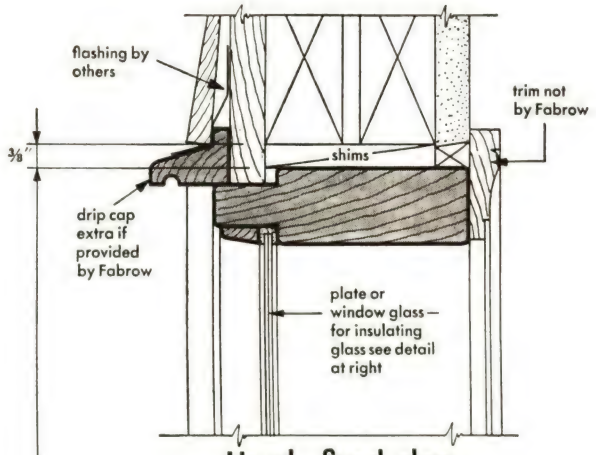




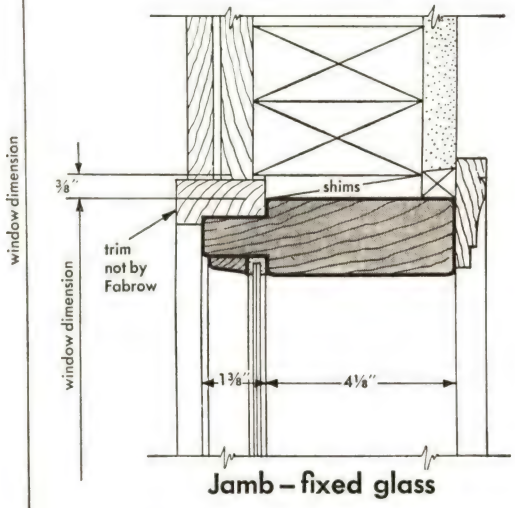
installation details *for "Standard" and "A" series windows*

SCALE: 3″ = 1′-0″

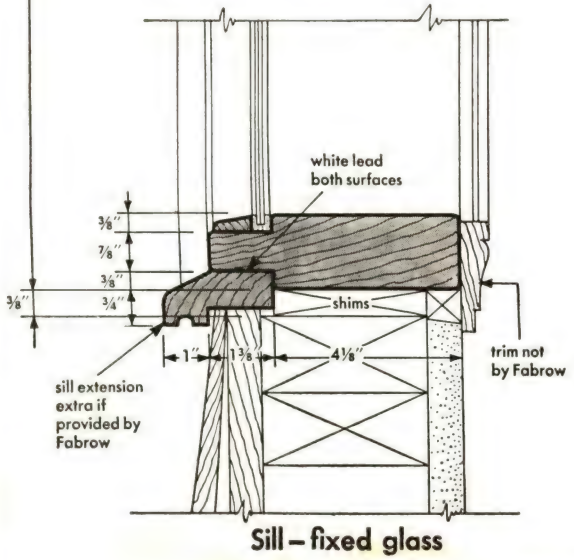
frame



Head – fixed glass

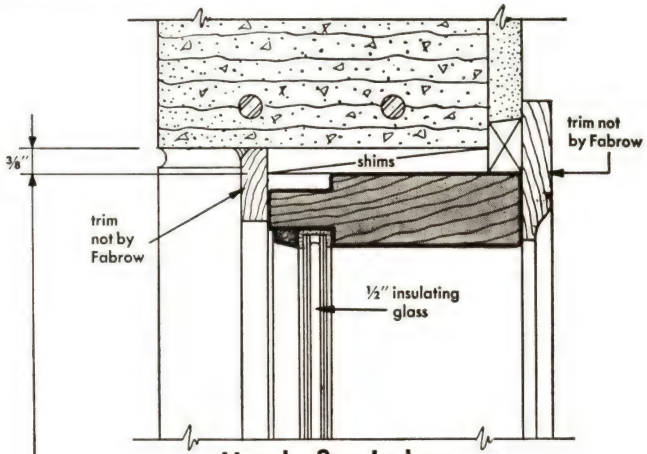


Jamb – fixed glass

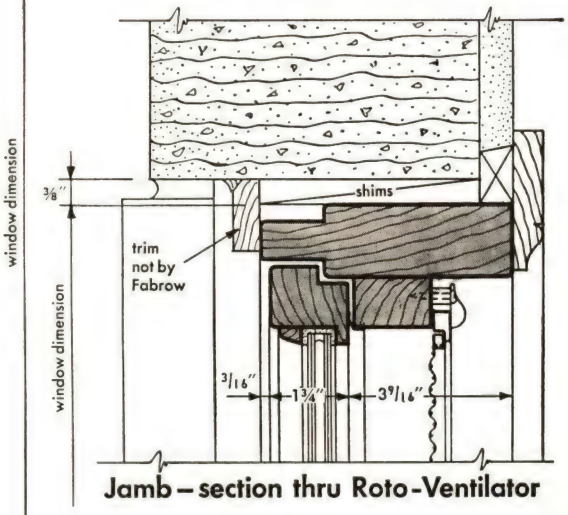


Sill – fixed glass

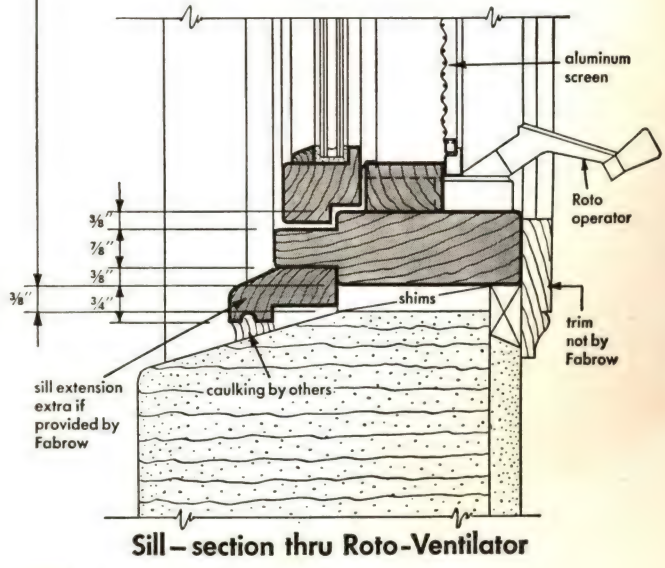
masonry block



Head – fixed glass



Jamb – section thru Roto-Ventilator



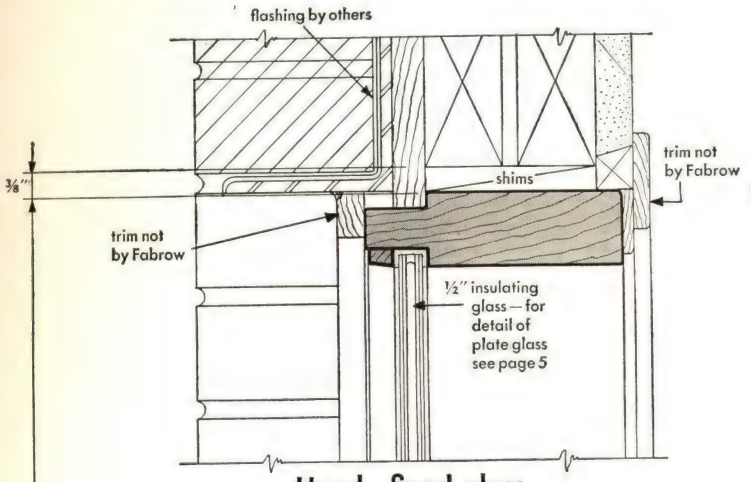
Sill – section thru Roto-Ventilator

note for both construction types:
Wedged shims shall be located at corners and all horizontal and vertical mullions, except when frame is used as load bearing (see page 4)

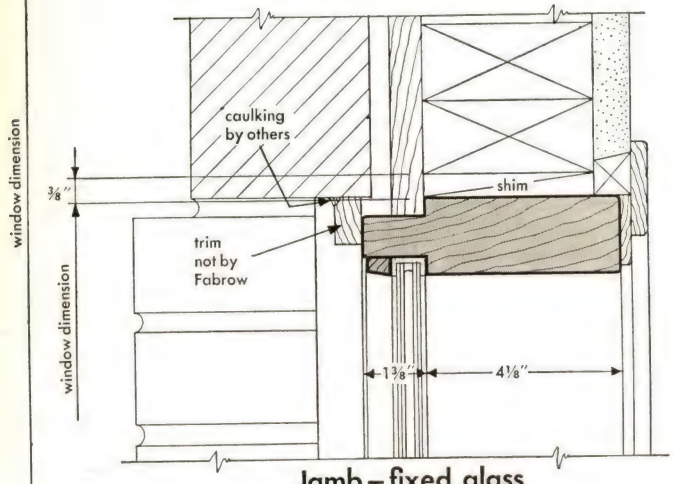
installation details *for "Standard" and "A" series windows*

SCALE: 3″ = 1′-0″

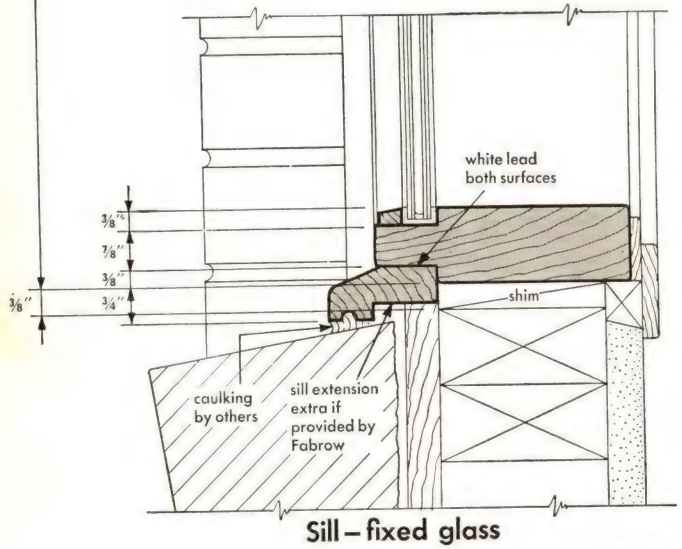
brick veneer



Head – fixed glass

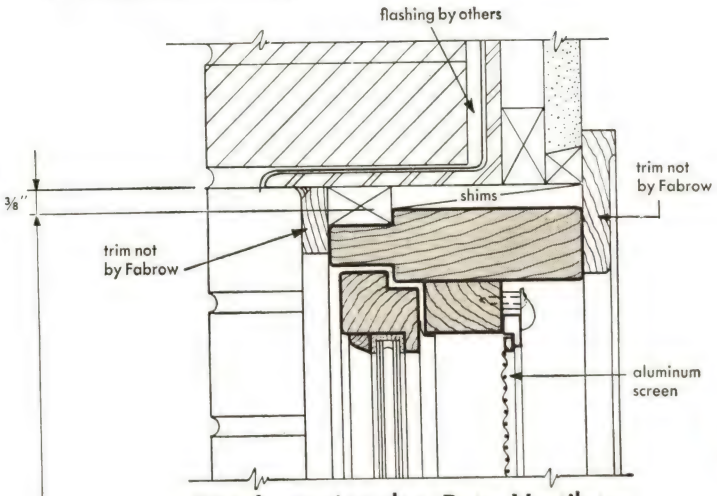


Jamb – fixed glass

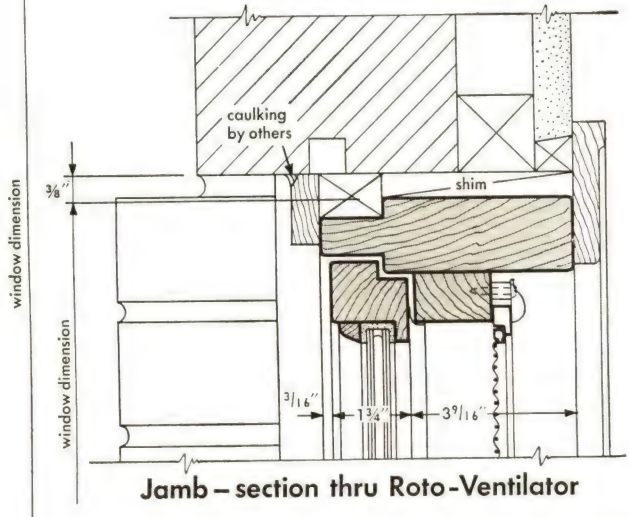


Sill – fixed glass

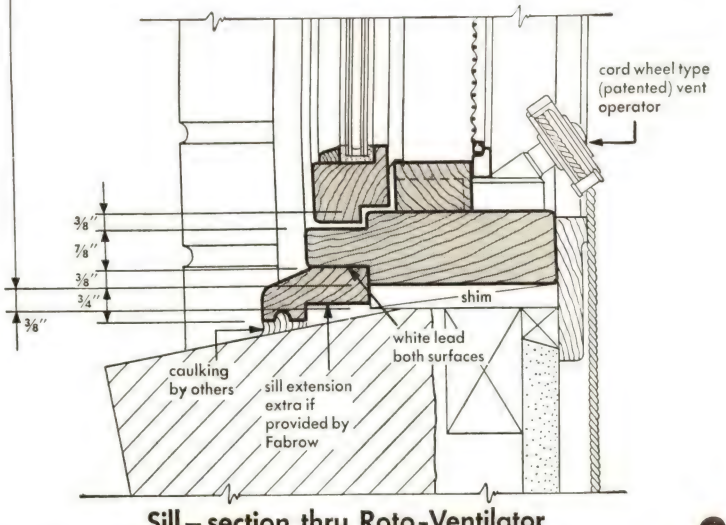
SCR brick



Head – section thru Roto-Ventilator



Jamb – section thru Roto-Ventilator

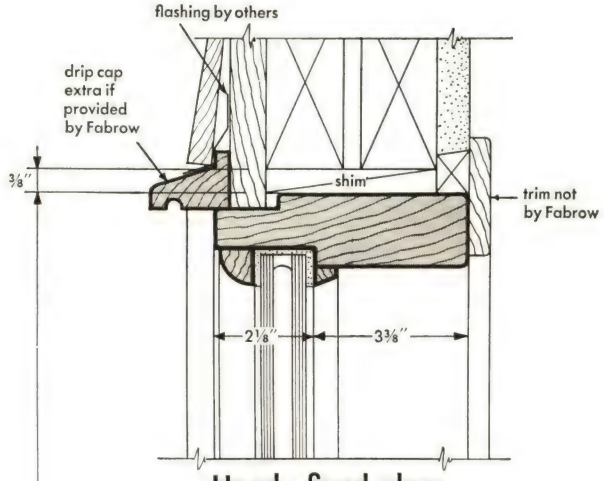


Sill – section thru Roto-Ventilator

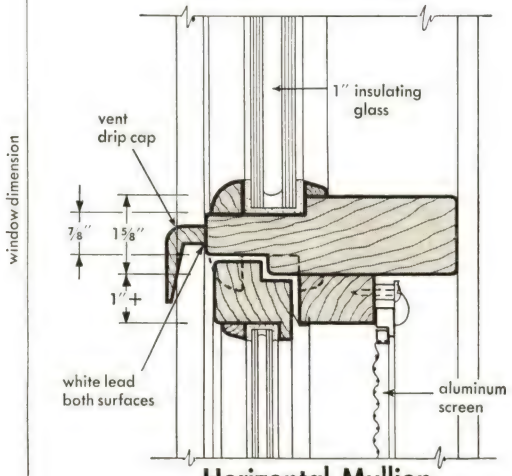
note for both construction types:

Wedged shims shall be located at corners and all horizontal and vertical mullions, except when frame is used as load bearing (see page 4)

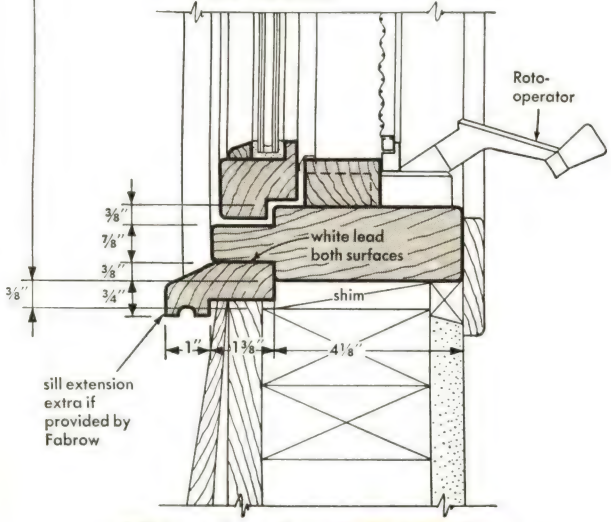
installation details
— SCALE: 3″ = 1′-0″
for Fabrorama windows only



Head – fixed glass



Horizontal Mullion
dotted lines show condition at vertical mullion

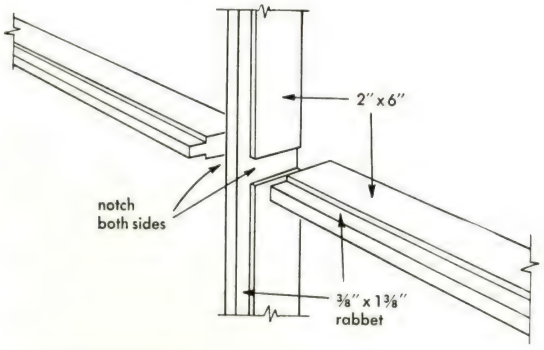


Sill – section thru Roto-Ventilator

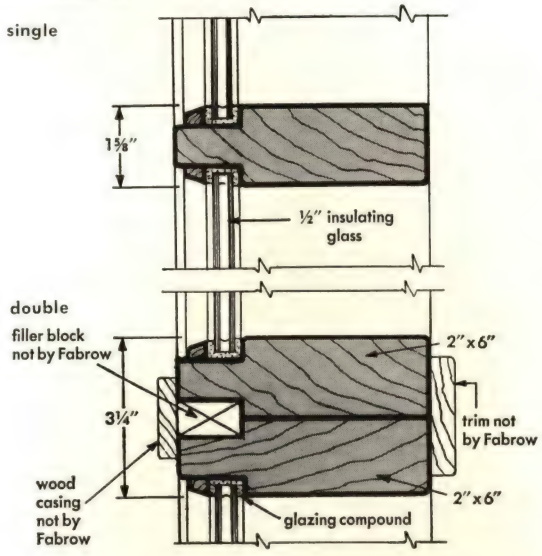
note: Wedged shims shall be located at corners and all horizontal and vertical mullions, except when frame is used as load bearing (see page 4)

construction details
— SCALE: 3″ = 1′-0″
for all window types

joint



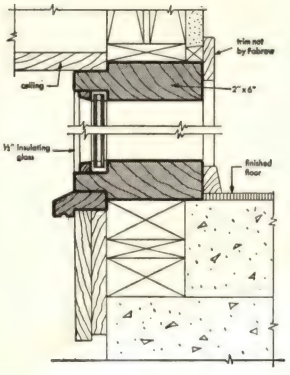
mullions



installation details for special conditions
SCALE: 1 1/2″ = 1′-0″

head

sill



fabrow **wood windows**



suggested architectural specifications

Wood windows shall be of the quantities, sizes and series types as shown on the drawings and as manufactured by Fabrow Mfg., Inc., 7208 Douglas Road, Toledo, Ohio. Glass shall be of the type, grade and manufacture as shown on the window schedule. Roto-Ventilators shall be located as shown on elevation drawings.

Wood members shall be of select Douglas Fir free from knots. Heads, jambs, sills and mullions shall be precision cut and notched from kiln-dried 2″ x 6″ pieces, water repellent and toxic-treated. Rabbets shall be ⅜″ x 1⅜″ and shall receive either single or double strength glass, plate glass or insulating glass.

Window units shall not be nailed to sub frames but shall be securely wedged with wood shims at all corners and all vertical and horizontal mullions.

Exterior surfaces of all windows shall be given one coat of surface sealer (paint or varnish) immediately after installation.

Drip caps and sill extensions shall be omitted from all windows except those so designated on the window schedule. Caulking, interior and exterior trim, shall be as indicated under another section of the architects' specifications and shall not be provided by Fabrow Mfg., Inc.

distributors

Alabama, Montgomery
Pitman Brothers, Inc.
156-160 Commerce Street

Connecticut, Hartford
State Glass Company
181 Walnut Street

Illinois, Chicago 18
Robert Arnold Company
3420 W. Irving Park Road

Illinois, Danville
Frank Thirion & Son Glass Co.
531 E. Main Street

Indiana, Fort Wayne
Building Materials & Supply
341 E. Main Street

Indiana, Gary
Ambridge Lumber & Supply Co.
2645 Wabash Avenue

Indiana, Indianapolis
Stewart-Carey Glass Company
270 Virginia Avenue

Indiana, Marion
Stewart-Carey Glass Company
1013 S. Washington St.

Indiana, Terre Haute
Stewart-Carey Glass Company
Wabash at 12th

Iowa, Cedar Rapids
M. Cach Glass Company, Inc.
907-09 2nd St. S.E.

Kansas, Kansas City
Window Enterprises, Inc.
301 North 7th Street
P.O. Box 962

Kentucky, Lexington
Lexington Glass Company
867 Angliana Avenue

Massachusetts, Wellesley Hills
McCabe & Dean, Inc.
27 Washington Street

Michigan, Center Line
Allied Millwork & Mfg. Co.
5674 East Ten Mile Road

Michigan, Detroit 9
Export-Import Service Company
4000 W. Jefferson Street

Michigan, Grand Haven
West Michigan Sash & Door Co.

Michigan, Saginaw
Saginaw Sash & Door Co.
319 McCoskry Street

Minnesota, Duluth
Duluth Builders Supply Co.
401 Builders Exchange Building

Nebraska, Omaha
Glass House of Omaha
3904 Lake Street

New York, Buffalo
Hastings Distributors
1630 Bailey Avenue

North Dakota, Bismarck
Vantine Paint & Glass Co.
313 Main Street

Ohio, Canton
Pella Window Corporation
1811 Cleveland N.W.

Ohio, Cincinnati 2
H. Neuer Glass Company
508 Reading Road

Ohio, Mansfield
Home Materials Company
154-160 Orange Street

Pennsylvania, Philadelphia 44
Chew-Bittel Company
6206 Germantown Avenue

Pennsylvania, Pittsburgh 22
Building Specialties Company
951 Century Building

Pennsylvania, Williamsport
Home Supply Company
733 W. Third Street

Pennsylvania, York
Richard P. March
214 N. Beaver Street

Tennessee, Kingsport
Holston Glass Company
545 E. Main St., Box 328

Tennessee, Knoxville
Aluminum Home Products Co.
Carr Street at Southern Rwy.

Virginia, Richmond 12
Binswanger & Company
3000 W. Leigh Street
P.O. Box 1539

Wisconsin, Appleton
George J. Hoffer Glass Company
613 W. College Avenue

Wisconsin, Windsor
Central Wisconsin Supply Co.

Fabrow **MANUFACTURING, INC.**

7208 Douglas Road, Toledo 13, Ohio

telephones: **Whiteford Center, Michigan, No. 8**
Klondike 9391, Toledo, Ohio

For Gate City ALUMINUM Awning Windows see Sweet's 5a Ga







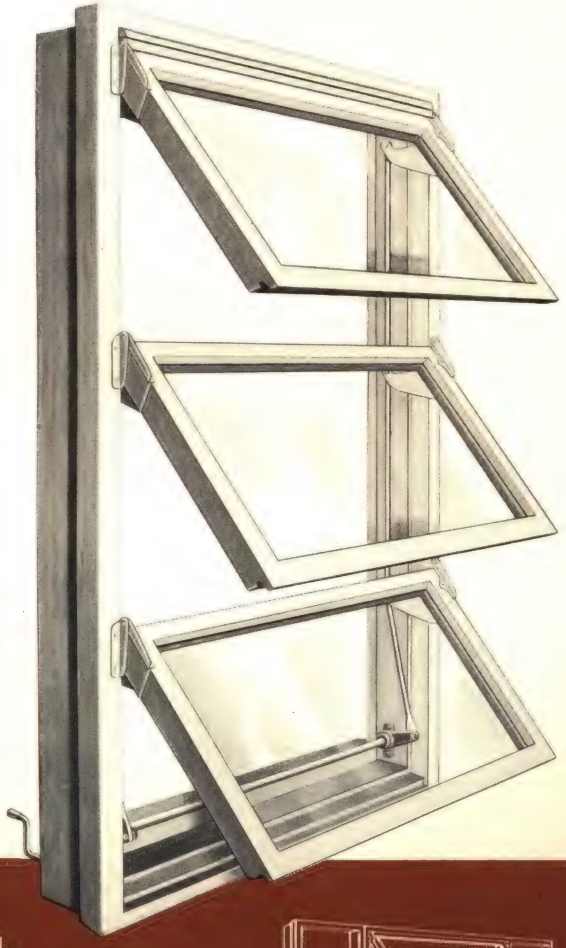


®Gate City

Perma-Treated WOOD AWNING WINDOWS



***PERFORMANCE PROVEN** in all types of structures in every climate*





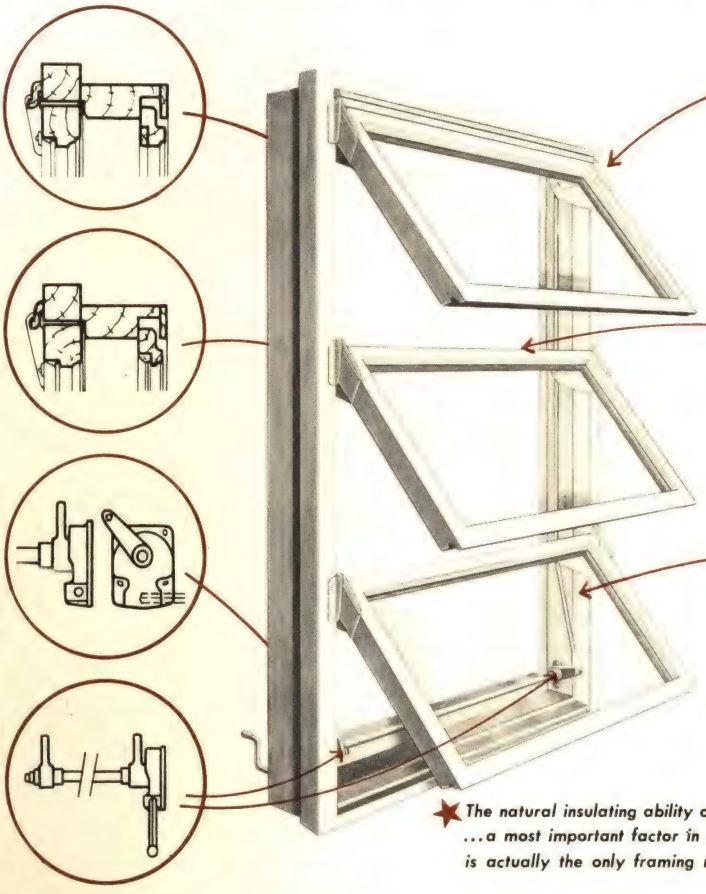
Feature for feature, Gate City is OUTSTANDING!

INSIDE SCREENS wired with Fiberglass, are easily removed by simply lifting up and out.

STORM SASH are interchangeable with screens for quick, easy winterizing. All storm sash have adjustable vent. **INSULATED GLASS:** Sash are available with rabbeting for insulated glass.

ENCLOSED GEAR OPERATOR is standard on all units. When the window has been installed and painted, the hardware is barely visible yet easily accessable for checking and oiling.

DUAL ACTION HARDWARE pulls sash in evenly and snugly at both sides. Simple, sturdy construction assures years of trouble-free service; exceptionally tight closure.



FIXED HINGE OPERATION prevents back splash over top vent while slanted sash deflect rain.

METAL HORIZONTAL WEATHERSTRIPPING at sill and meeting rails is plowed-in (not nailed) to provide a continuous seal.

VINYL JAMB WEATHERSTRIPPING on head and side jambs provides tightest possible seal with lasting resiliency.

★ **PERMA-TREATED WOOD** provides protection against rot, fungi and termites; will not drip-stain exterior walls.

★ *The natural insulating ability of wood is far superior to that of any other framing material ...a most important factor in reducing heat loss, cold transmittal and condensation. Wood is actually the only framing material that fully justifies the extra cost of insulated glass.*

Gate City Wood Awning Windows are manufactured in sizes to fit any normal opening, and are easily installed in all types of construction. They combine beautifully with picture windows, and form the ideal window wall and ribbon installation; harmonizing with all styles of architecture. The most satisfying results in effecting color harmony or trim contrast can be obtained with painted wood sash.

For maximum summer comfort, Gate City Awning Windows open wide to admit every breeze and provide 100% ventilation control, rain or shine.

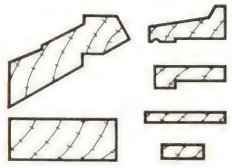
For maximum cold weather protection, Gate City combines efficient weatherstripping, tight positive closure and the extra insulation of wood sash.



YOU CAN SPECIFY GATE CITY WITH CONFIDENCE!

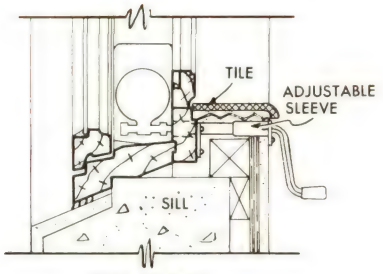
With forty years' experience as window craftsmen, Gate City pioneered the development of the awning type window. Now, recognized as the standard of the industry, Gate City Wood Awning Windows have been performance-proven for more than a decade in all types of structures, under every climatic condition.

MATERIAL FOR SPECIFIC CONDITIONS

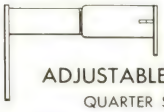


MULTI-UNIT ASSEMBLY MATERIAL

Sub-sills, Drip Caps and Mullion Casings are available for forming MULTIPLE UNITS with continuous head and sill pieces when required.



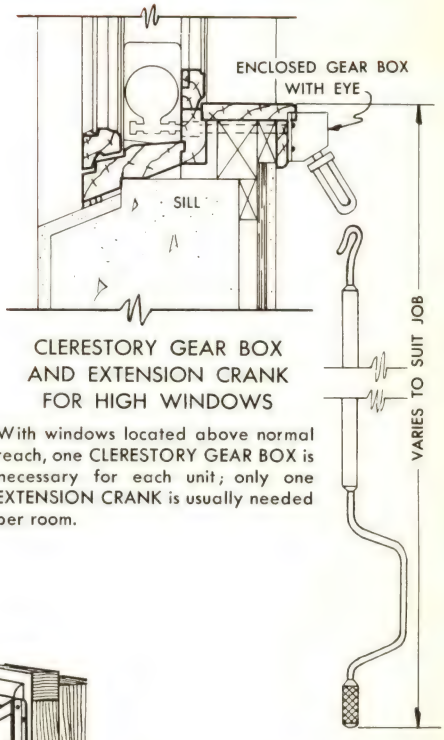
TILE STOOL



ADJUSTABLE SLEEVE

QUARTER SCALE

The ADJUSTABLE EXTENSION SLEEVE (with snap-on escutcheon) should be specified in all cases where tile or masonry stools are to be used.



CLERESTORY GEAR BOX AND EXTENSION CRANK FOR HIGH WINDOWS

With windows located above normal reach, one CLERESTORY GEAR BOX is necessary for each unit; only one EXTENSION CRANK is usually needed per room.

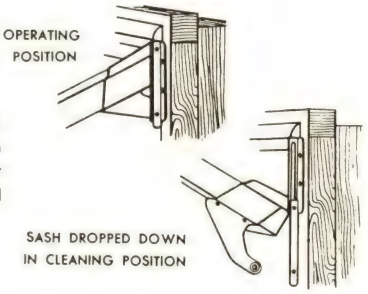


EXTENSION JAMBS

Factory milled EXTENSION JAMBS are available to accommodate various wall thicknesses and inside treatments.

MAINTENANCE HINGE

The MAINTENANCE HINGE, available at slight extra cost, permits top sash to drop down for easier cleaning, yet operates on the same fixed principal as the regular hinge.



SPECIFICATIONS FOR A STANDARD GATE CITY WOOD AWNING UNIT

WINDOW –

SASH and FRAMES shall be any wood suitable for exterior use*. All wood parts shall be deep Toxic-Treated for resistance to rot, fungi and termites; certified to be in accordance with or exceeding minimum requirements of A.W.W.I. and N.W.M.A.

STOOL & APRON shall be of any wood* suitable for paint, furnished in cut lengths KD.

SASH shall be 1¾" nominal thick; glazed SSB, except 40" and 44" which shall be DSB. All bedded and glazed with a high grade glazing compound.

SCREENS shall be 1" net in thickness of any suitable wood* semi-prefit, and wired with Fiberglass.

WEATHERSTRIPPING: All units shall have Vinyl Weatherstripping installed on head and side jambs and Metal horizontal weatherstripping installed at sills and meeting rails. The completely factory weather-stripped window will meet air infiltration requirements of the A.W.W.I.

ALL UNITS shall be factory assembled with glazed sash, hardware and complete weatherstripping installed.

NO WOOD BUCKS or other trim shall be included unless specifically ordered.

*Manufacturer's Option.

HARDWARE –

All vents shall be hinged at the top to swing out; having combination hinge and sash arms installed in the side at top. The vents shall be connected to each other from top to bottom by means of exposed links attached to the sash arms on both sides of window. The bottom links shall be attached to the lifting arms of the operator shaft located at the sill on each side of the opening.

The operator shall consist of a completely enclosed worm and gear mounted on either jamb (right hand mounting is standard, see detail) with a horizontal shaft attached, extending the width of the opening and seated in a bushing in the jamb opposite the worm and gear, and having two lifting arms attached; one at each end of the shaft. The operating crank shall have a hexagon shaft that fits into a hexagon socket in the worm.

COMBINATION HINGE and SASH ARMS shall be made of cast aluminum and anodized, with stainless steel pins. Nylon washers shall separate leaves.

VERTICAL LINKS shall be aluminum. Link pins shall be grooved to receive spring clips for connecting vertical links to sash arms and to the lifting arms of the operating shaft.

OPERATOR SHAFT, END BRACKET, LIFTING ARMS and GEAR HOUSING shall be anodized aluminum. The completely enclosed WORM and GEAR shall be made of a hard alloyed steel.

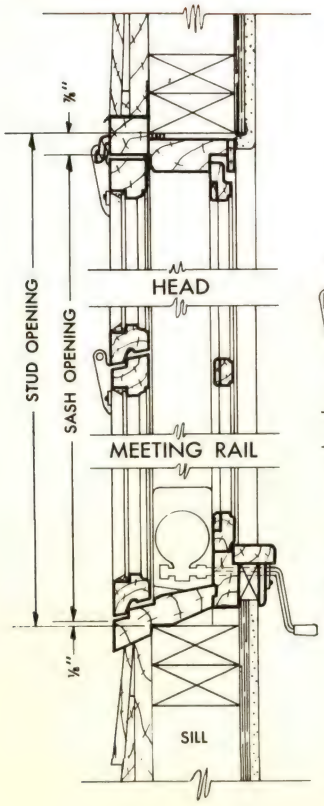
CRANK and ESCUTCHEON shall be anodized aluminum.

Details and specifications subject to change without notice.

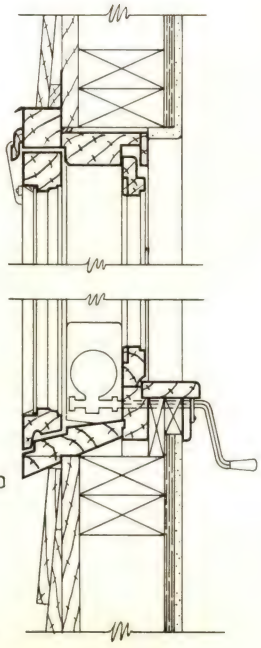
AIR INFILTRATION TEST REPORT, by a recognized testing laboratory, will be promptly furnished upon request.

INSTALLATION DETAILS—Standard Operating Unit

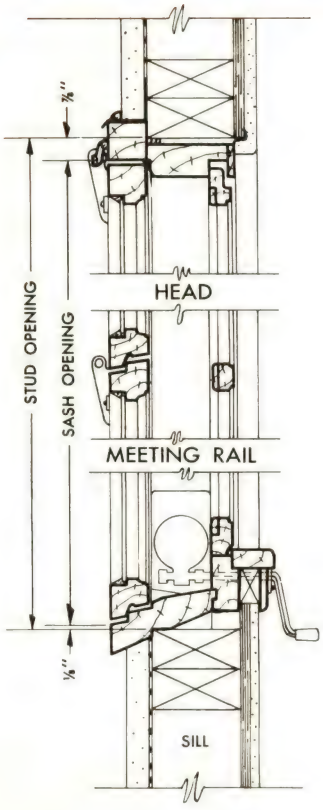
SCALE 3″=1′0″



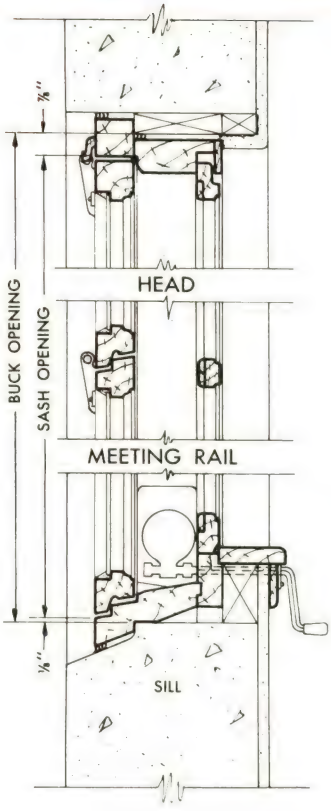
FRAME



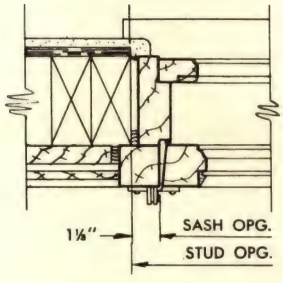
ALTERNATE FRAME CONSTRUCTION

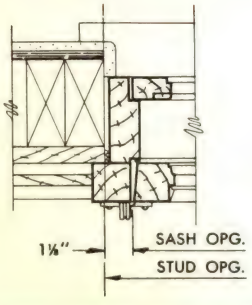


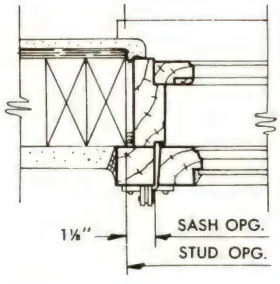
FRAME STUCCO

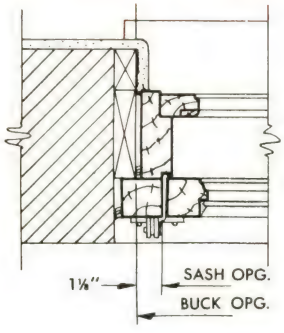


EXPOSED 8″ BLOCK

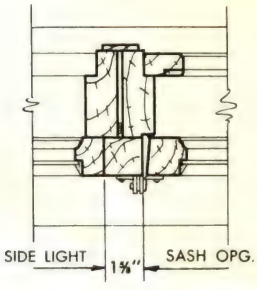




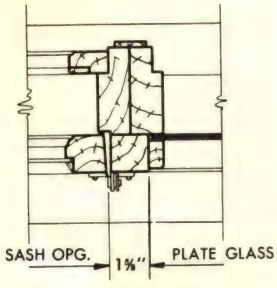




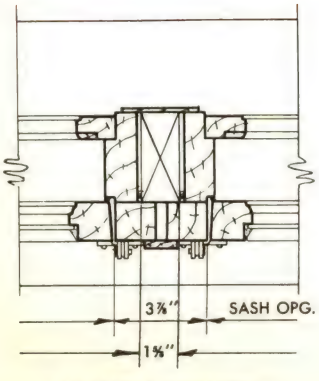
MULLION SECTIONS



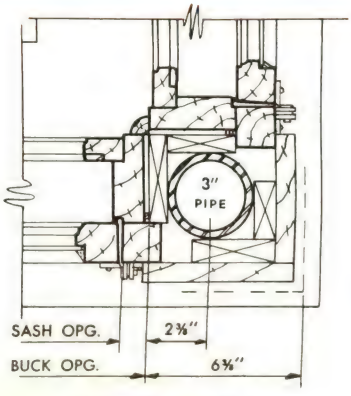
MULLION BETWEEN SIDE LIGHTS AND OPERATING UNIT



MULLION BETWEEN PLATE GLASS FRAME AND OPERATING UNIT

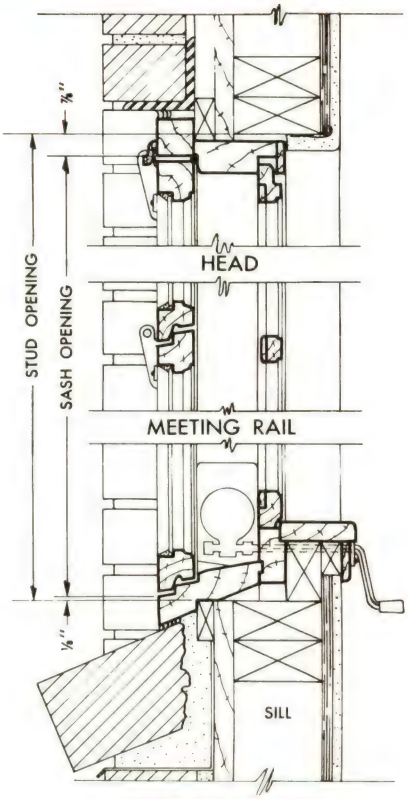


MULLION BETWEEN OPERATING UNITS

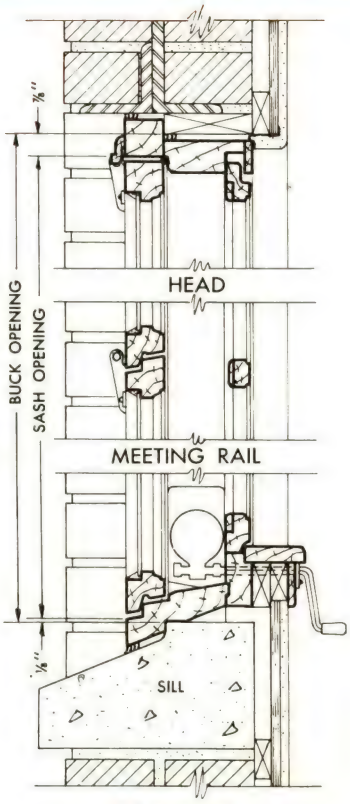


CORNER MULLION

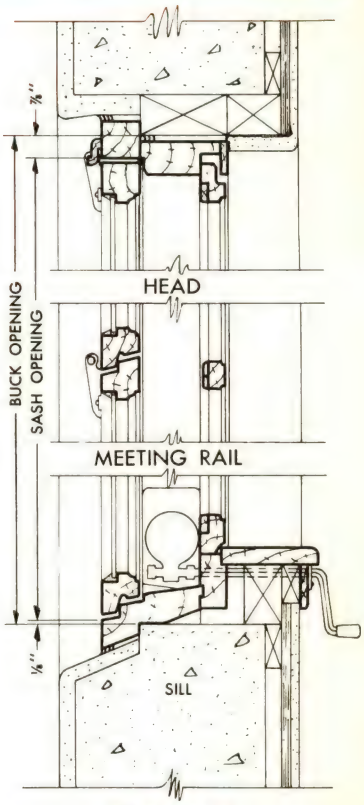
INSTALLATION DETAILS—Standard Operating Unit



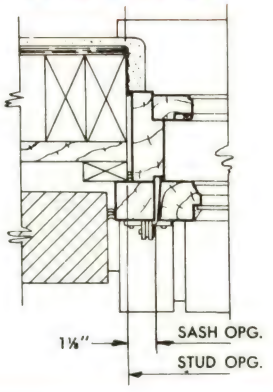
BRICK VENEER

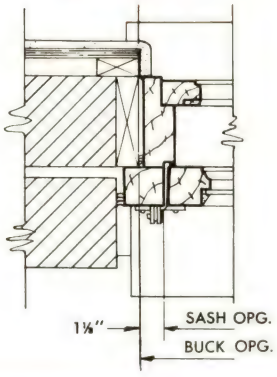


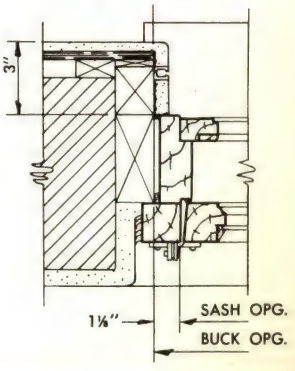
8″ BRICK



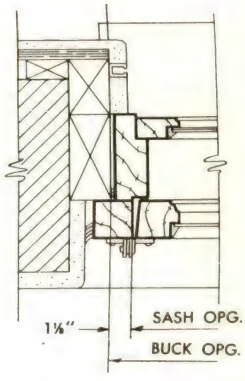
8″ BLOCK



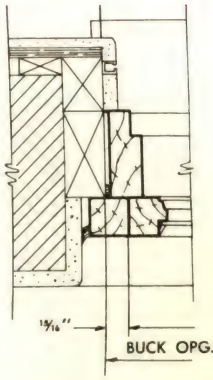




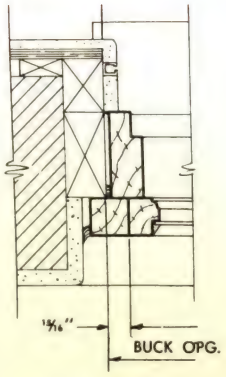
STORM SASH, FIXED SASH and SIDE LIGHTS



OPERATING UNIT AND STORM SASH

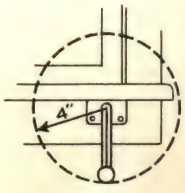


FIXED SASH

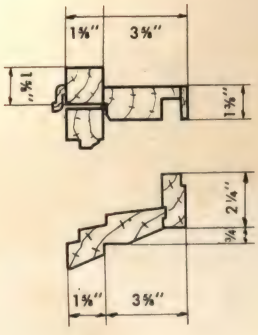


SIDE LIGHTS

CRANK SWING DIMENSION

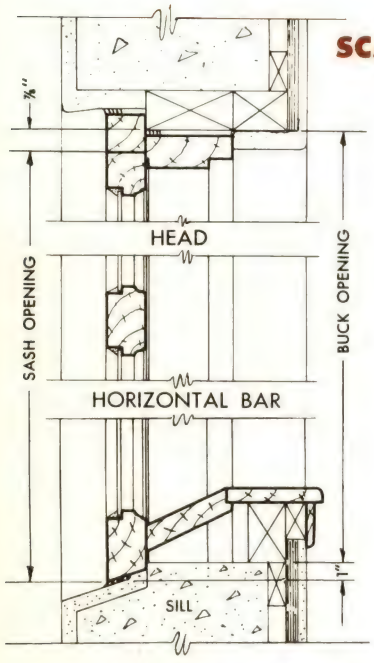


JAMB WIDTH DIMENSIONS



VERTICAL SECTIONS—Other than Standard Operating Unit

SCALE 3″=1′0″



FIXED SASH AND SIDE LIGHTS

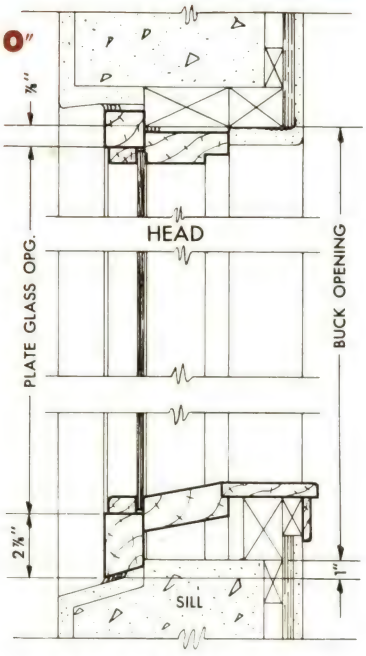
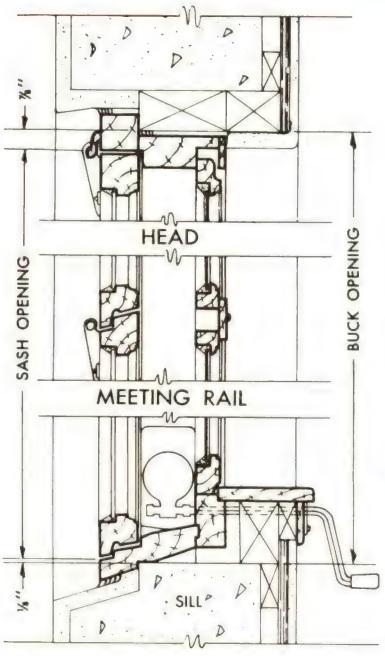
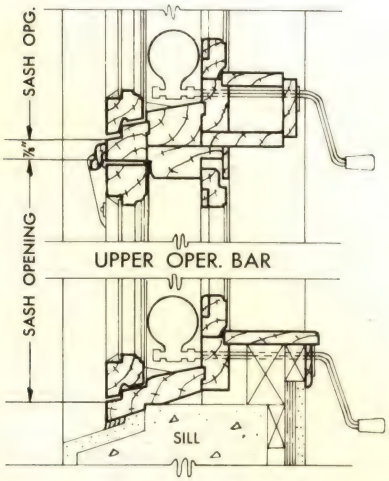


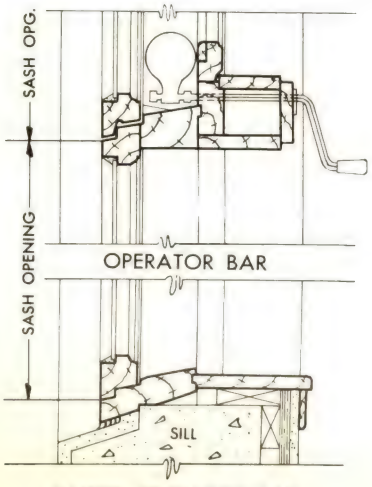
PLATE GLASS OPENING



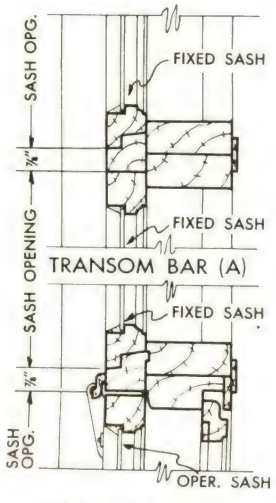
OPERATING UNIT AND STORM SASH



RAISED OPERATOR BAR
ALL VENTS OPERATE

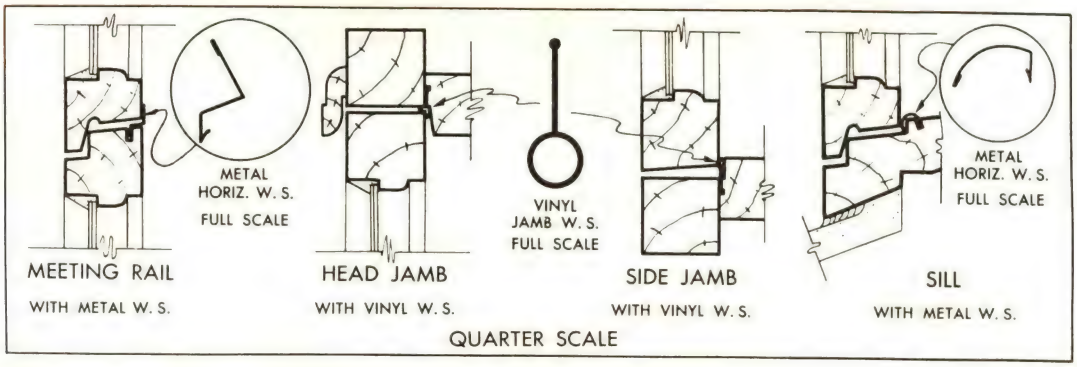


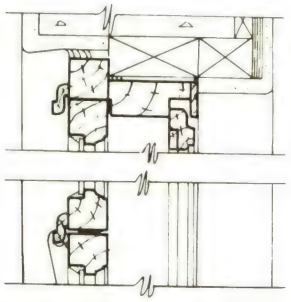
RAISED OPERATOR BAR
BOTTOM VENT FIXED



TRANSOM BAR (B)

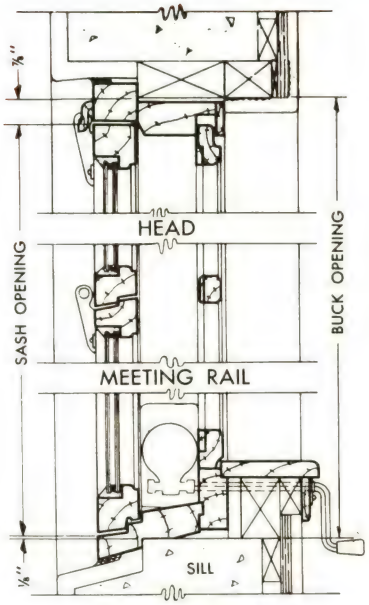
WEATHERSTRIPPING





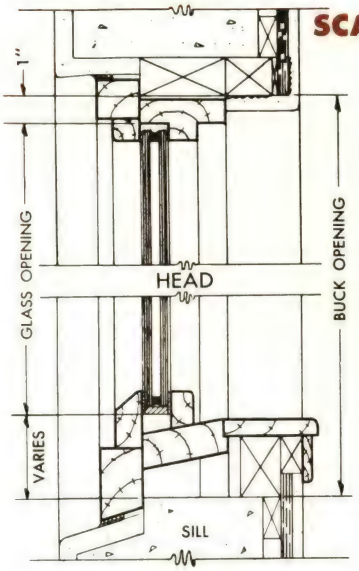
HEAD AND MEETING RAIL
TOP VENT FIXED

INSULATED GLASS

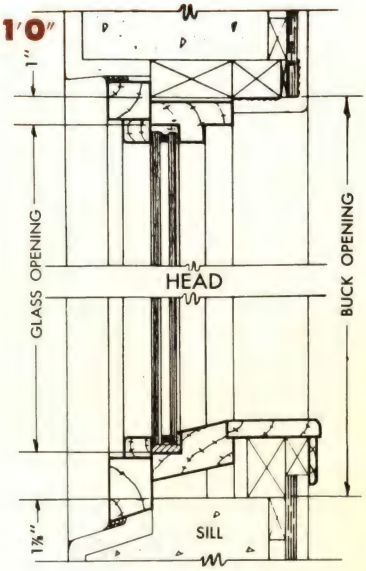


VERTICAL SECTION
OPERATING UNIT

SCALE 3"=1'0"

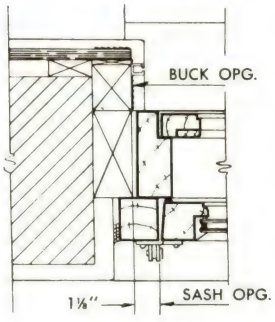


VERTICAL SECTION
PICTURE WINDOW *
3 VENT 14, 16 AND 18 ONLY

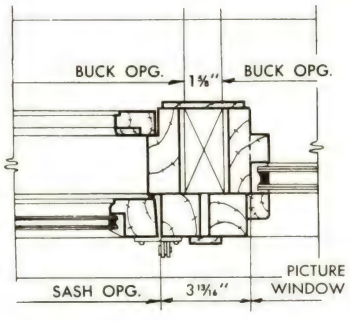


VERTICAL SECTION
PICTURE WINDOW *
4 VENT 16 ONLY

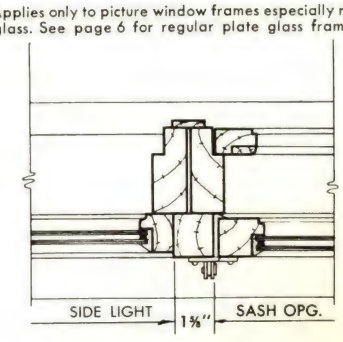
*Applies only to picture window frames especially made for insulated glass. See page 6 for regular plate glass frame details.



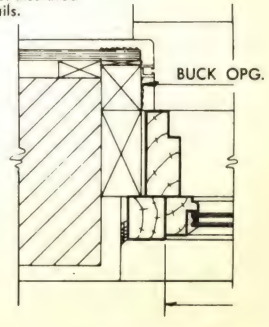
JAMB SECTION
OPERATING UNIT



MULLION BETWEEN
PICTURE WINDOW
AND OPERATING UNIT



MULLION BETWEEN
SIDE LIGHTS
AND OPERATING UNIT



JAMB SECTION
SIDE LIGHTS

Rabbeting for insulated glass is available in operating units, picture window frames, sidelight and fixed units.

FOR PICTURE WINDOWS, insulated glass can be ordered in special sizes; however, for maximum economy it is advisable to utilize standard Thermopane or Twindow sizes shown below.

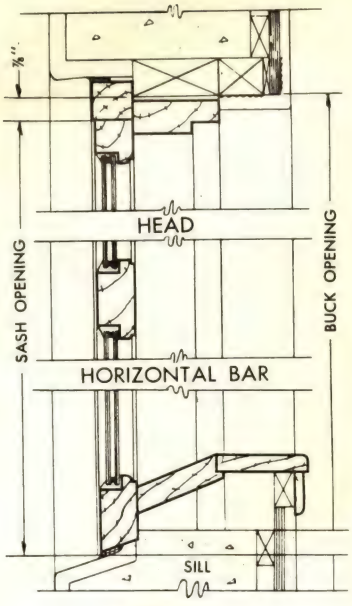
BUCK OPENING AND GLASS SIZES FOR PICTURE WINDOWS

FLANKING WINDOW SIZES	STANDARD GLASS SIZES	PICTURE WINDOW BUCK OPENING SIZES
3 - VENT 14	72½" WIDE X 46" HIGH	75⅛" WIDE X 51" HIGH
3 - " 14	64½" " 46" "	67⅛" " 51" "
3 - " 14	48½" " 46" "	51⅛" " 51" "
3 - VENT 16	70⅛" WIDE X 52½" HIGH	72¾" WIDE X 57" HIGH
3 - " 16	58⅛" " 52½" "	60¾" " 57" "
3 - " 16	46⅛" " 52½" "	48¾" " 57" "
3 - VENT 18	116½" WIDE X 58" HIGH	119⅛" WIDE X 63" HIGH
3 - " 18	96½" " 58" "	99⅛" " 63" "
3 - " 18	80½" " 58" "	83⅛" " 63" "
3 - " 18	72½" " 58" "	75⅛" " 63" "
3 - " 18	64½" " 58" "	67⅛" " 63" "
4 - VENT 16	60" WIDE X 72" HIGH	62⅜" WIDE X 75⅜" HIGH
4 - " 16	48" " 72" "	50⅜" " 75⅜" "
4 - " 16	42" " 72" "	44⅜" " 75⅜" "

Glass Opening must be ½" wider and higher than above Insulated glass sizes.

FOR AWNING WINDOW UNITS, standard Thermopane sizes are available for the following sash sizes: 20 x 16, 32 x 16, 44 x 16, 32 x 18 and 44 x 18.

Write for information on REMOVABLE DOUBLE GLAZING.



VERTICAL SECTION
SIDE LIGHTS
ALSO FIXED SASH

SCHEDULE OF STANDARD SIZES AND TYPES

Size designations indicate in order: Number of vents, Exact width of glass, and Exact height of glass.

BUCK (OR STUD) OPENING WIDTHS

1′-9½″	2′-1½″	3′-1½″	3′-9½″	4′1½″	6′-4⅝″	7′-4⅝″	BUCK (OR STUD) OPENING HEIGHTS
1-16-14	1-20-14	1-32-14	1-40-14	1-44-14	1-32-14 S. L.	1-44-14 S. L.	1′- 6¼″
1-16-16	1-20-16	1-32-16	1-40-16	1-44-16	1-32-16 S. L.	1-44-16 S. L.	1′- 8¼″
1-16-18	1-20-18	1-32-18	1-40-18	1-44-18	1-32-18 S. L.	1-44-18 S. L.	1′-10¼″
2-16-14	2-20-14	2-32-14	2-40-14	2-44-14	2-32-14 S. L.	2-44-14 S. L.	2′-10⅝″
2-16-16	2-20-16	2-32-16	2-40-16	2-44-16	2-32-16 S. L.	2-44-16 S. L.	3′- 2⅝″
2-16-18	2-20-18	2-32-18	2-40-18	2-44-18	2-32-18 S. L.	2-44-18.S. L.	3′- 6⅝″
3-16-14	3-20-14	3-32-14	3-40-14	3-44-14	3-32-14 S. L.	3-44-14 S. L.	4′- 3″
3-16-16	3-20-16	3-32-16	3-40-16	3-44-16	3-32-16 S. L.	3-44-16 S. L.	4′- 9″
3-16-18	3-20-18	3-32-18	3-40-18	3-44-18	3-32-18 S. L.	3-44-18 S. L.	5′- 3″
4-16-14	4-20-14	4-32-14	4-40-14	4-44-14	4-32-14 S. L.	4-44-14 S. L.	5′- 7⅜″
4-16-16	4-20-16	4-32-16	4-40-16	4-44-16	4-32-16 S. L.	4-44-16 S. L.	6′- 3⅜″
4-16-18	4-20-18	4-32-18	4-40-18	4-44-18	4-32-18 S. L.	4-44-18 S. L.	6′-11⅜″
5-16-14	5-20-14	5-32-14	5-40-14	5-44-14	5-32-14 S. L.	5-44-14 S. L.	6′-11¾″
5-16-16	5-20-16	5-32-16	5-40-16 TVF	5-44-16 TVF	5-32-16 S. L.	5-44-16 S. L. TVF	7′- 9¾″
5-16-18	5-20-18	5-32-18	5-40-18 TVF	5-44-18 TVF	5-32-18 S. L.	5-44-18 S. L. TVF	8′- 7¾″

For sidelights on 3′-9½″ units, add 3′-3⅜″ to inside buck dimensions. For multiple openings, add inside buck openings plus 1⅝″ for each mullion.

Top vent fixed in openings that are five vents high by 3′-9½″ wide or over.
Sidelights are furnished separately for convenient handling.

ENGINEERING SERVICE

Our engineering department will welcome any opportunity to assist you with difficult window problems and details for special conditions. Full scale window details available on request.

GATE CITY SASH & DOOR CO., BOX 901, FORT LAUDERDALE, FLORIDA — Patent No. 2,442,363

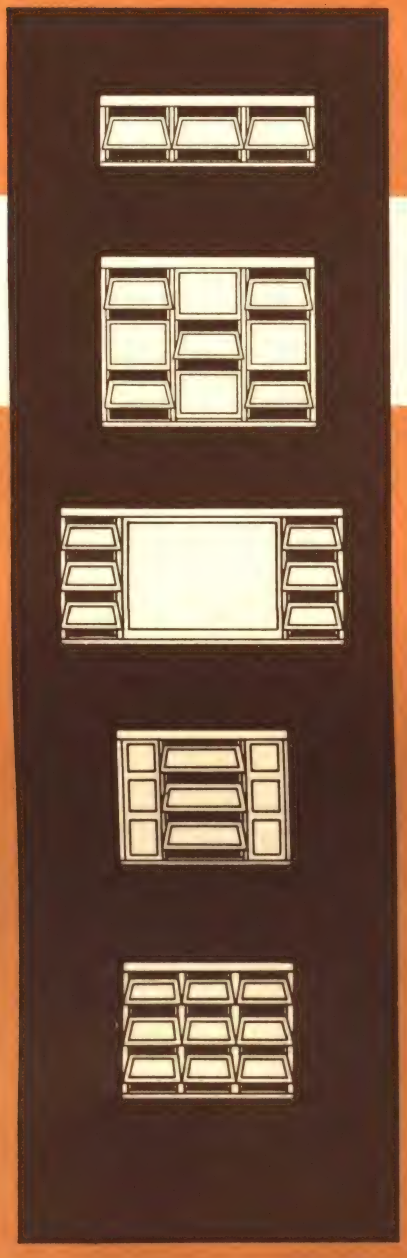
FOR ADDITIONAL INFORMATION WRITE, WIRE OR TELEPHONE

GATE CITY SASH & DOOR COMPANY

BOX 901 — FORT LAUDERDALE, FLORIDA

Litho. U.S.A. — 10/54

LUDMAN



SEALS LIKE A REFRIGERATOR

LUDMAN Auto-lok
AUTOMATIC LOCKING
PATENTED



THE AMERICAN INSTITUTE OF ARCHITECTS · APPROVED WINDOW · THE PRODUCERS' COUNCIL

Catalog WW, 1955

wood windows

AUTO-LOK ALUMINUM AWNING WINDOWS
and LUDMAN INTERMEDIATE PROJECTED
ALUMINUM WINDOWS

See SWEETS Section 5a/Lu

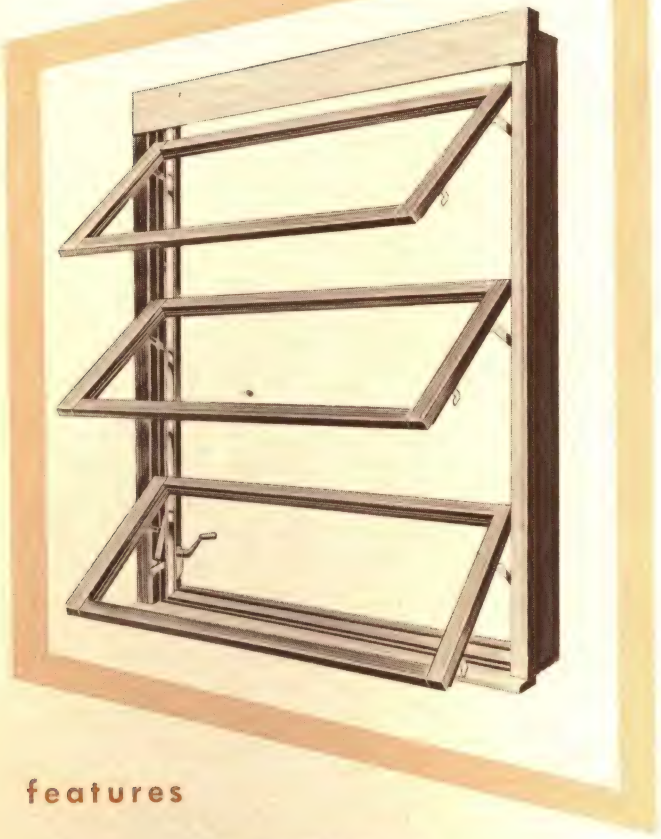
LUDMAN ALUMINUM FRAMED SLIDING
GLASS DOORS

See SWEETS Section 4a/Lu

LUDMAN LEADS THE WORLD IN WINDOW ENGINEERING

LUDMAN Auto-Lok AUTOMATIC LOCKING

TIGHTEST CLOSING



Auto-Lok Wood Awning Windows, with performance proven Auto-Lok hardware, are the first wood windows specifically engineered and built to combine the best features of ALL window types. It is no longer necessary to make allowances for certain weaknesses and inefficiencies when choosing a wood window, in order to gain the advantage of a particular feature. Auto-Lok Wood Awning Windows cost no more than a good grade of ordinary "old fashioned" windows. Extra strong sash and extra heavy frames retain narrow sight lines. They are toxic treated against rot, termites, fungi, etc. Unsurpassed in beauty, performance and economy, they are adaptable to all types of architecture in all climatic extremes.

features



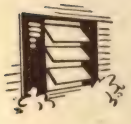
concealed hardware

No unsafe, unsightly mechanism exposed to collect dust. Heavy aluminum cover adds extra strength. Compact roto-type operator does not interfere with drapes, blinds, etc.



ventilation when raining

No more running to close windows . . . rain can't enter through slanting sash.



practical beauty

Narrow horizontal lines and graceful tilt of sash in every open position add distinction to any home . . . lend themselves to a wider variety of architectural arrangements.



temperature control

Warmer in winter—seals itself shut like the door of your refrigerator . . . keeps heat in . . . cold out. Cooler in summer—opens widest . . . scoops air inward and upward . . . luxurious ventilation, but no drafts.



interchangeable inside screens and storm sash

Can be handled all from the inside. Reduce a day's work to an hour.



easiest to clean

Nothing to lift out . . . no sash to remove . . . no gadgets to disengage. Simply open wide and clean all glass from inside . . . top sash, too!



fresh air nite vent

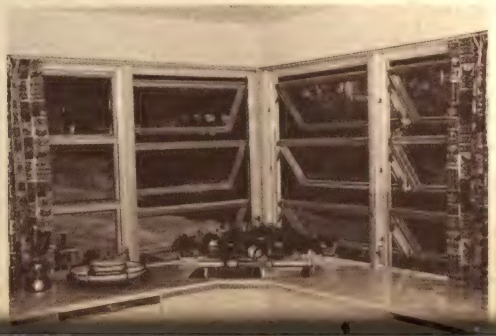
Bottom sash opens slightly for night ventilation, while upper sash remain securely locked . . . fresh air circulation during bad weather assured!



finger-tip control

Perfectly balanced mechanism operates window at the touch of a finger. No adjustments ever necessary . . . Auto-Lok never sticks, never rattles.







operating principle



WATCH THE "HOOK" AND THE "LUG" PULL IT SNUG!

PATENTED AUTO-LOK operation assures a lifetime of trouble free service. Auto-Lok Wood Awning Windows with patented Auto-Lok Hardware are the most versatile on the market for all applications.

Auto-Lok hardware eliminates the wear at critical hinge points that results in sash that cannot be closed tight. In all windows where more than one sash is attached to a common operating bar and actuated by a single operator, force must be applied to the critical hinge points at the top of each sash in order to close the sash tight at the bottom. With patented Auto-Lok operation no destructive force is applied on hinges. Auto-Lok hardware is so perfectly balanced that sash weight aids opening and closing without creating pressure on the operating mechanism. Therefore, the entire operation is friction-free, effortless and smooth. Every sash in an Auto-Lok window closes tight automatically . . . always. There's no wear . . . no maintenance . . . no adjustment necessary. Safety-Lok pulls bottom sash in tight and securely locks it . . . provides extra protection against intruders.

The illustrations shown here clearly explain the patented Auto-Lok operating principle. (A) While sash are swinging in toward the frame the vertical operating bars at each side of window move up. (B) Note how lugs on operating bars and hooks on sash commence to move into position as the bars continue to move up, so wedging action may be applied to pull the sash in tightly against the frame. (C) The sash are pulled in snug, and pressure against vinyl weatherstripping assures a complete seal (like the door of your refrigerator). Automatic locking has commenced. (D) Final "locked" stage of Auto-Lok operation . . . hooks have moved in, adding extra locking action near the bottom of the sash, on both sides . . . locking all four corners of each sash.

This action is entirely automatic and is accomplished during the normal, effortless turning of the operator handle.



tightest closing window



Note how weatherstripping (A) is compressed when sash is closed against jamb.



Horizontal weatherstripping (A) crosses over vertical weatherstripping (B)

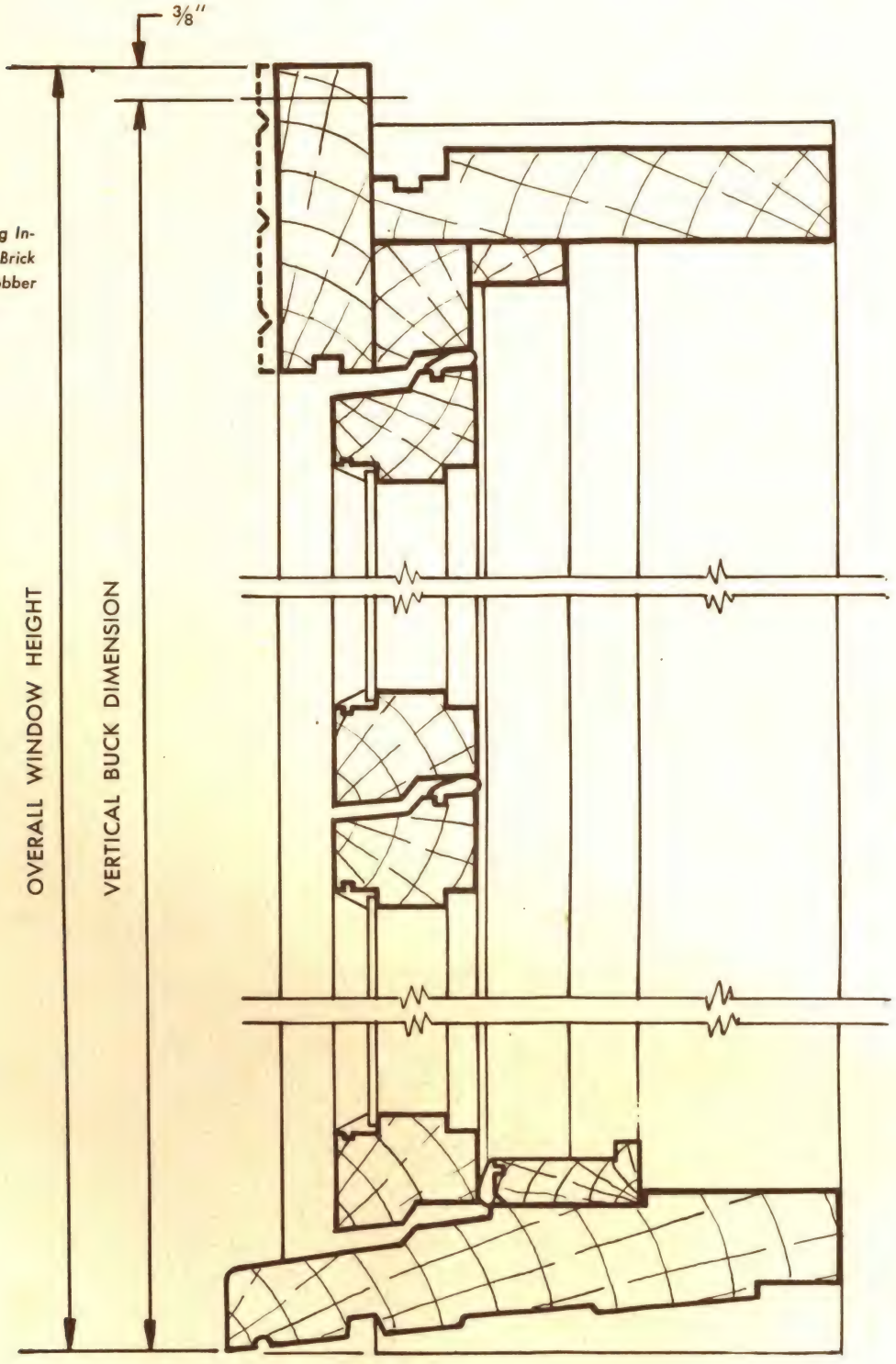
Unique weatherstripping combined with patented self-locking action and double contact make Auto-Lok the tightest closing window ever made. Every closing surface is ingeniously weathered with extruded elastomeric vinyl*. When closed, the sash compress the weatherstripping against the frame, forming a positive "seal."

Auto-Lok provides the most effective closure known against cold winds, dust storms, driving rains and hurricanes. This tight closure eliminates uncomfortable "cold spots" around windows . . . reduces fuel and air conditioning expense.

*Exhaustive laboratory tests reveal that elastomeric vinyl weatherstripping will maintain its effectiveness for the life of the building.

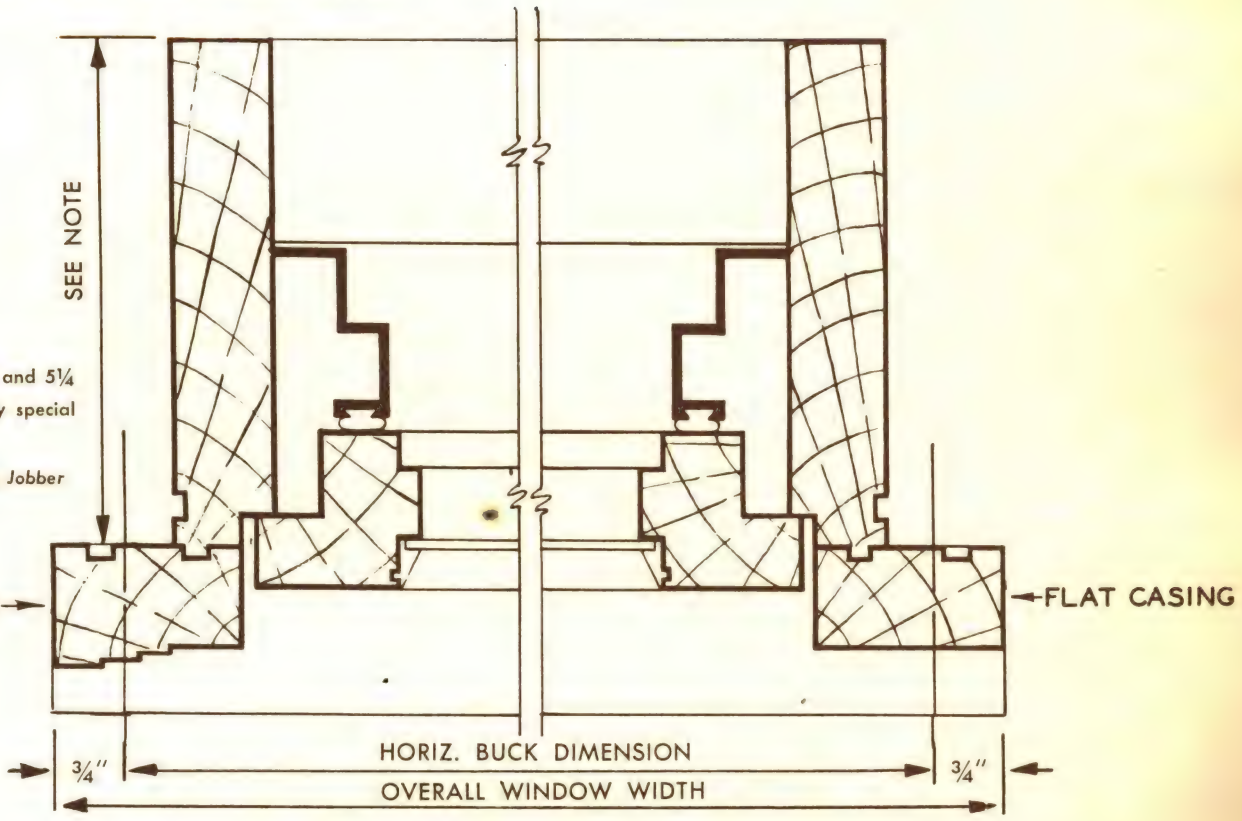
vertical section *half size*

Note: Brick Mold Casing Indicated by Dotted Lines. Brick Mold or Flat, Casing Jobber Option.



ENGINEERED BY LUDMAN

horizontal section *half size*

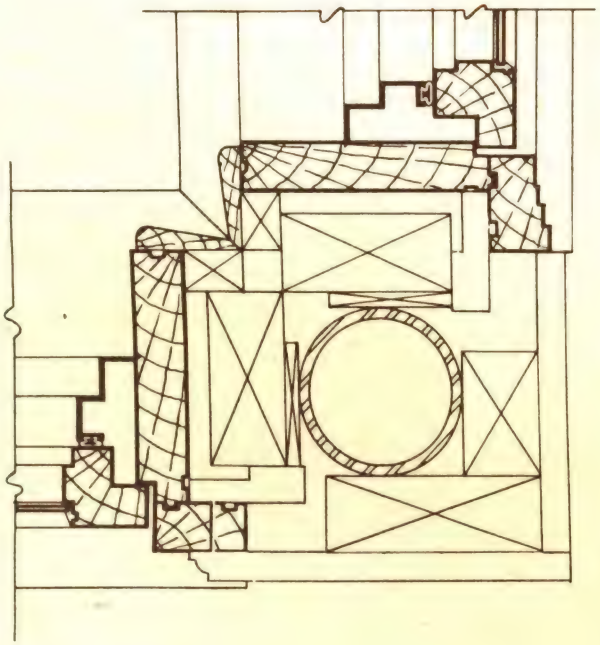


Note: Available in 4¾ and 5¼ jamb width or other by special order.

Brick Mold or Flat Casing Jobber Option.

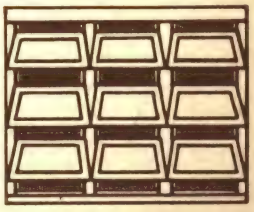
90° corner mullion

3" = 1'-0"



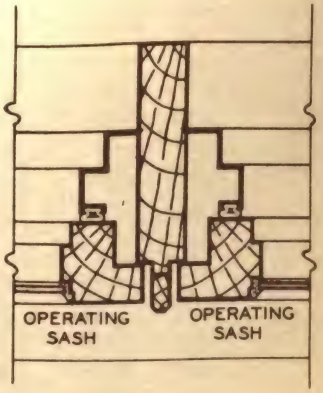
double and triple units

Designed to achieve maximum architectural effect. To determine buck opening width of Double Unit multiply nominal sash width by 2 and add 2"; Triple Unit multiply nominal sash width by 3 and add 2".



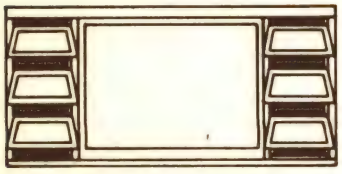
mullion jamb of double or triple units

3" = 1'-0"



LUDMAN Auto-lok AUTOMATIC LOCKING

COMBINES THE BEST FEATURES

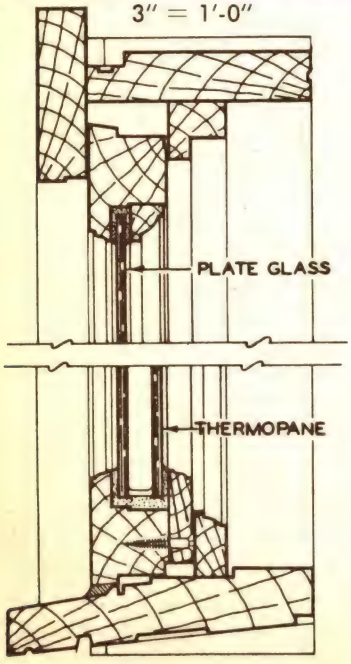


◄ picture window with two operating sash

Picture windows can be supplied in any desired width for glazing with ¼" plate or insulated plate panels. To determine buck opening width add width of picture window glass to nominal width of each sash plus 6".

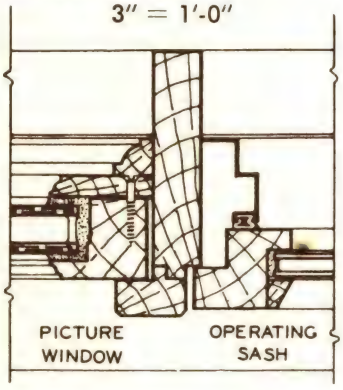
vertical section picture window

3" = 1'-0"

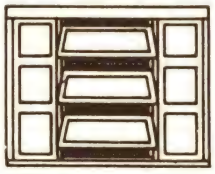


mullion jamb of picture window and operating sash

3" = 1'-0"



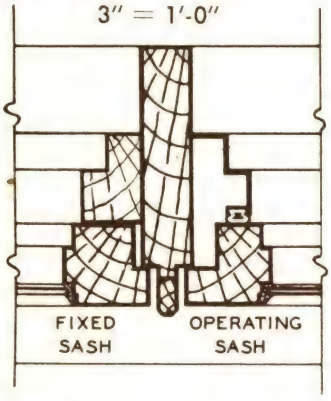
18" fixed sidelight sash on each side of operating sash



Muntins in sidelight line up with sash. To determine buck opening width add nominal width of all sash plus 2".

mullion jamb of sidelights and operating sash

3" = 1'-0"



Auto-Lok provides greatest selection of possible combinations of window arrangements, with continuous heads and sills in widths of 18" to 156" in 6" increments.

size schedule

dimensions shown buck to buck

SASH HEIGHTS	1'-8"	2'-2"	2'-8"	3'-2"	3'-8"	4'-2"
16" (1'-8¾")	1-18-16 1-18-18 1-18-20	1-24-16 1-24-18* 1-24-20	1-30-16 1-30-18 1-30-20	1-36-16 1-36-18* 1-36-20	1-42-16 1-42-18 1-42-20	1-48-16 1-48-18* 1-48-20
18" (1'-10¾")	2-18-16 2-18-18 2-18-20	2-24-16 2-24-18* 2-24-20	2-30-16 2-30-18 2-30-20	2-36-16 2-36-18* 2-36-20	2-42-16 2-42-18 2-42-20	2-48-16 2-48-18* 2-48-20
20" (2'-0¾")	3-18-16 3-18-18 3-18-20	3-24-16 3-24-18* 3-24-20	3-30-16 3-30-18 3-30-20	3-36-16 3-36-18* 3-36-20	3-42-16 3-42-18 3-42-20	3-48-16 3-48-18* 3-48-20
3'-0 7/8"	4-18-16 4-18-18 4-18-20	4-24-16 4-24-18* 4-24-20	4-30-16 4-30-18 4-30-20	4-36-16 4-36-18* 4-36-20	4-42-16 4-42-18 4-42-20	4-48-16 4-48-18* 4-48-20
3'-4 7/8"	5-18-16 5-18-18 5-18-20	5-24-16 5-24-18 5-24-20	5-30-16 5-30-18 5-30-20	5-36-16 5-36-18 5-36-20	5-42-16 5-42-18 5-42-20	5-48-16 5-48-18 5-48-20
3'-8 7/8"						
4'-5 1/8"						
4'-11 1/8"						
5'-5 1/8"						
5'-9 1/4"						
6'-5 1/4"						
7'-1 1/4"						
7'-1 1/2"						
7'-11 1/2"						
8'-9 1/2"						

notes

Explanation of Sizes

1st numeral indicates number of sash contained in frame. 2nd numeral indicates nominal width of each sash. 3rd numeral indicates nominal height of each sash. Glass sizes are determined by deducting 4" from nominal sash width and 2" from nominal sash height.

•

Sizes shown with asterisk are standard and normally carried in stock. Others are standard but not stocked.

•

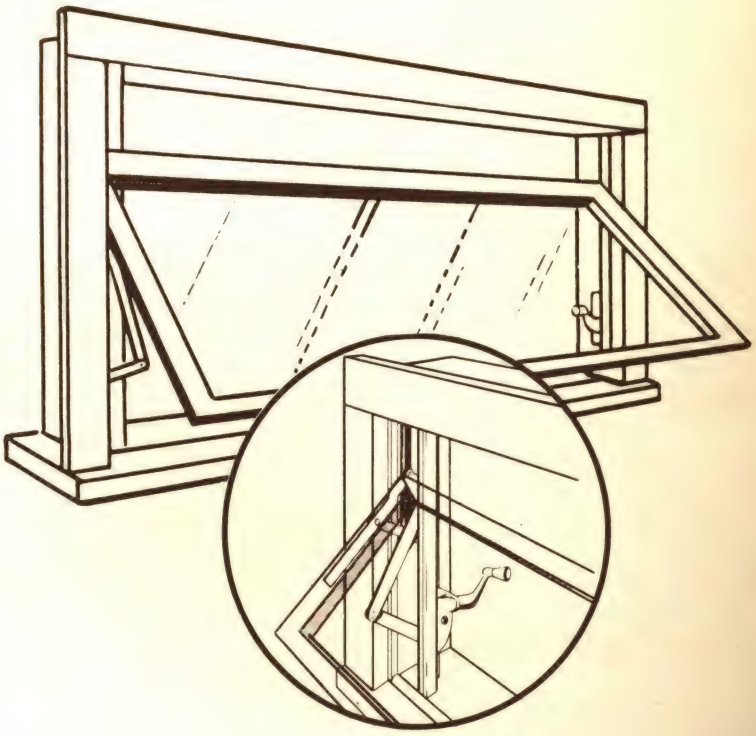
Screens and Storm Sash either aluminum or wood available for all sizes.

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LUDMAN'S SINGLE SASH WOOD AWNING WINDOW

SASH HEIGHTS
16", 18", 20"

SASH WIDTHS
UP TO 48"

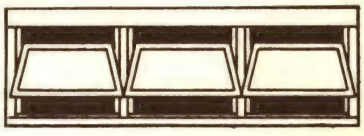


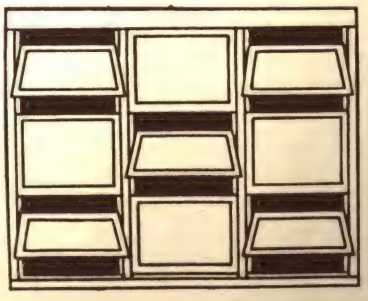
Designed for low-medium cost housing, Ludman's single sash unit features utility hardware that provides individual roto-type operation for each sash. Units can be used separately or stacked in multiples to form window ribbons or window panels.

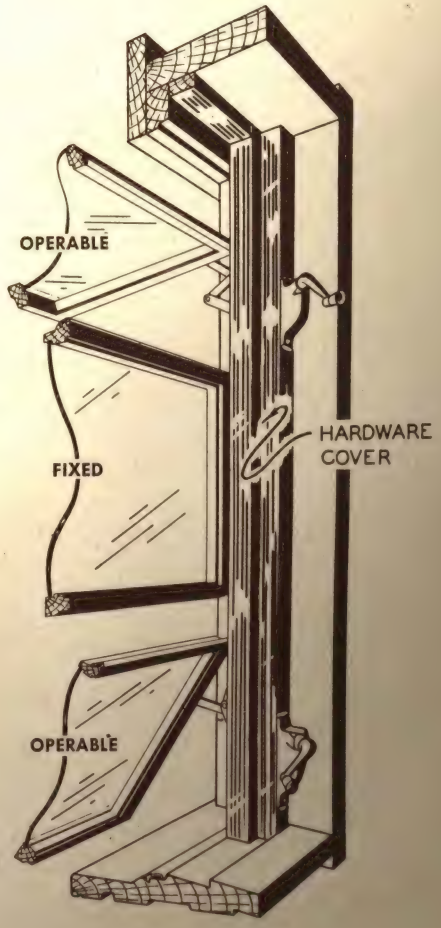
Continuous heads, sills and jambs eliminate the unattractive heavy horizontal and vertical sight lines usually found when single sash units are stacked. When multiple units are stacked horizontally, right and left hand hardware can be attached to single common jambs.

Continuous extruded aluminum cover plates completely conceal the hardware . . . contain the screen reveal . . . carry vertical vinyl weatherstrip . . . and provide the locating and attaching surface for the roto-operator and latch.

Any sash used in multiples can be fixed if desired. Inside screen and storm sash are interchangeable.







specifications

GENERAL — Windows are to be Auto-Lok weatherstripped wood awning type windows operated with hardware as manufactured by Ludman Corporation, North Miami, Florida, in sizes and styles shown on drawings.

MATERIAL — All sash and frame members shall be Ponderosa Pine (other woods available if specified). Sash shall have a minimum thickness of 1 11/16". Jamb and head frame members shall be of 5/4 material. Sills shall be of 6/4 material. All wood shall be toxic and water repellent treated against rot, termites, fungi, etc.

CONSTRUCTION — All windows shall be assembled in a workmanlike manner to assure weather-tight construction. There shall be two weathering contacts, one of which shall be a weatherstripped contact, around the perimeter of all opening sash. Wood frame jamb members shall be reinforced by a permanently attached extruded aluminum shape which serves also to conceal and protect all operating hardware. Top hinge members of each sash shall operate on roller bearings engaged in a channel.

OPERATION — All the following actions shall be automatically accomplished in the course of normally opening or closing the window by means of the roto adjuster alone.

1. All outward opening sash of standard windows shall open a minimum of 70 degrees.
2. To permit easy cleaning from inside, top sash on all standard windows shall drop down a minimum of four inches.
3. While upper sash remain closed, the bottom sash shall open for partial ventilation.
4. All upper sash shall be securely latched against the frame on both sides of each sash, so that the weatherstripping is compressed continuously between sash and frame. When so securely locked (latched) the sash shall not rattle or flutter. There shall be an independent lever type latch which shall securely lock the bottom sash after closure by the roto adjuster.

HARDWARE — All operating hardware including hinges shall be concealed from view and protected from the elements when window is closed. All operating hardware, roto adjuster and latch shall be attached at point of assembly. Roto adjuster shall be standard Auto-Lok type. It shall not be necessary to move the screen or storm window to operate the windows.

WEATHERSTRIPPING — Weatherstripping shall be an extruded hollow plastic shape, either Koroseal or Elastromeric Vinyl, to assure better compression and weatherstripping action, and shall not be metal, fiber, rubber or rubber composition. When windows are closed, weatherstripping shall be tightly compressed around complete perimeter of all sash. When windows are opened, weatherstrip shall return to its normal shape.

NOTE: portions in parentheses are architect's option.

AIR INFILTRATION — Air infiltration shall not exceed .250 cubic feet per minute per lineal foot of crack when subjected to a static air pressure equal to that exerted by an outside air velocity of 25 miles per hour. (A photostatic copy of the results of tests made by a recognized testing laboratory on a stock window shall be furnished to the architect upon request.)

MULLION, TRIM, Etc. — Mullion posts, mullion trim, stools, aprons and other trim, etc. (unless specified herein) shall be included in millwork specification and not furnished as part of window contract.

SCREENS — (where specified) screens shall be included in the window. Ludman aluminum screen frames with 18 x 14 aluminum mesh shall be furnished. Screen frame shall fit in recess provided on the window and fastened by means of clips which will permit easy removal of screens. (Ludman wood frame screens with 18 x 14 aluminum colored plastic screen cloth shall be furnished when shown on drawings.)

STORM SASH — (Storm sash, when shown on drawings, shall be interchangeable with screens and shall be included in storm sash specification and shall not be furnished as part of window contract, unless specified herein.)

DRAWINGS AND INSTALLATION DETAILS — The window manufacturer shall furnish standard details showing recommendations for the installation of the windows. *(If called for in these specifications, manufacturer will furnish shop drawings or special installation details.)*

ERECTION — The window erector shall securely fasten window in place in a straight, level and plumb condition, without distortion of the windows and shall make final adjustments for proper operation after glazing.

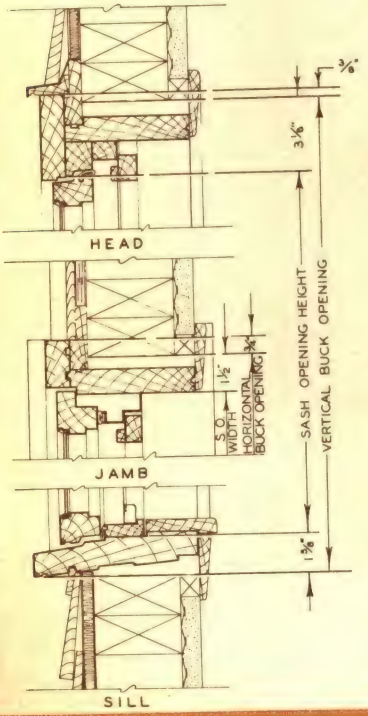
CAULKING — (All windows shall be caulked by others using a suitable caulking compound to accomplish a thorough weather-tight seal around the entire frame perimeter. Caulking shall be included in caulking specification and not be furnished as part of window contract.)

GLAZING — All sash up to 36" wide shall be glazed at Factory with SSB glass; over 36" wide with DSB glass unless otherwise specified. (Windows shall be supplied unglazed for jobsite glazing. Glass and glazing shall be included in glazing specification and not furnished as part of window contract.) (Thermopane or Twindow glazing where specified.)

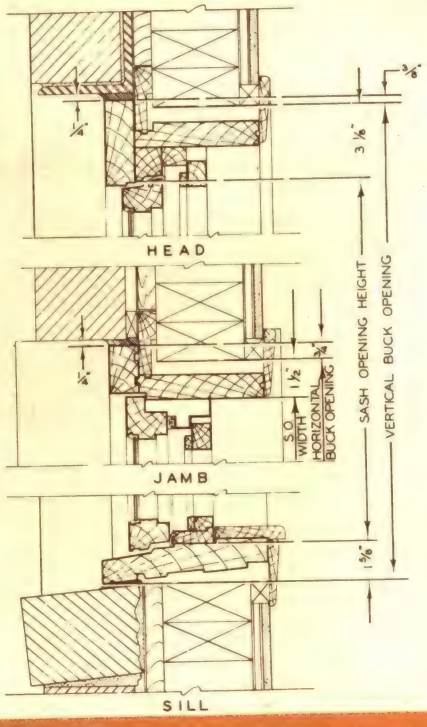
FINISH — (All painting, varnishing, shellacing, etc., including priming, shall be included in painting specification and not furnished as part of window contract.)

installation details 1½" — 1'-0"

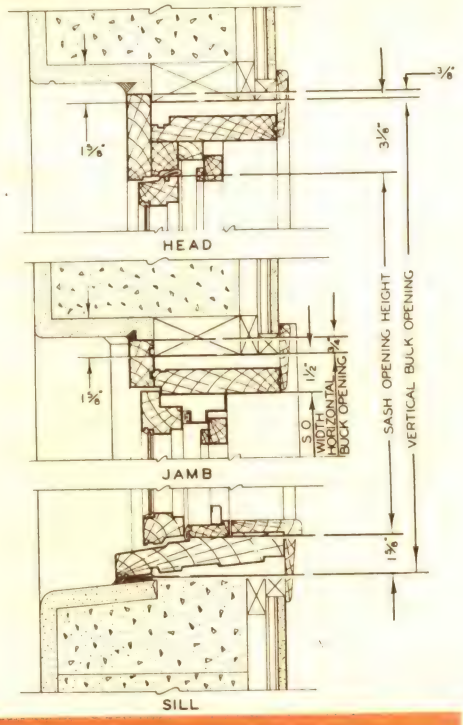
frame construction



brick veneer



concrete block



LUDMAN CORPORATION
North Miami, Florida offices

Atlanta
New York
Chicago
St. Louis
Washington, D.C.
Los Angeles
San Francisco
Houston

5c
Ma



Malta

wood window units

	pages
• double hung units (Malt-a-Matic & Supreme)	3 • 6
• picture units	7
• horizontal gliding units (Malt-a-Glide)	5
• multi-purpose units (Malt-a-Vent)	4

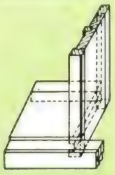
the Malta manufacturing company

Only MALTA gives you all these outstanding features....

Malta units and frames are precision built of the highest quality kiln-dried Pine, by The Malta Manufacturing Company, Malta, Ohio. They are distributed only through millwork jobbers and are available from lumber and millwork dealers.

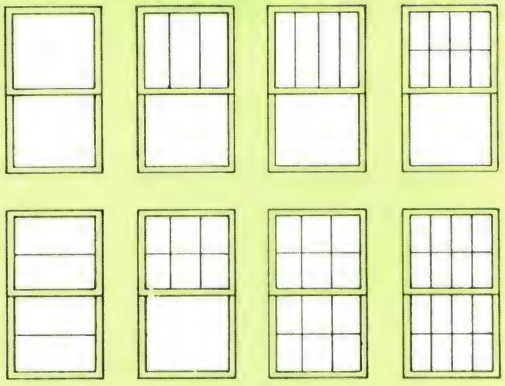
Every type of wall construction (frame, brick, masonry) of varying thicknesses, are suited for Malta windows. These frames are designed to harmonize with any exterior treatment. Malta frames have standard jamb liners. They will fit walls of any thickness, and do not require additional working even after installation in the wall.

Malta wood window units and frames will give a house-time of satisfying service and lasting beauty when properly installed and maintained.



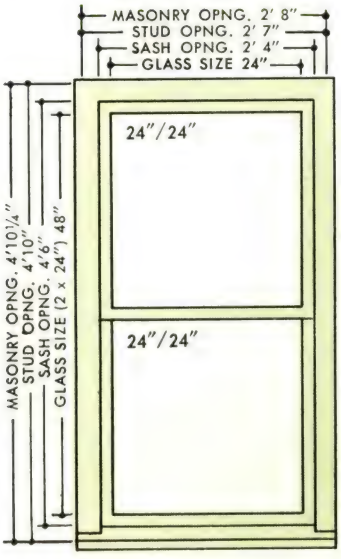
SILL SUPPORT
This rigid sill support assures a permanent, watertight and rigid sill. This detail shows how the jamb construction gives extra support to the sill assembly.

MALTA FRAMES FOR EVERY WINDOW STYLE



HOW TO DETERMINE OPENING SIZES FOR MALT-A-MATIC UNITS

(FOR STANDARD FRAMES — SEE BELOW)

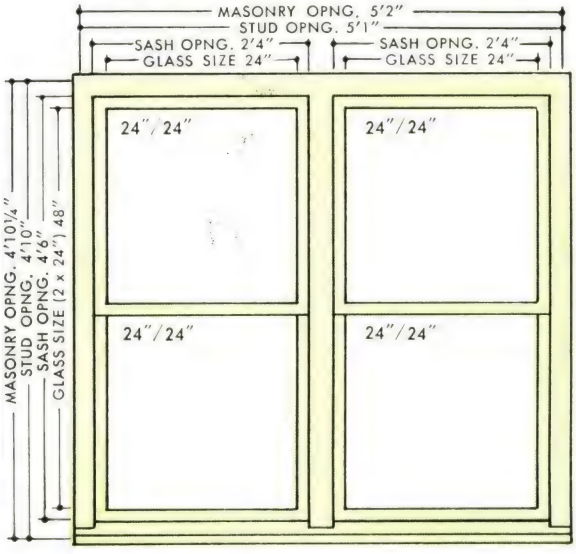


SINGLES

WIDTHS
ADD TO GLASS SIZE:
For Sash Opng. 4"
*For Stud Opng. 7"
For Masonry Opng. .....8"

HEIGHTS
ADD TO COMBINED GLASS SIZE:
For Sash Opng. 6"
*For Stud Opng. 10"
For Masonry Opng. ....10¼"

*ALLOWS 1" OVER NEAT OPENING

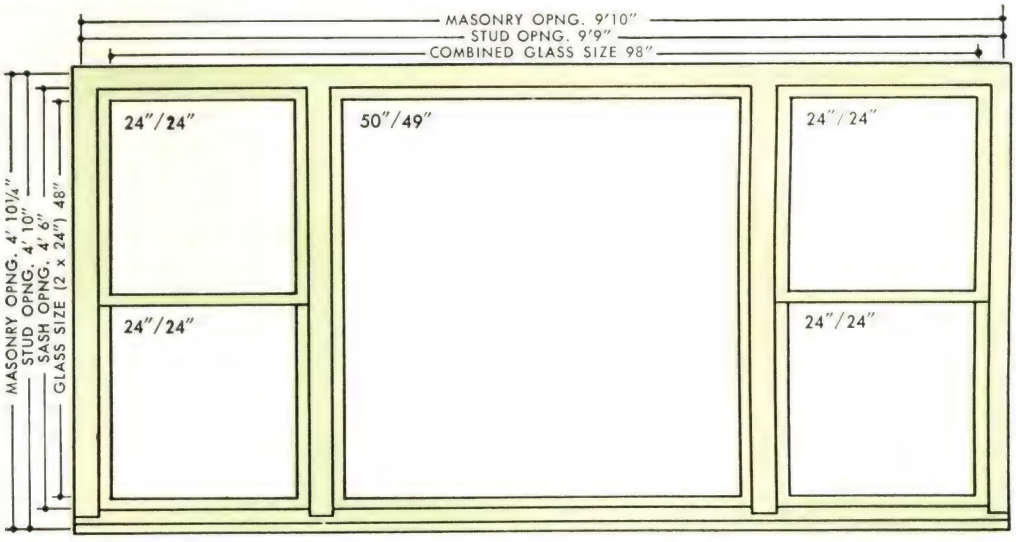


TWINS

WIDTHS
ADD TO COMBINED GLASS SIZE:
* For Stud Opng. 13"
For Masonry . . 14"

HEIGHTS
ADD TO COMBINED GLASS SIZE:
* For Stud Opng. 10"
For Masonry Opng. . .10¼"

*ALLOWS 1" OVER NEAT OPENING



PICTURE WINDOWS

WIDTHS
ADD TO COMBINED GLASS SIZE:
*For Stud Opng. 19"
For Masonry Opng. ....20"

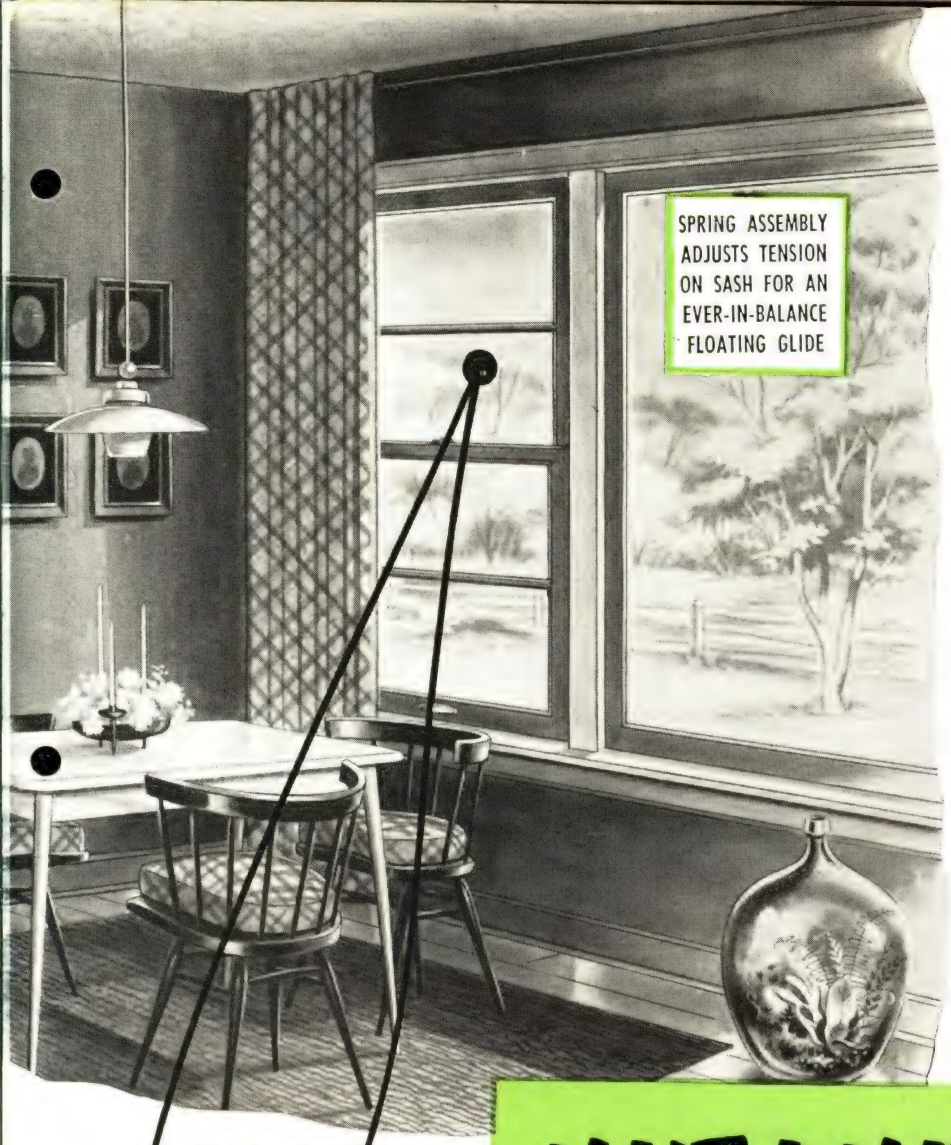
HEIGHTS
ADD TO COMBINED GLASS SIZE:
*For Stud Opng. 10"
For Masonry Opng. . .10¼"

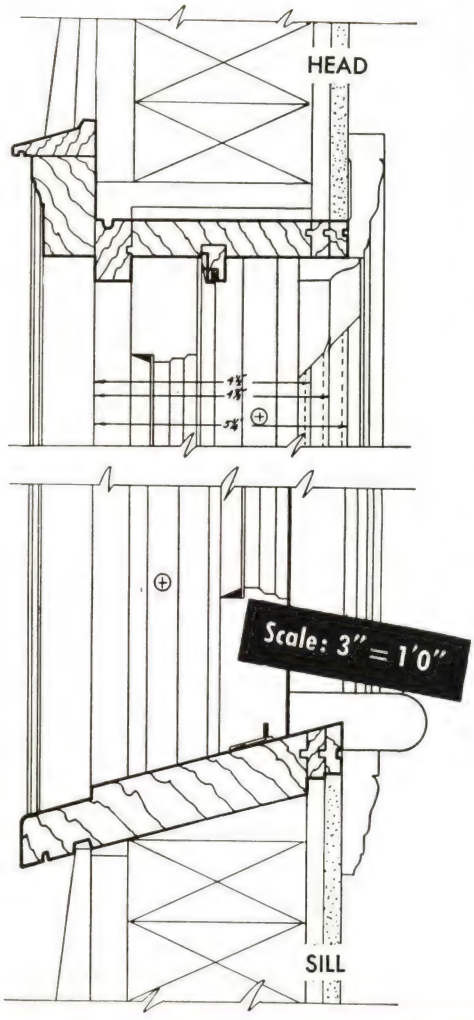
*ALLOWS 1" OVER NEAT OPENING

STANDARD FRAMES:

SINGLES		TWINS	TRIPLES
WIDTHS	**HEIGHTS**	**WIDTHS**	**WIDTHS**
ADD TO GLASS SIZE:	ADD TO COMBINED GLASS SIZE:	ADD TO COMBINED GLASS SIZE:	ADD TO COMBINED GLASS SIZE:
For Sash Opng. 4"	For Sash Opng. 6"	For Stud Opng. 12"	For Stud Opng. 17½"
For Stud Opng. 6½"	For Stud Opng. 10"	For MasonryOpng. 14"	For Masonry Opng. 20"
For Masonry Opng. 8"	For Masonry Opng. 10¼"	**HEIGHTS:** SAME AS FOR SINGLES.	

Neat opening 1" smaller for stud openings





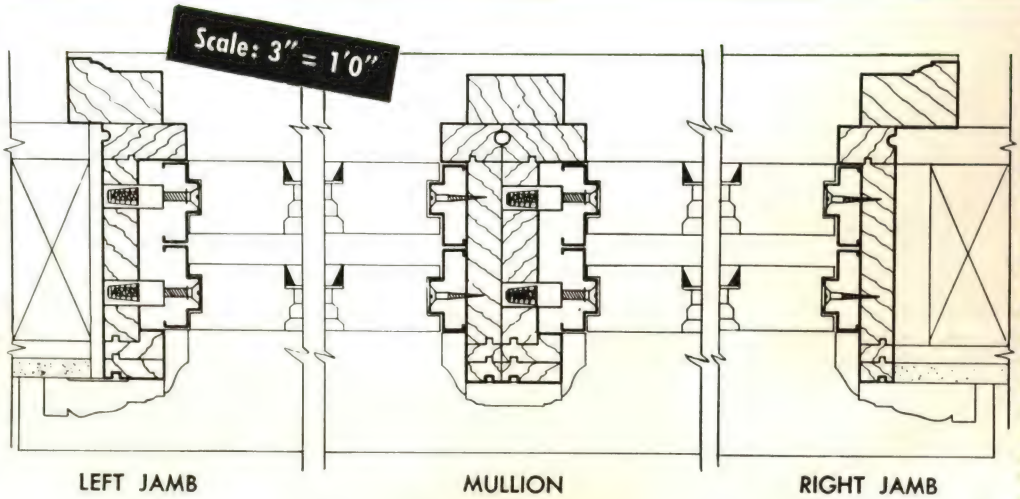
MALT-A-MATIC

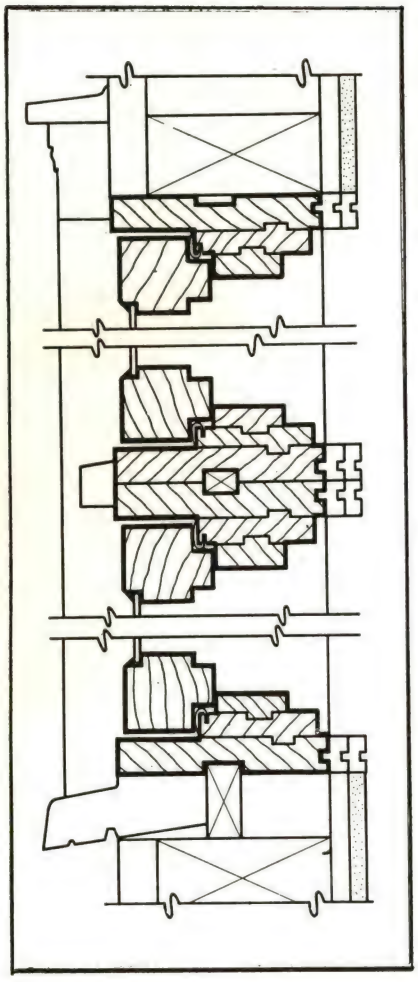
fully weatherstripped • removable sash • friction pressure balance for brick, frame, masonry construction

The MALT-A-MATIC is a complete window unit. It is fully weatherstripped and features removable sash. It has a foolproof spring screw assembly device that adjusts the pressure type weatherstrip either way to the requirements of the frame. No pulleys or balances are needed. The sash glides effortlessly; stops where wanted, adjustable tension in or out is provided for at all times. The aluminum sash guides, which are also the weatherstripping, hold the sash in place by even tension, and are self-adjusting in all types of weather. By depressing the side metal, the sash can be removed for cleaning or painting. The MALT-A-MATIC is toxic treated and water repellent, is fully modular, has 2" moulded casing and takes stock storm and screen sash as well as standard sash.







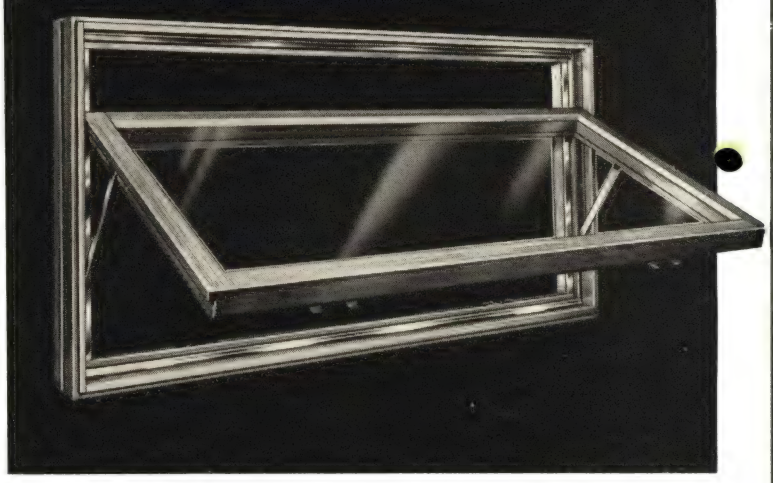


PUTTY-GLAZED FOR MAXIMUM LIFE

SASH IS FULL 2" THICKNESS

EXTRA STOP PERMITS DOUBLE-GLAZING WITH EASY, REMOVABLE MIRROR CLIPS

SELF-ALIGNING GROOVED SILL AND JAMB



SIZES and SPECIFICATIONS

No.	overall size	sash opening	glass
2814	2'4" x 1'2"	2'2½" x 1'½"	23½" x 9½"
3618	3'0" x 1'6"	2'10½" x 1'4½"	31½" x 13½"
3124	2'7½" x 2'½"	2'6" x 1'11"	27" x 20"
4422	3'8" x 1'10"	3'6½" x 1'8½"	39½" x 17½"

TRIM DIMENSIONS

Sill	1⅜" x 3½"
O. S. Transom Bar	¾" x 1"
O. S. Mullion Casing	¾" x 1"
O. S. Casing	1-5/16" x 2"
I. S. Liner	¾" x ⅜"
Spline	½" x ¾"

Malt-a-Vent

modern, multi-purpose wood window unit

Malt-a-Vent Wood Window Units combine into numerous exciting window arrangements . . . the possibilities are unlimited. Ideal for use as horizontal "swing-out" awning windows . . . casements . . . in groups of similar or contrasting types. Grooved sill ensures perfect alignment in stacks or groups. Fully weatherstripped with rustproof metal . . . putty-glazed . . . full 2" dimension sash . . . extra stop permits optional double-glazing . . . precision-milled from select western pine . . . wood parts chemically treated to repel moisture and resist rot and staining. Units are completely assembled, packed 2 to carton, ready to install. Frames plowed to receive spline — ensures perfect alignment when grouping. Furnished with fixed or operating sash.

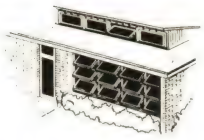
OPENING REQUIRED FOR MALT-A-VENT WINDOWS

Add ½" on widths and 1½" on heights to overall dimensions of single or grouped units to determine required opening. Furnished with standard 4½" jamb; no jamb liner supplied. Units are assembled into groups with corrugated nails.

MANY ATTRACTIVE COMBINATIONS POSSIBLE



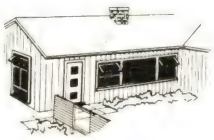
Use as ribbon or awning combinations.



Add light, beauty with awning "stacks."



Combine with gliders — top, bottom, sides.



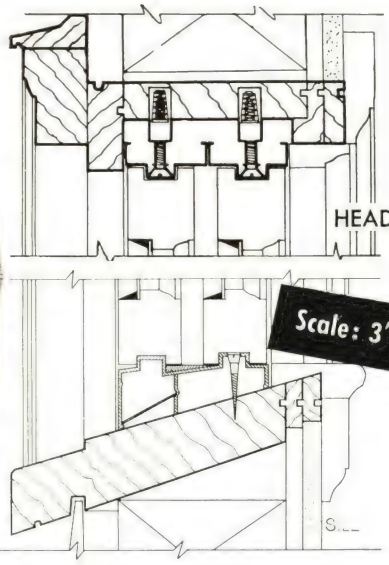
As ventilators next to picture windows.

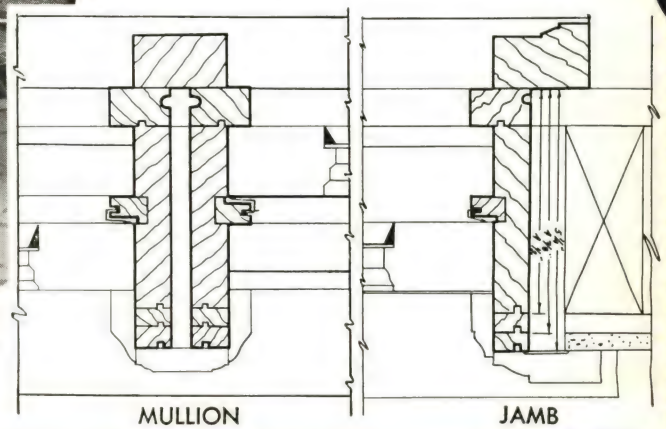
MALT-A-VENT BAR OPERATOR

New utility comes to the Malt-A-Vent with addition of this bar operator—allows easy opening and closing from inside without removing screen. Bar is hinged to fold flush with frame. Optional at slight additional cost.







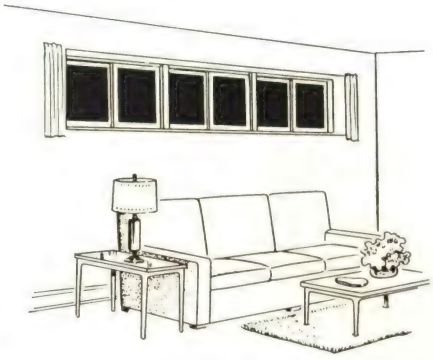


MALTA-Glide

fully weatherstripped removable sash for frame or masonry construction Ideal for Ribbon Windows . . . for Modern Walls



The newest unit in the MALTA line is the easy-operating MALT-A-GLIDE, a horizontal sliding wood window. This unit is fully weatherstripped and has a unique watertight seal on the sill that also eliminates drafts and heat loss. The unit takes stock sash. All wood parts toxic and water repellent treated. Like other Malta units, the MALT-A-GLIDE has the removable sash feature. Sash can be removed in seconds for cleaning or painting. Yet, this removable feature does not prevent the window from being accurately fitted to prevent rattles, sticking. The MALT-A-GLIDE is ideal for kitchens, for ribbon window effects, picture window combinations for every room in the house. Also suited to enclosed porches, summer cabins.

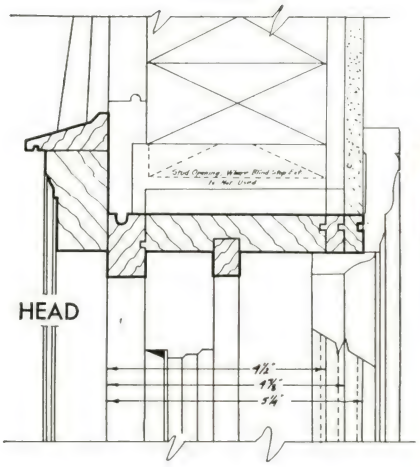


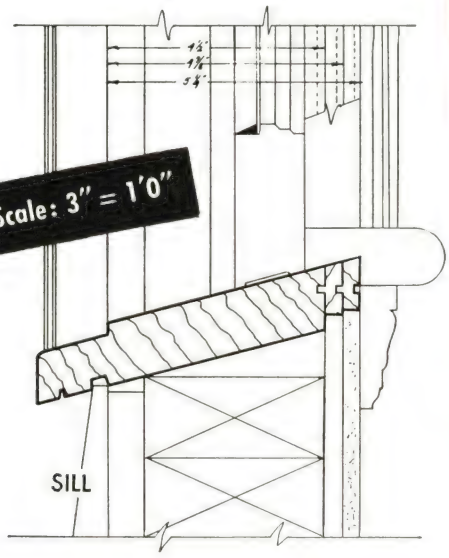
HOW TO DETERMINE OPENING SIZES FOR MALT-A-GLIDE

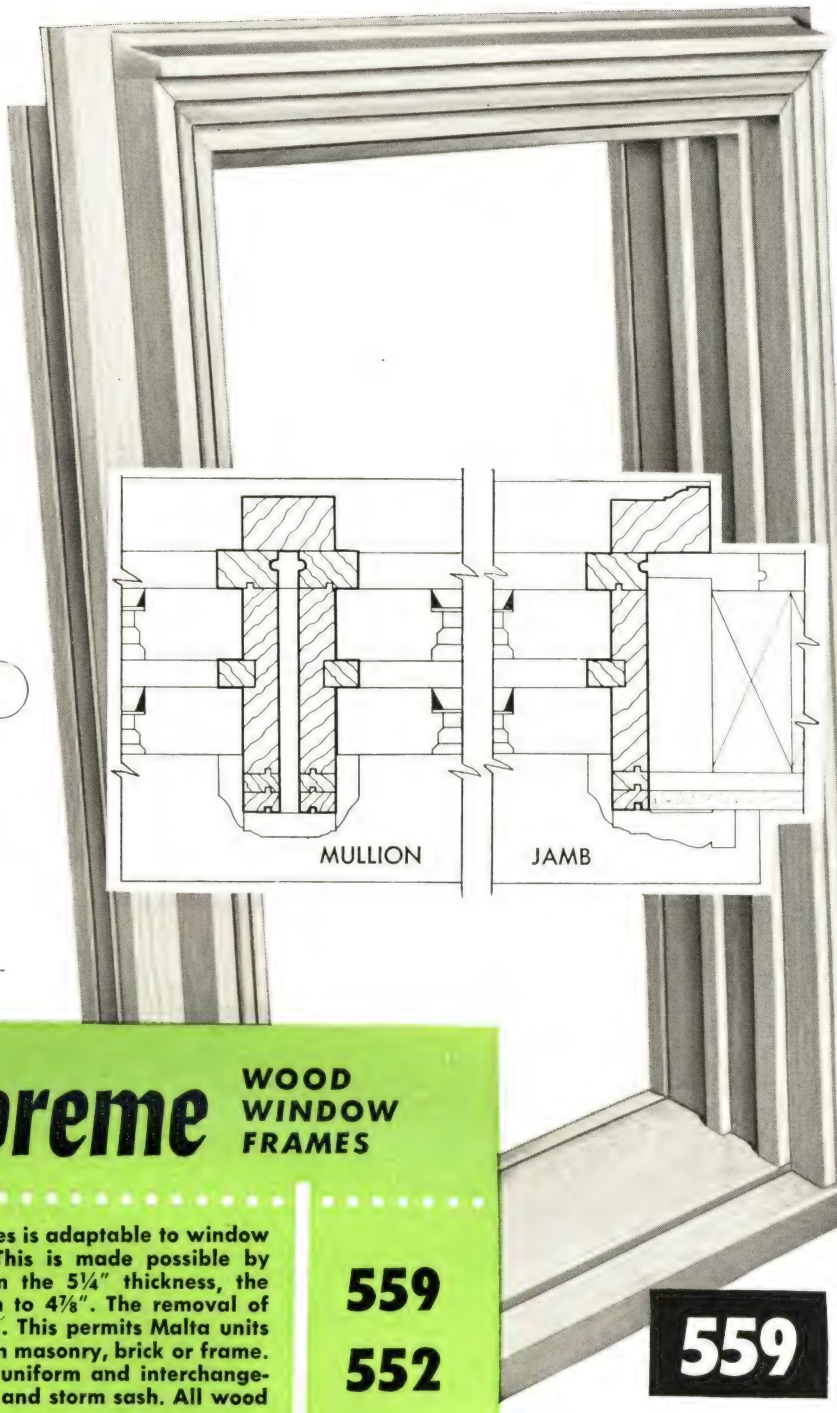
		OPENINGS		
	GLASS	SASH	STUD	MASONRY
WIDTHS	16"	3'-1"	3'-3½"	3'-5"
	20"	3'-9"	3'-11½"	4'-1"
	24"	4'-5"	4'-7½"	4'-9"
HEIGHTS	20"	2'-0"	2'-5"	2'-4¾"
	24"	2'-4"	2'-9"	2'-8¾"
	28"	2'-8"	3'-1"	3'-0¾"
	32"	3'-0"	3'-5"	3'-4¾"
	36"	3'-4"	3'-9"	3'-8¾"
	40"	3'-8"	4'-1"	4'-0¾"
	44"	4'-0"	4'-5"	4'-4¾"
TWIN WIDTHS	16"	3'-1"	6'-6½"	6'-8"
	20"	3'-9"	7'-10½"	8'-0"
	24"	4'-5"	9'-2½"	9'-4"

	SINGLES	TWINS
For Stud Opening	Add 7½" over glass on widths Add 9" over glass on heights	Add 14½" over combined glass size on widths
For Masonry Opng.	Add 9" over glass on widths Add 8¾" over glass on heights	Add 16" over combined glass size on widths

Neat opening 1" smaller for stud openings







MALTA Supreme WOOD WINDOW FRAMES

The Malta Supreme line of wood window frames is adaptable to window units that fit walls of varying thicknesses. This is made possible by removing the Jamb Liner one-at-a-time. From the 5¼" thickness, the removal of one liner reduces the Jamb width to 4⅞". The removal of the other liner reduces the Jamb width to 4½". This permits Malta units to be used in walls ranging from 4½" to 5¼", in masonry, brick or frame.

All basic frame parts and components are uniform and interchangeable. Units made from them take stock screen and storm sash. All wood parts may be toxic and water repellent treated.

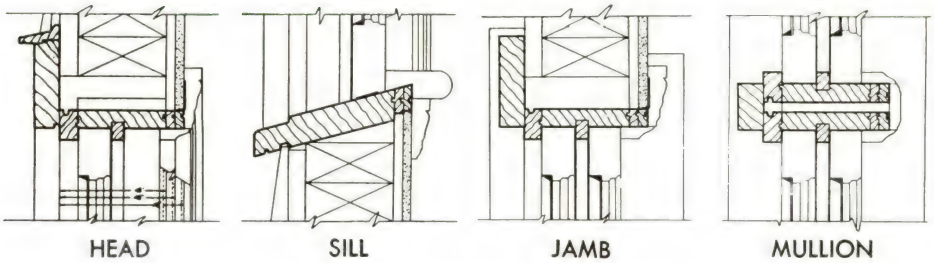
559

552



DETAILS OF 552 FRAME

(SCALE: 1½"=1'0")

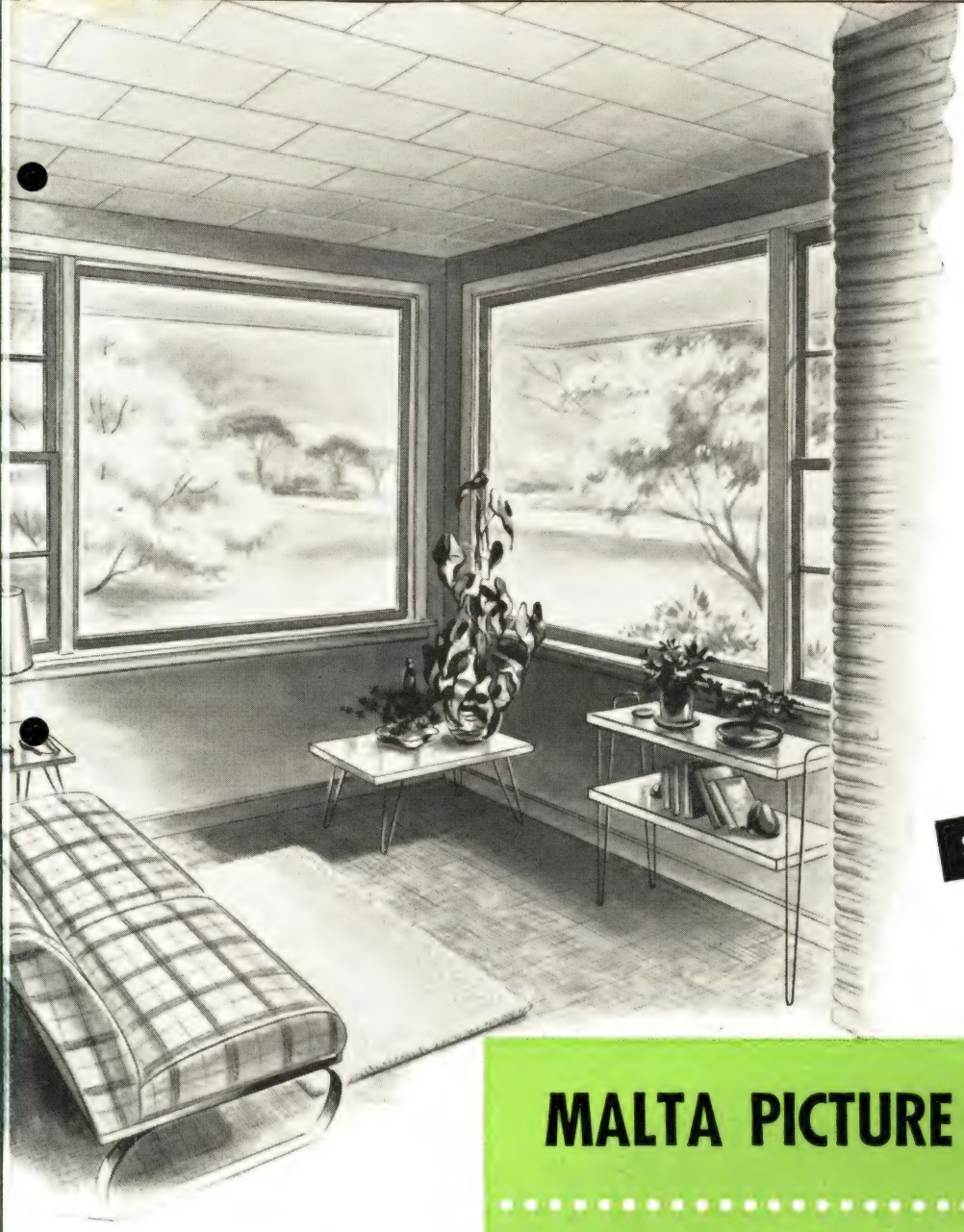


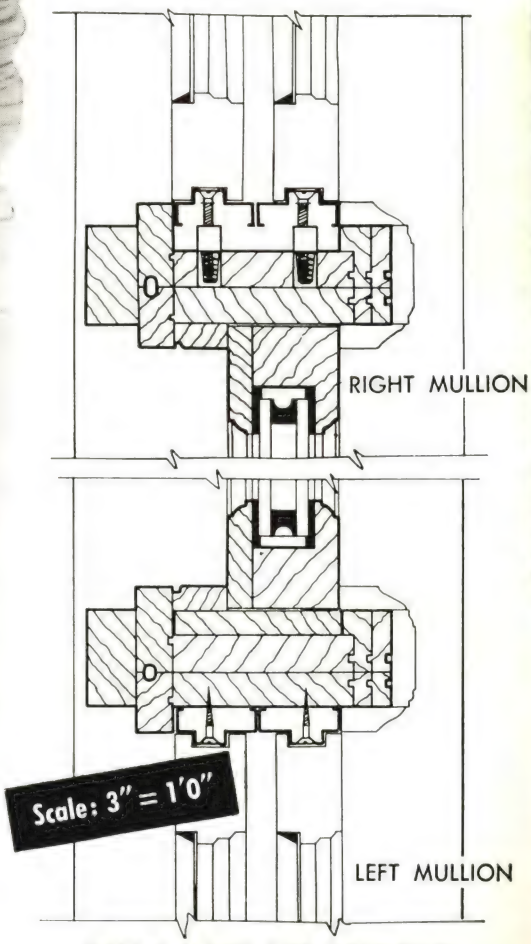
FOR OPENING SIZES SEE PAGE 2, STANDARD FRAMES

Here's how all MALTA Jamb Liners work



Easy-to-remove Malta Jamb Liners reduce the jamb width for variations in wall thicknesses. NOTE: for 5⅜" and wider wall thicknesses—thicker liners are available on special order.

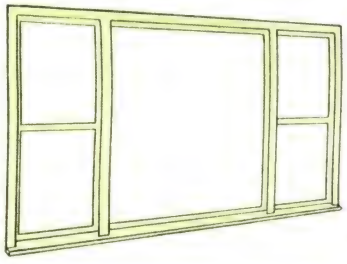


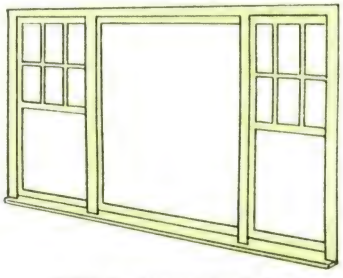


MALT-A-MATIC SIDE WINDOWS SHOWN IN DETAILS ABOVE.

MALTA PICTURE WINDOWS

Malta makes picture window frames for brick, frame or masonry homes. They feature the same careful design and skillful milling associated with Malta double hung window frames. These frames may be glazed with either insulated or plate glass. They can be furnished with removable side sash in the MALT-A-MATIC pressure balanced style. The side windows are fully weatherstripped and can use conventionally balanced sash, invisible balances, or be of the friction pressure type. Frames are toxic treated for longer life, greater water repellency and better painting base.





No.	Sash Opng. Size Side Windows	2 Lt. Glass Opng. Size, Side Windows	Stud Opening	Masonry Opening	Center Sash Opng. at Parting Stop	Insulated Glass Size	Plate Glass Size
1224-A	1'4" x 4'6"	12 x 24	6'7" x 4'10"	6'8" x 4'10¼"	3'4" x 4'6"	36" x 50"	36½" x 50½"
1624-A	1'8" x 4'6"	16 x 24	7'3" x 4'10"	7'4" x 4'10¼"	3'4" x 4'6"	36" x 50"	36½" x 50½"
1224-B	1'4" x 4'6"	12 x 24	7'7" x 4'10"	7'8" x 4'10¼"	4'4" x 4'6"	48½" x 50"	49" x 50½"
1624-B	1'8" x 4'6"	16 x 24	8'3" x 4'10"	8'4" x 4'10¼"	4'4" x 4'6"	48½" x 50"	49" x 50½"
1624-C	1'8" x 4'6"	16 x 24	8'11" x 4'10"	9' x 4'10¼"	5' x 4'6"	56½" x 50"	57" x 50½"
2024-C	2' x 4'6"	20 x 24	9'7" x 4'10"	9'8" x 4'10¼"	5' x 4'6"	56½" x 50"	57" x 50½"
1624-D	1'8" x 4'6"	16 x 24	9'7" x 4'10"	9'8" x 4'10¼"	5'8" x 4'6"	64½" x 50"	65" x 50½"
2024-D	2' x 4'6"	20 x 24	10'3" x 4'10"	10'4" x 4'10¼"	5'8" x 4'6"	64½" x 50"	65" x 50½"

NOTE: Full ranges of heights available upon request. For height openings not shown above add 4" over sash opening size.

STYLE ADAPTATIONS

Malta picture windows can be arranged in a variety of combinations with one or both sides butting to Malta double hung windows. The double hung side window can be obtained in any of the styles shown in this catalog.

MALTA JOBBERS

GEORGIA
Atlanta — Addison-Rudesal, Inc. (ATwood 5752)
Atlanta — Harbor Plywood Corp. (LAmar 0215)

ILLINOIS
Chicago — Harbor Plywood Corp. (CAnal 6-0134)

INDIANA
Evansville — Indiana Wholesalers, Inc. (53531)
Goshen — Goshen Sash & Door Co. (17)

KENTUCKY
Louisville — Mutual Service Company (MAgnolia 2375)

MAINE
N. Berwick — D'Arcy Co. (N. Berwick 57)

MARYLAND
Hagerstown — Dixie Millwork Co. (4949)

MASSACHUSETTS
New Haven — Brockway-Smith-Haigh-Lovell Co. (22100)
Somerville — Pullman Brothers, Inc. (PRospect 6-1555)
Springfield — Springfield Millwork Co. (3-7823)

MICHIGAN
Detroit (Royal Oak) — Royal Oak Wholesale Co. (LI. 1-4400)
Saginaw — Royal Oak Wholesale Co. (5-4481)

NEW HAMPSHIRE
Dover — D'Arcy Co., Inc. (156)

NEW JERSEY
Gloucester City — J. R. Quigley Co. (EMerson 5-4244)

NEW YORK
Buffalo — Rock Island Wholesale Co. (HUmbolt 7118)
Garden City, L. I. — Mercury Millwork Corp. (GR 5-1081)
Newburgh — Cameron Lumber Co. (2400)
Syracuse — Wood Glass Co. (73-5225)
Utica — Gibson Door Co. (42109)

NORTH CAROLINA
Charlotte — Dealers Supply Co. (EDison 4-4357)
Durham — Barger Millwork Co. (2-5176)
Durham — Cary Lumber Co. (22161)
Raleigh — Central Sash & Door Co. (37561)
Statesville — Barger Millwork Co. (4316)

OHIO
Akron — Akron Sash & Door Co. (FRanklin 6-3193)
Athens — Athens Flooring Co. (31514)
Canton — Interstate Sash & Door Co. (59441)
Cincinnati — Cincinnati Sash & Door Co. (JEfferson 1910)
Cleveland — Great Lakes Sash & Door Co. (ENdicott 1-0644)
Columbus — Teachout Sash Door & Glass Co. (CA 4-2161)

PENNSYLVANIA
Cressona — J. R. Quigley Co. (Schuylkill Haven 244 & 245)
Erie — Lyman Felheim Co. (45264)
Harrisburg — J. R. Quigley Co. (88102)
Lancaster — J. R. Quigley Co. (Lancaster 6158)
Pittsburgh — Arrow Sash Doors & Plywood, Inc. (FE. 1-2628)
Philadelphia — J. R. Quigley Co. (GArfield 6-4444)
Scranton — N. B. Epstein Co. (DIamond 27789)

RHODE ISLAND
Providence — Thompson Millwork, Inc. (STuart 1-2450)

SOUTH CAROLINA
Greenville — Dealers Supply Co. (27381)

TENNESSEE
Johnson City — Dealers Supply Co. (2840)
Kingsport — Barger Millwork Co. (CIrcle 6-4651)
Nashville — Nashville Sash & Door Co. (63171)
Roan Mountain — C. R. Graybeal & Sons (2201 & 2301)

VIRGINIA
Norfolk — Addington-Beaman Lumber Co. (81318)
Richmond — Sash Door & Glass Co. (82-2327)

WASHINGTON D.C.
Kern Distributing Co. (HObart 2-8300)

WEST VIRGINIA
Dunbar — Athens Flooring Co. (Poplar 8-3742)
Wheeling — W. A. Wilson & Sons, Inc. (4650)

PRINTED IN U.S.A.

there's beauty, economy in

Malta

WOOD WINDOWS

MALTA wood windows emphasize the architectural style of a building. They are available in a wide variety of styles and sizes that blend with all types of architecture.

All MALTA window units and frames are manufactured to CS-163-49 established by the National Woodwork Manufacturers Association. This means they are constructed of only the highest quality Ponderosa Pine, free from defects and dried to a moisture content of 8% to 10%—All parts are precision milled to closest tolerances for accurate fit, and all wood parts are preservative-treated at the factory in accordance with the "Water Repellent Preservative Standard of the N.W.M.A. and all bear the N.W.M.A. Seal of Approval."

Installation of MALTA wood windows is easy and rapid. All parts are precision milled to prevent sticking, binding of sash, and to reduce heat loss and keep out drafts. MALTA units arrive on the job complete with sash and weatherstripping, ready to install. Because they have removable sash, there are no weights to hang, no sash cord to install. They can be fitted with stock storm and screen sash. MALTA wood window units and frames save the builder a lot of time, save the home buyer a lot of money. They help sell every house.

Supreme Quality since 1901

The MALTA Manufacturing Company
MALTA, OHIO

MEMBER: PONDEROSA PINE WOODWORK ASSOCIATION
NATIONAL WOODWORK MANUFACTURERS ASSOCIATION

5c
R

R·O·W®

wood WINDOW units



REMOVABLE R·O·W® WOOD WINDOWS

SPRING CUSHION DOUBLE HUNG — 2-3



HIGH-LITE GLIDING R·O·W® REMOVABLE WINDOWS

HIGH-LITE GLIDING — 4-5

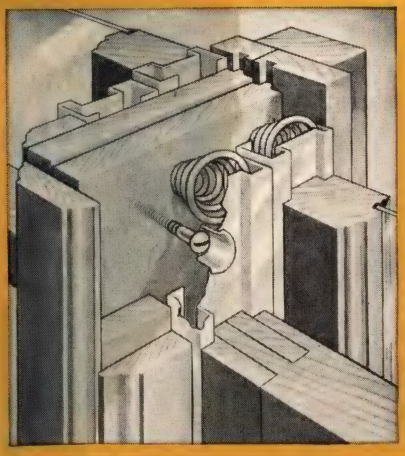


SURE-LOK AWNING R·O·W® WOOD WINDOWS

SURE-LOK AWNING — 6-7

R·O·W SALES CO., FERNDALE, MICH.

R·O·W Removable SPRING CUSHION Double-Hung Windows



The R·O·W Removable (Spring Cushion) Double-Hung Window is a complete, prefabricated, weatherstripped unit of standard design. It reaches the job site ready for installation in construction of any type—frame, brick or stone veneer, or solid masonry.

Small corrosion-resistant steel springs on the floating jamb side maintain constant weather-snug compression yet permit smooth easier operation with the assistance of the NEW LIFT-LOX BALANCE of coated coil springs within the stationary metals. Air leaking sash clearance is eliminated and additional room for overhead balances on extra large units is eliminated.

OPERATION



1 **PRESS AND REMOVE** Move lower sash up, upper sash down, as shown. Push each window to left. Right edge swings out.



2 **WASH OR PAINT** Window is cleaned comfortably, indoors. Painting is easy, too.



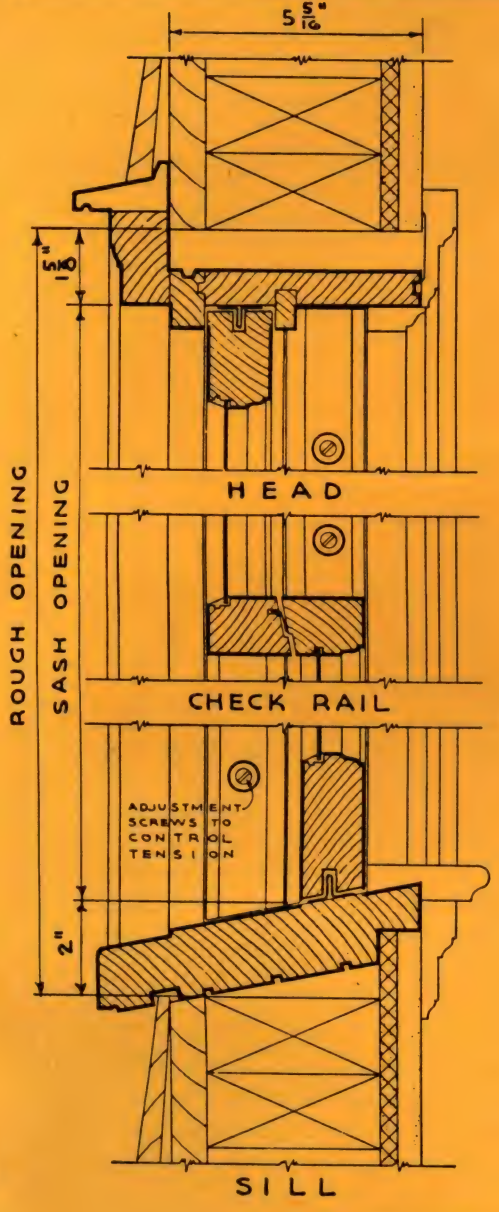
3 **REPLACE** Reverse procedures listed above as step No. 1. Replace sash above Lift-Lox balance shelf and lower.

ADVANTAGES

- **smooth operation** R·O·W Windows operate easily. The corrosion-resistant steel springs hold the window firmly in any chosen position.
- **weather tightness** The weatherstripping features of the jamb guide design are complemented by weatherstripping at sill, head, and meeting rails. The result is maximum weathertightness.
- **easy to clean or paint** The simple removal of R·O·W Windows allows easy cleaning or painting indoors. Painter and window washer never have to climb ladders or perch on the window ledge.
- **for all construction types** R·O·W Windows can be used on all types of home construction—frame, brick or stone veneer, or solid masonry. Standard screens, storm sash, and hardware can be applied in the conventional manner.
- **simple installation** R·O·W Windows can be shipped built-up, ready to insert in the rough opening. For easier and safer handling, the sash may be removed and stored away from the frame.
- **wide acceptance** R·O·W Windows have won the approval of discriminating architects, builders, and home owners everywhere for unswerving quality, dependability, and lasting, trouble-free service.

© 1954, R·O·W Sales Co., Ferndale, Michigan

typical details and construction data



R·O·W WINDOWS are manufactured by 41 authorized distributors throughout the United States. Each has been selected because of the high quality of its workmanship and its ability to make prompt deliveries.

In some cases there may be minor variations from the drawings shown on this page. These drawings do, however, illustrate typical construction details of R·O·W Windows. For further information about installation of R·O·W Window Units, see your nearest lumber dealer, or call the R·O·W manufacturer in your vicinity. A list of these distributors appears on the back cover of this catalog.

types and sizes R·O·W Windows are furnished in a complete range of window types and modular sizes to blend with any architectural style. Available muntin combinations include 2 light, 4 light modern, vertical light over 1 light, and top and bottom divided lights.

ROUGH OPENINGS— FRAME CONSTRUCTION

Add the following to 2-light glass dimensions:

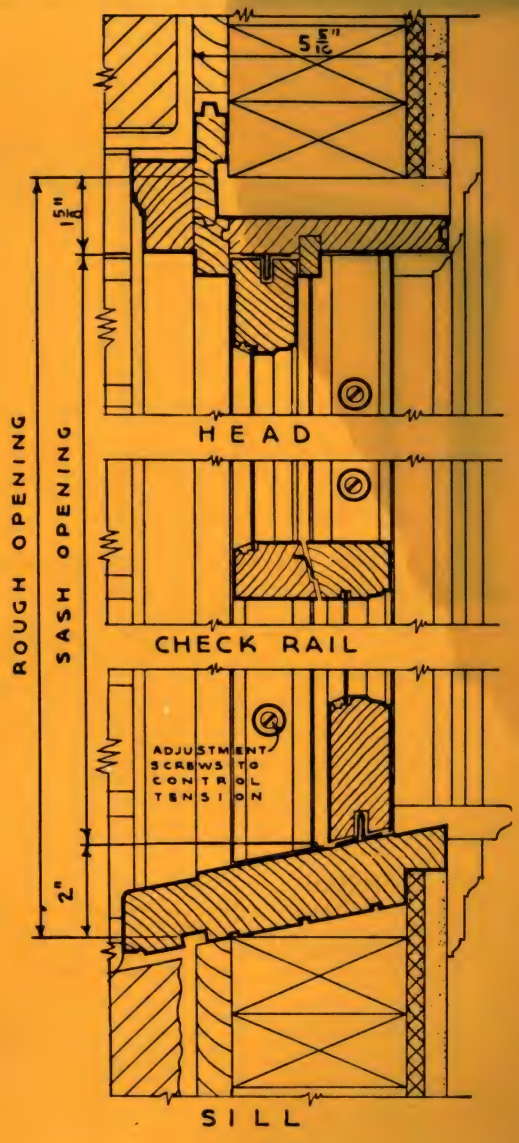
Universal Window Openings	Width	Height
Single	add..... 7"	.....10"
Mullion	....add.....13"	.....10"
Triple	.....add.....19"	.....10"

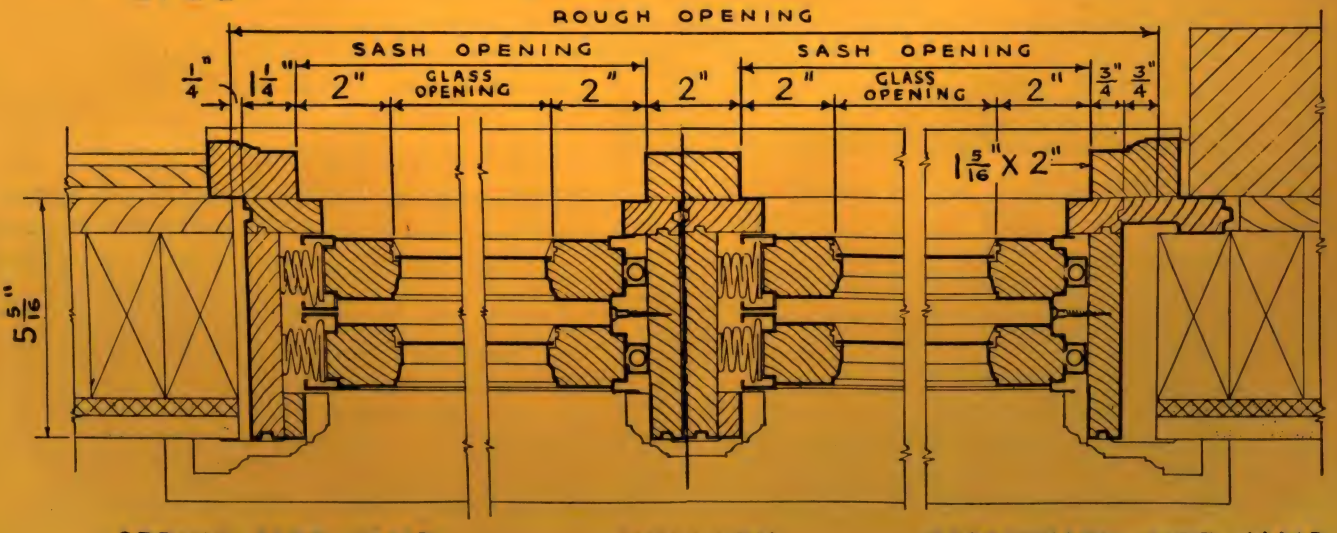
Rough openings of mullion windows are based on 2" mullions.

Lift-Lox Balance

New Lift-Lox coil spring balance available for stationary metals.

Scale — 3" = 1'0"





R·O·W HIGH-LITE Gliding Windows

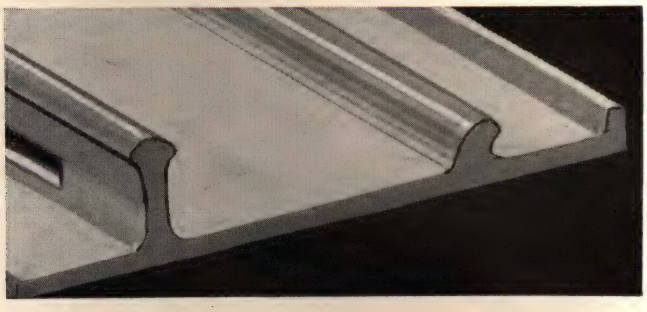


R·O·W HIGH-LITE GLIDING WINDOWS incorporate the spring cushion removable principle which has been so very successful in R·O·W Double Hung Windows. Small corrosion-resisting steel springs between the frame header and R·O·W head sash guides force the sash down on the aluminum sill guides holding the sash firmly and snugly in any position and allowing easy movement. The vertical meeting rail design, complemented by weatherstripping assures complete weathertightness when windows are closed.

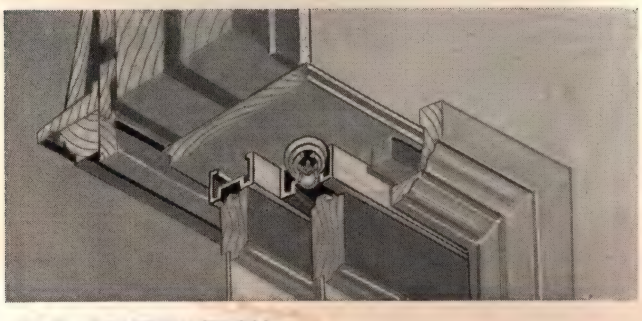
OPERATION

1. **PRESS UPWARD AND REMOVE** Press inner sash upward against R·O·W Spring Cushioned Sash Guides. Bottom rail swings in for easy removal. Outer sash is removed in same simple fashion.
2. **WASH OR PAINT** Both sides of each window are readily cleaned indoors. Wood may be cleaned or painted with equal ease.
3. **REPLACE** Reverse the removal steps to replace. Make certain the outer sash is replaced first.

FEATURES



METAL SILL



HEAD CONSTRUCTION

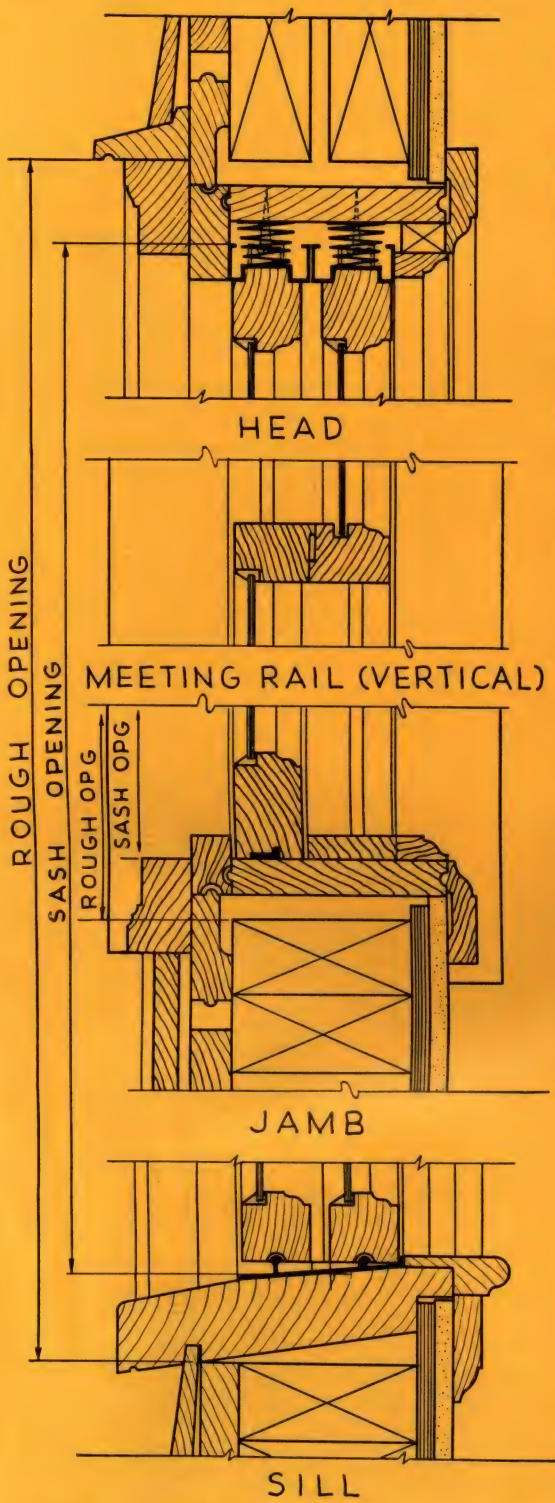
- **spring cushion design** Long-lived, corrosion-resistant springs between top sash guides and frame assure lasting, weathertight fit at head and sill. The sash moves freely, yet is held firmly in any position.
- **meeting rails** Meeting rails are specially designed for perfect mating and weathertight fit. Integral weatherstripping is used to complement this design.
- **metal sills** The windows glide on extruded aluminum sill strips which keep each sash in its own plane. The lower rails are grooved to fit the sill guides.
- **save wall space** R·O·W HIGH-LITE Windows save valuable wall space and provide ventilation control by adjustment of either sash or removal of both.
- **privacy** High placement of windows in bedrooms, baths and kitchens follows the contemporary trend toward functional homes.

typical details and construction data

In some instances there may be slight variations in R·O·W windows manufactured by the 41 outstanding companies licensed to produce them. The drawings, however, show typical construction details. Contact the R·O·W Manufacturer nearest you listed on the back cover of this catalog for exact details.

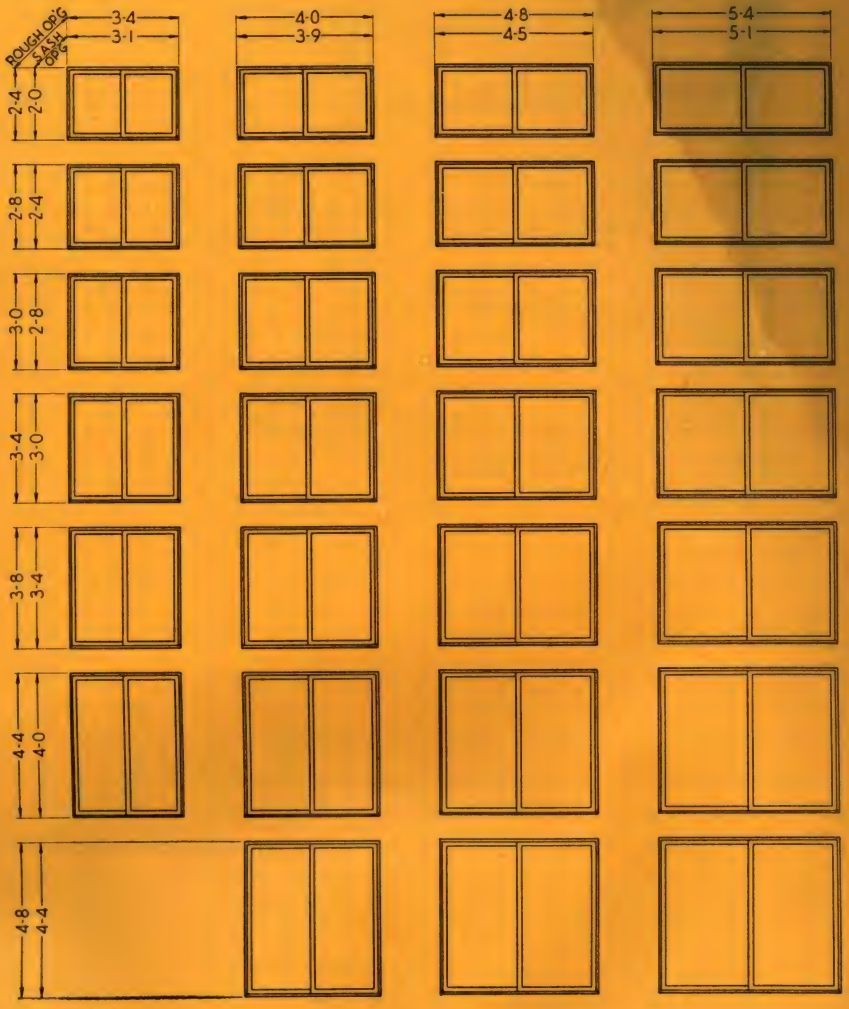
Types and Sizes—R·O·W HIGH-LITE Gliding Window heights and sizes are shown in the drawings. Two or more units can be combined for multiple unit installations where desired.

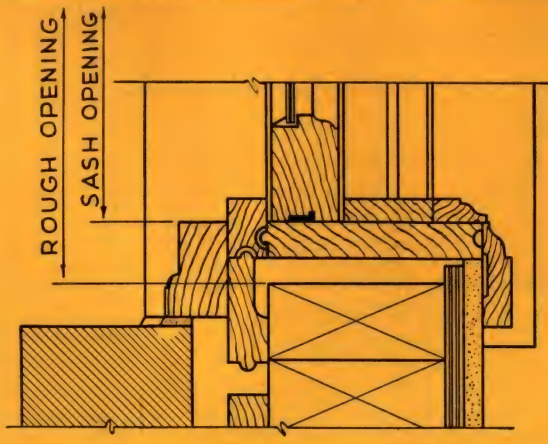
Scale — 3" = 1'0"



FRAME WALL CONSTRUCTION

Sizes

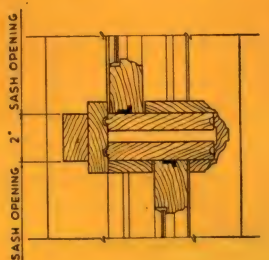




BRICK VENEER WALL CONSTRUCTION

MULLION

Scale — 1½" = 1'0"



R·O·W SURE-LOK Awning Windows



R·O·W SURE-LOK Awning Type Windows are designed for easy operation and snug, positive closing. The sash operate on vertical operating bars, with an automatic locking device, entirely concealed, which assures complete closing without excessive pressure. Normal, effortless turning of the operator handle does the whole job.

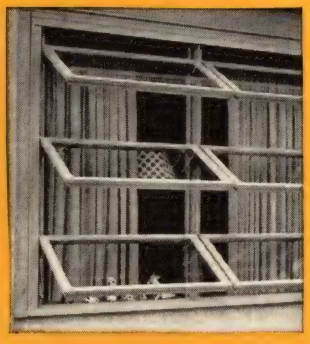
FEATURES

- **tight closing** R·O·W SURE-LOK Awning Type Windows close tightly without excessive pressure. Normal, effortless turning of the operating handle brings every sash down firmly against the frame.
- **automatic locking** When sash are closed, they are locked in that position by R·O·W's automatic locking device. Lugs on the operating bars engage hooks on the sash, and each sash is tightly locked at each of its four corners.
- **weather tightness** Pressure of the sash in the closed position against refrigerator-type, neoprene weatherstripping effects a snug and positive weathertight seal. There is no clearance or crack through which air, snow or rain can find its way.
- **smooth, easy operation** Operation is smooth, sure and easy—so easy that a small child can open the window wide or close it tightly.
- **appearance** R·O·W Awning Type Windows are attractively designed. They blend perfectly with contemporary architecture.

OPERATION

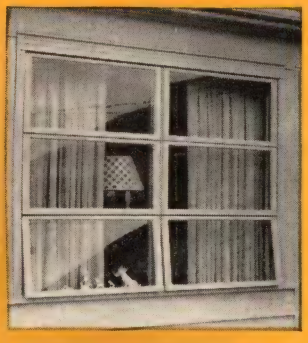
1

While sash close toward the frame, operating bars move up. Movement of the two bars (one on each side of the window) is always uniform and positive.



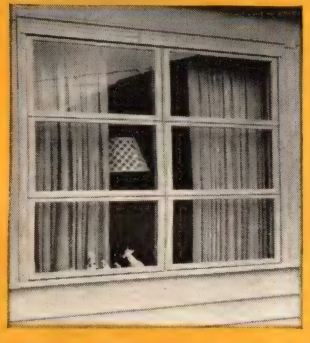
2

As the bars move up, lugs on the bars engage hooks on the sash. The wedging action thus developed pulls the sash in snugly against the frame.



3

The sash are drawn in snug, and pressure against the neoprene weatherstripping effects a complete, weathertight seal. Automatic locking begins at this point.



4

In the final locked stage of R·O·W operation, hooks have moved in. The hand lever, (lower left hand corner) provides positive locking of the entire unit.



typical details and construction data

R·O·W Sure-Lok Awning Type Windows, like R·O·W Removable Double-Hung and R·O·W HIGH-LITE Gliding Windows, are manufactured by authorized distributors throughout the United States. Each manufacturer has been carefully selected for its soundness, the high quality of its workmanship, and its ability to make prompt delivery on every order.

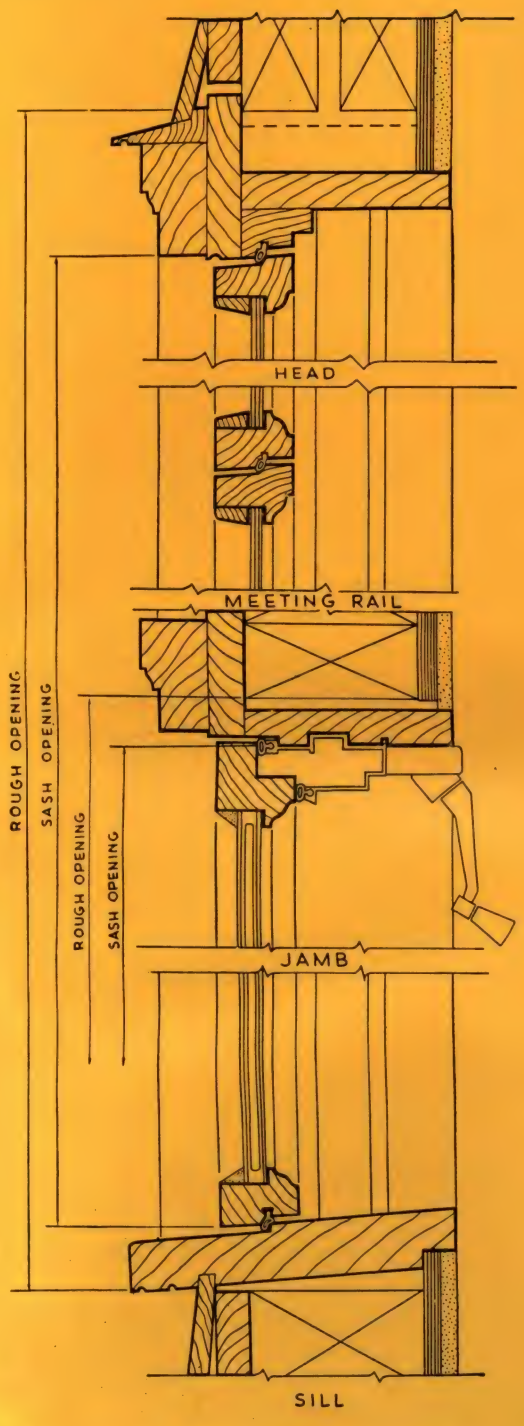
There may be slight variations in R·O·W Awning Type Windows made by individual manufacturers. The drawings on this page, however, show typical construction details of all R·O·W Awning Type Windows.

multiple units—To determine the width of rough opening required for multiple units, multiply nominal sash widths and add 2 inches.

picture window units—Picture window units with two operating sash can be supplied in any desired width for glazing with ¼ inch plate or insulated plate panels. Rough opening width will be the sum of picture window width and nominal width of both operating sash, plus 2 inches.

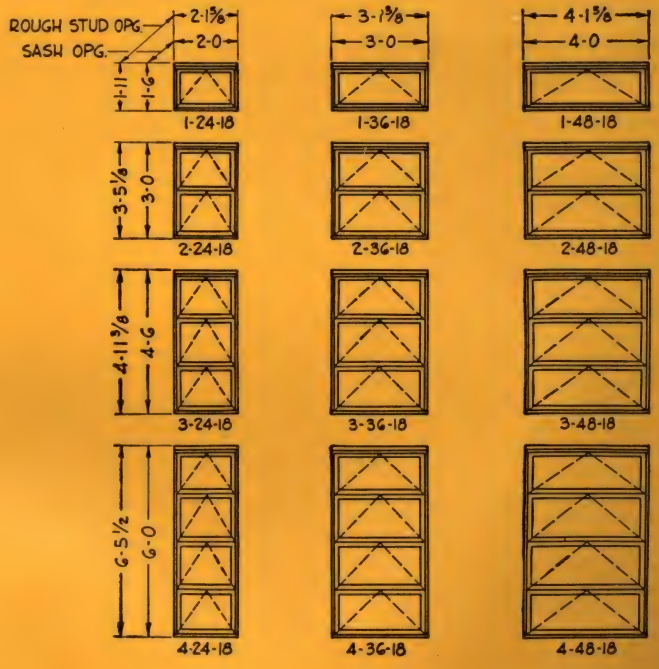
fixed sidelights—R·O·W Awning Type Windows can also be furnished with 18 inch fixed sidelight sash on each side of operating sash. Muntins in sidelights align with sash muntins. To determine rough opening width, add nominal width of all sash plus 2 inches.

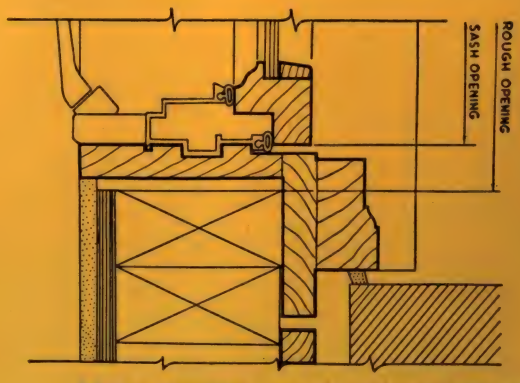
Scale — 3" = 1'0"



FRAME WALL CONSTRUCTION

Sizes

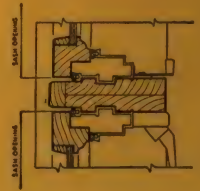




BRICK VENEER WALL CONSTRUCTION

MULLION

Scale — 1½" = 1'0"



Short Form Specifications for R·O·W WINDOWS

Spring-Cushion Double-Hung

All windows shall be Removable, Spring Cushion, Double-Hung Windows of (Ponderosa Pine, Douglas Fir, or other specified wood), as manufactured and sold under agreement with R·O·W Sales Co., Ferndale, Michigan, in accordance with sizes and dimensions shown on drawings and/or schedules.

All windows shall be assembled in a workmanlike manner to assure weathertight construction and sure, normal operation. Windows shall be constructed with integral weatherstripping. Sash shall be removable and replaceable from inside without tools. Windows shall be capable of instant adjustment to any position.

Gliding

All windows shall be horizontal gliding windows of (Ponderosa Pine, Douglas Fir, or other specified wood), of sizes and dimensions shown on drawings and/or schedules, as manufactured and sold under agreement with R·O·W Sales Co., Ferndale, Michigan.

All windows shall be assembled in a workmanlike manner to assure weathertight construction and sure, normal operation. Windows shall be constructed with integral weatherstripping, and meeting rails shall be designed for positive, weathertight closing. Sash shall be easily removable from inside without tools, shall be capable of instant adjustment to any position, and shall hold any selected position firmly without chatter or endplay.

Awning Type

All windows shall be awning type windows of (Ponderosa Pine, Douglas Fir, or other specified wood), of sizes and dimensions shown on drawings and/or schedules, as manufactured and sold under agreement with R·O·W Sales Co., Ferndale, Michigan.

All windows shall be assembled in a workmanlike manner to assure weathertight construction and sure, normal operation. Sash shall open to a minimum angle of 70° from the vertical, shall be adjustable to any intermediate position, shall be positively and automatically locked at all corners when fully closed, and shall be provided with integral weatherstripping to effect a weathertight fit in the closed position.

Authorized Distributors

ALABAMA
R·O·W DISTRIBUTORS
Rocky Mount, Virginia

ARKANSAS
CENTRAL R·O·W DISTRIBUTORS OF ARKANSAS
North Little Rock, Arkansas

CALIFORNIA
CALIFORNIA BUILDERS SUPPLY, INC.
Richmond, Fresno, Sacramento
T. M. COBB CO.
Los Angeles, San Diego

COLORADO
LUMBER DEALERS, INC.
Denver, Colorado

CONNECTICUT
GENERAL WOODCRAFT CO., INC.
North Bergen, New Jersey

DELAWARE & DISTRICT OF COLUMBIA
DEALERS WAREHOUSE SUPPLY CO., INC.
Baltimore, Maryland and Arlington, Virginia

FLORIDA
V. E. ANDERSON MFG. CO., INC.
Bradenton, Fla.

GEORGIA
R·O·W DISTRIBUTORS
Rocky Mount, Virginia

IDAHO
BOISE SASH & DOOR, INC.
Boise, Idaho
JOHNSON BROS. PLANING MILL CO.
Idaho Falls, Idaho

ILLINOIS
V. E. ANDERSON MFG. CO., INC.
Owensboro, Kentucky
IMSE-SCHILLING SASH & DOOR CO.
St. Louis, Missouri
R·O·W WINDOW CO.
Joliet, Illinois

INDIANA
V. E. ANDERSON MFG. CO., INC.
Owensboro, Kentucky
R·O·W WHOLESALE DISTRIBUTORS, INC.
Norwood, Ohio
R·O·W WINDOW CO.
Joliet, Illinois

IOWA
ANDREW A. KINDEM & SONS, INC.
Minneapolis, Minnesota
WISCONSIN WINDOW UNIT CO.
Merrill, Wisconsin

KANSAS
MARTIN MATERIAL CO.
Kansas City, Missouri

KENTUCKY
V. E. ANDERSON MFG. CO., INC.
Owensboro, Kentucky
R·O·W WHOLESALE DISTRIBUTOR, INC.
Norwood, Ohio

MAINE
GENERAL WOODCRAFT CO., INC.
North Bergen, New Jersey

MARYLAND
DEALERS WAREHOUSE SUPPLY CO., INC.
Baltimore, Maryland

MASSACHUSETTS
GENERAL WOODCRAFT CO., INC.
North Bergen, New Jersey

MICHIGAN
FLINT SASH & DOOR CO., INC.
Flint, Saginaw, Michigan
PORTER-HADLEY CO.
Grand Rapids, Michigan
ROYAL OAK WHOLESALE CO.
Royal Oak, Michigan

MINNESOTA
ANDREW A. KINDEM & SONS, INC.
Minneapolis, Minnesota

MISSOURI
IMSE-SCHILLING SASH & DOOR CO.
St. Louis, Missouri
MARTIN MATERIAL CO.
Kansas City, Missouri

MONTANA
FALLS WINDOW & CABINET SHOP
Great Falls, Montana
INTERSTATE LUMBER CO.
Missoula, Montana
WESTERN BUILDERS
Billings, Montana

NEBRASKA
THE SOTHMAN CO.
Grand Island, Nebraska

NEW HAMPSHIRE
GENERAL WOODCRAFT CO., INC.
North Bergen, New Jersey

NEW JERSEY
GENERAL WOODCRAFT CO., INC.
North Bergen, New Jersey
JOHNSON & WIMSATT, INC.
Westville, New Jersey

NEW YORK
GENERAL WOODCRAFT CO., INC.
North Bergen, New Jersey
A. ROBERSON & SON, INC.
Binghamton, New York
THE WHITMER-JACKSON CO., INC.
Buffalo, Rochester, New York

NORTH CAROLINA
DALTON-BUNDY LUMBER CO., INC.
Norfolk, Virginia
MILLER MILLWORK CORP.
Charlotte, North Carolina
R·O·W DISTRIBUTORS
Rocky Mount, Virginia

NORTH DAKOTA
JACK R. KINNARD & CO.
Minot, North Dakota

OHIO
FABROW MFG., INC.
Toledo, Ohio
THE MAHONEY SASH & DOOR CO.
Canton, Youngstown, Ohio
R·O·W WHOLESALE DISTRIBUTORS, INC.
Norwood, Ohio

OKLAHOMA
LUMBERMEN'S SUPPLY CO.
Oklahoma City, Oklahoma

OREGON
ACME MILLWORK, INC.
Kirkland, Washington
SPOKANE SASH & DOOR CO.
Spokane, Washington

PENNSYLVANIA
ADELMAN LUMBER CO.
Pittsburgh, Pennsylvania
JOHNSON & WIMSATT, INC.
Westville, New Jersey
A. ROBERSON & SON, INC.
Binghamton, New York

RHODE ISLAND
GENERAL WOODCRAFT CO., INC.
North Bergen, New Jersey

SOUTH CAROLINA
R·O·W DISTRIBUTORS
Rocky Mount, Virginia

SOUTH DAKOTA
WATERTOWN SASH & DOOR CO.
Watertown, South Dakota

TENNESSEE
V. E. ANDERSON MFG. CO., INC.
Owensboro, Kentucky
R·O·W DISTRIBUTORS
Rocky Mount, Virginia

TEXAS
CHUPIK WOOD MFG. CO., INC.
Temple, Texas
KRITZER SUPPLY CO.
Amarillo, Texas
LUMBERMEN'S SASH & DOOR CO.
Dallas, Texas
SOUTHWEST SASH & DOOR CO.
Houston, Texas
H. E. WOODRUFF CO.
Corpus Christi, Texas

UTAH
R. W. FRANK & CO.
Salt Lake City, Utah

VERMONT
GENERAL WOODCRAFT CO., INC.
North Bergen, New Jersey

VIRGINIA
DALTON-BUNDY LUMBER CO., INC.
Norfolk, Virginia
R·O·W DISTRIBUTORS
Rocky Mount, Virginia

WASHINGTON
ACME MILLWORK, INC.
Kirkland, Washington
SPOKANE SASH & DOOR CO.
Spokane, Washington

WEST VIRGINIA
R·O·W DISTRIBUTORS
Rocky Mount, Virginia

WISCONSIN
WISCONSIN WINDOW UNIT CO.
Merrill, Wisconsin

WYOMING
FOWLER & PETH
Cheyenne, Wyoming

CANADA
CALGARY SASH & DOOR CO.
Calgary, Alberta, Canada
CRANBROOK SASH & DOOR CO.
Cranbrook, B. C., Canada
HAYWARD BUILDING SUPPLIES, LTD.
Edmonton, Alberta, Canada
MT. PLEASANT SASH & DOOR CO.
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Stellarton, Nova Scotia
CUSHING MILLS, LTD.
Calgary, Alberta, Canada

MANUFACTURED AND SOLD UNDER AGREEMENT WITH R·O·W SALES CO., FERNDALE, MICHIGAN

R·O·W is the Registered Trade Mark of the R·O·W Sales Co., Ferndale, Michigan.

REYNOLDS

reversible, double hung

WINDOWS

5c
Re



- **reversibility**
- **weatherstripped**
- **packaged**
- **inside cleaning**
- **easy operation**
- **controlled ventilation**

Reynolds Windows Inc.

Taylor Highlands — Huntingdon, Penna.

Reynolds

reversible, double hung

Windows

Reynolds double hung windows with the top quality patented reversible feature offer 100% versatility and usefulness and are easily installed in any wall or frame opening in both new and old homes.

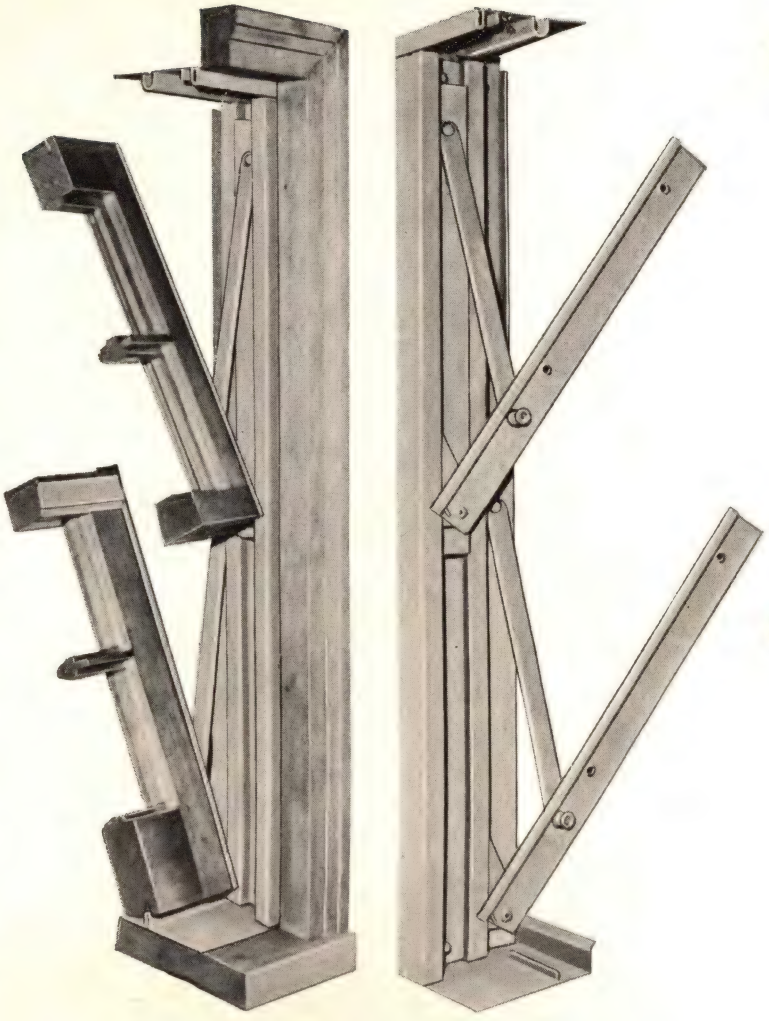
The basic construction of the Reynolds double hung window consists of reversible wooden sash of full 1⅜" thick white pine mounted in extruded (63ST5) 1/16" aluminum alloy frames. Aluminum channels attached to the vertical edges of the sash greatly increase their strength and long life.

All movable parts are of aluminum and stainless steel. All sash are rot-proofed, termite-proofed and weather-proofed with a colorless solution, which acts as a primer, thus saving one coat of paint.

Windows leave the factory assembled in one compact unit, adjusted properly and ready to install and operate.

operation

Windows can move vertically inside jamb track similar to conventional double hung windows and can also be rotated 180°. Counterbalances are not needed, since windows maintain their position by friction.



construction section **operating mechanism**

outstanding features

controlled ventilation — accomplished by angularly adjusting the upper and lower sash or both at the same time to any desired opening.

reversibility — to full 180° with either sash at any height above sill. No interference with storm sash or screens.

weatherstripping — is of aluminum and stainless steel.

easily cleaned — since both sash completely reverse inside out and slide up and down while reversed.

ease of operation — due to the accuracy with which all parts are made and assembled. Can be opened, closed and reversed with minimum effort.

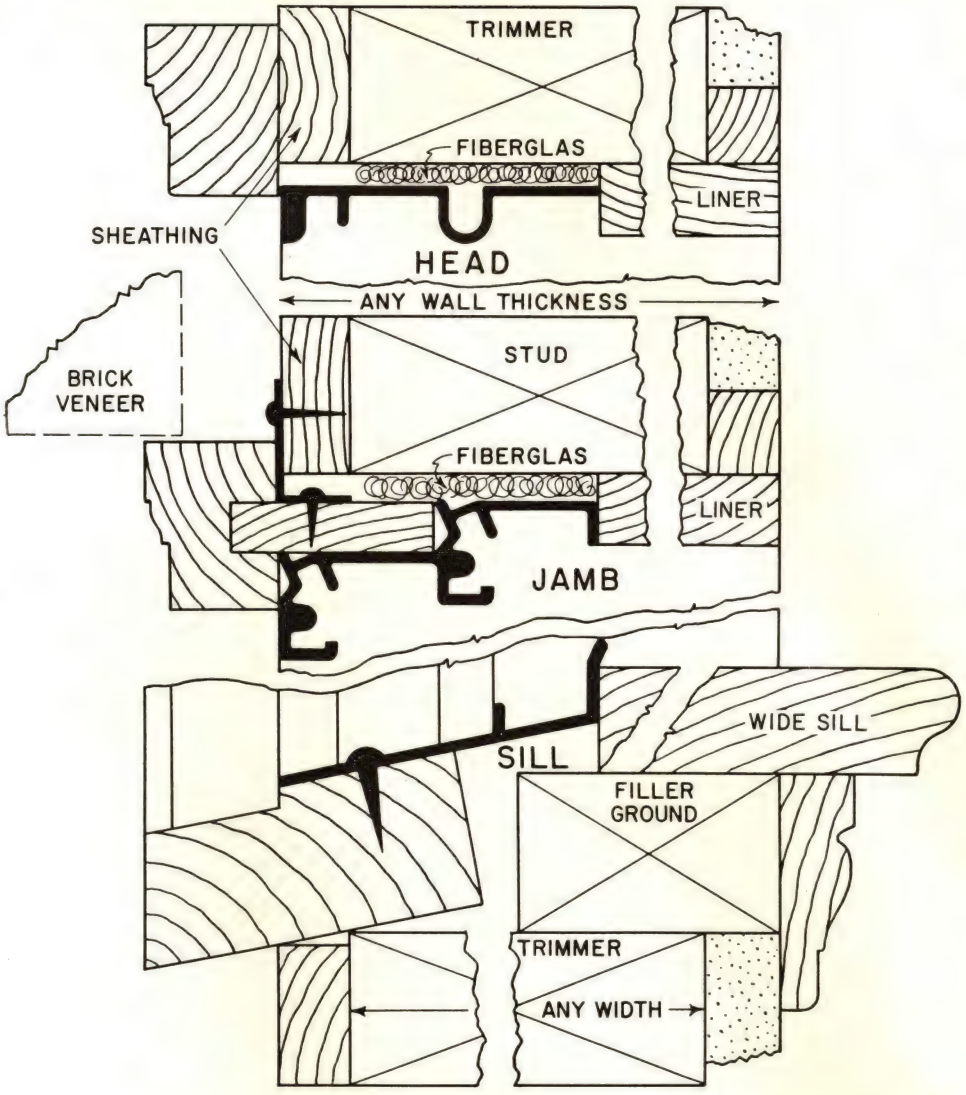
packaged window — factory fitted and assembled in aluminum frame with lock and weatherstripping installed.

aluminum sills — are leak proof in driving rains.



installation details

one half full size

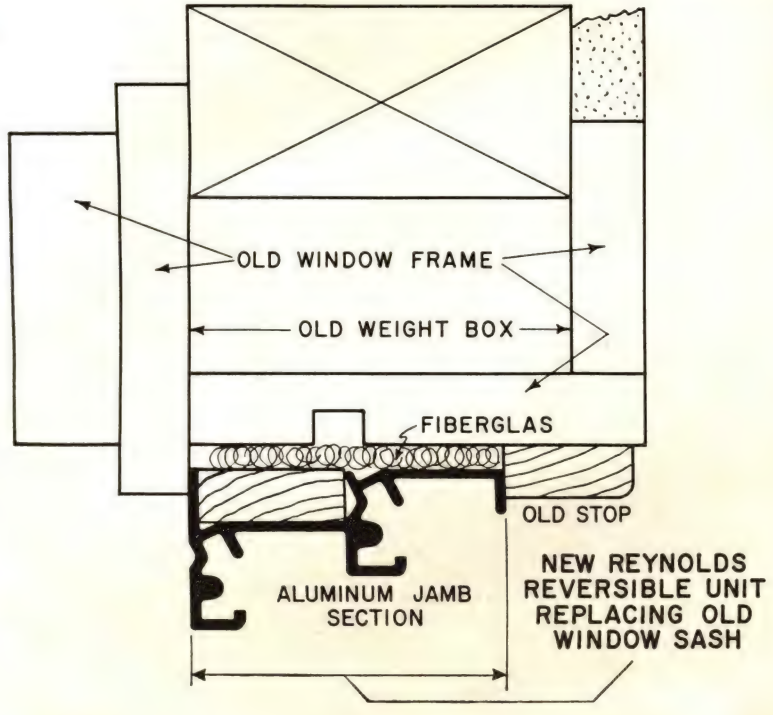


type C window

for frame, veneered or masonry walls

type C units include:

Aluminum window frame with wooden sill and exterior casings attached; glazed 1⅜" wooden sash installed with reversible equipment ready to operate; sash lock installed. Width of rough opening: glass plus 6". Height of rough opening: lower glass plus upper glass plus 7¾".



type B window

for installing in new or old window frames or sill and surrounds

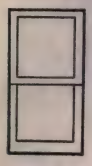
type B units include:

All parts of Type C units except wooden sill, wooden casings and aluminum flanges. Inside opening of old or new window frames to receive Type B units. Width: glass plus 6". Height: lower glass plus upper glass plus 6".

Reynolds Windows, Inc.

Reynolds reversible, double hung windows

styles



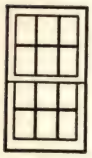
no. 10
plain two lights



no. 20
ranch style



no. 30
modified colonial



no. 40
true colonial

sizes

glass + 6"

rough opening

glass + glass + 7¾"

glass size	rough wall opening
16 x 16	22 x 39¾
16 x 20	22 x 47¾
16 x 24	22 x 55¾
18 x 16	24 x 39¾
18 x 20	24 x 47¾
18 x 24	24 x 55¾
20 x 16	26 x 39¾
20 x 20	26 x 47¾
20 x 24	26 x 55¾
24 x 16	30 x 39¾
24 x 20	30 x 47¾
24 x 24	30 x 55¾
28 x 16	34 x 39¾
28 x 20	34 x 47¾
28 x 24	34 x 55¾
32 x 16	38 x 39¾
32 x 20	38 x 47¾
32 x 24	38 x 55¾
36 x 16	42 x 39¾
36 x 20	42 x 47¾
36 x 24	42 x 55¾

architects' specifications

general — All windows shall be Reynolds double hung full reversible windows, as manufactured by Reynolds Windows, Inc., Huntingdon, Penna.

material — Aluminum frame and reversible equipment shall be 63ST5 extruded aluminum alloy. All sash shall be 1⅜" thick, made of Ponderosa pine and treated with woodlife. All exposed exterior woodwork shall be clear Ponderosa or Native Penna. White Pine. The sides of all sash shall be entirely covered and reinforced with 1/16" thick 63ST5 extruded aluminum sash plates.

construction — All windows shall be assembled in a workmanlike manner at our factory, with each sash fitted and installed in perfect working order for both vertical and up to full 180° angular adjusted movement.

operation — All the following actions shall be accomplished in normally opening or closing the window. Both sash may be moved vertically, as in any conventional double hung window. Lower sash shall be tilted in to any angular position at any vertical height and automatically sustained.

hardware — All window locks shall be Wintite sash locks, with one lock for each window up to 30" glass width and two locks for wider windows.

weatherstripping — Sill, head and sides of sash shall be weatherstripped with aluminum flange type weatherstripping attached to sash and frame. Meeting rail shall be weatherstripped with aluminum spring type weatherstripping, brought in tight contact by sash locks.

erection — The window erector shall securely fasten window in place in a straight, level and plumb condition without distortion of the window.

calking — All B type windows shall be calked between aluminum frame and wooden blind stops or surrounds.

insulation — All windows shall be insulated between aluminum frame and wall opening with fiberglas insulation furnished with each window.

Reynolds windows provide full ventilation



upper sash closed



both sash in lower half



both sash in upper half



sash separated

REYNOLDS windows inc.

Taylor Highlands
Huntingdon, Penna.

5c
Rol

Pella

MULTI-PURPOSE WINDOWS

BROOKS AND BORG, ARCHITECTS, DES MOINES, IOWA



ROLSCREEN COMPANY PELLA, IOWA

Pella MULTI-PURPOSE WINDOWS

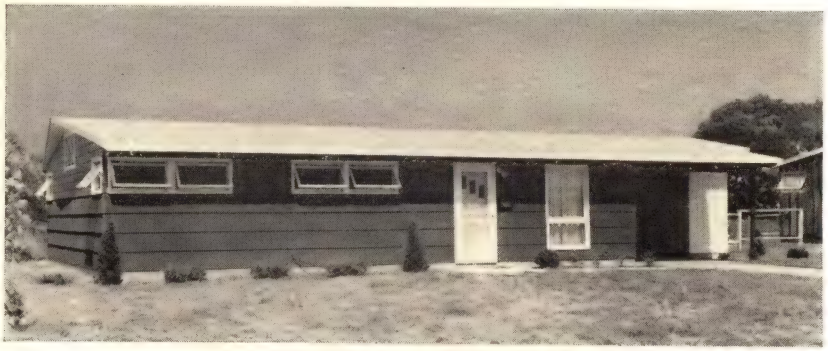
RIGHT TOP—Where a bedroom faces the street in a split-level house, Pella Multi-Purpose Windows placed high in "ribbon" arrangement provide privacy and extra wall space.



Architects: Savage and Ver Ploeg, Des Moines, Iowa
Contractors: Darwin T. Lynner Co., Des Moines, Iowa

RIGHT MIDDLE—Pella Windows with self-storing screens and storm sash help solve the storage space problem in today's smaller homes.

BOTTOM—Here Pella Multi-Purpose Units are used as casements and as awning windows under Pella fixed sash. Under-screen operators and dual glazing afford year 'round convenience.

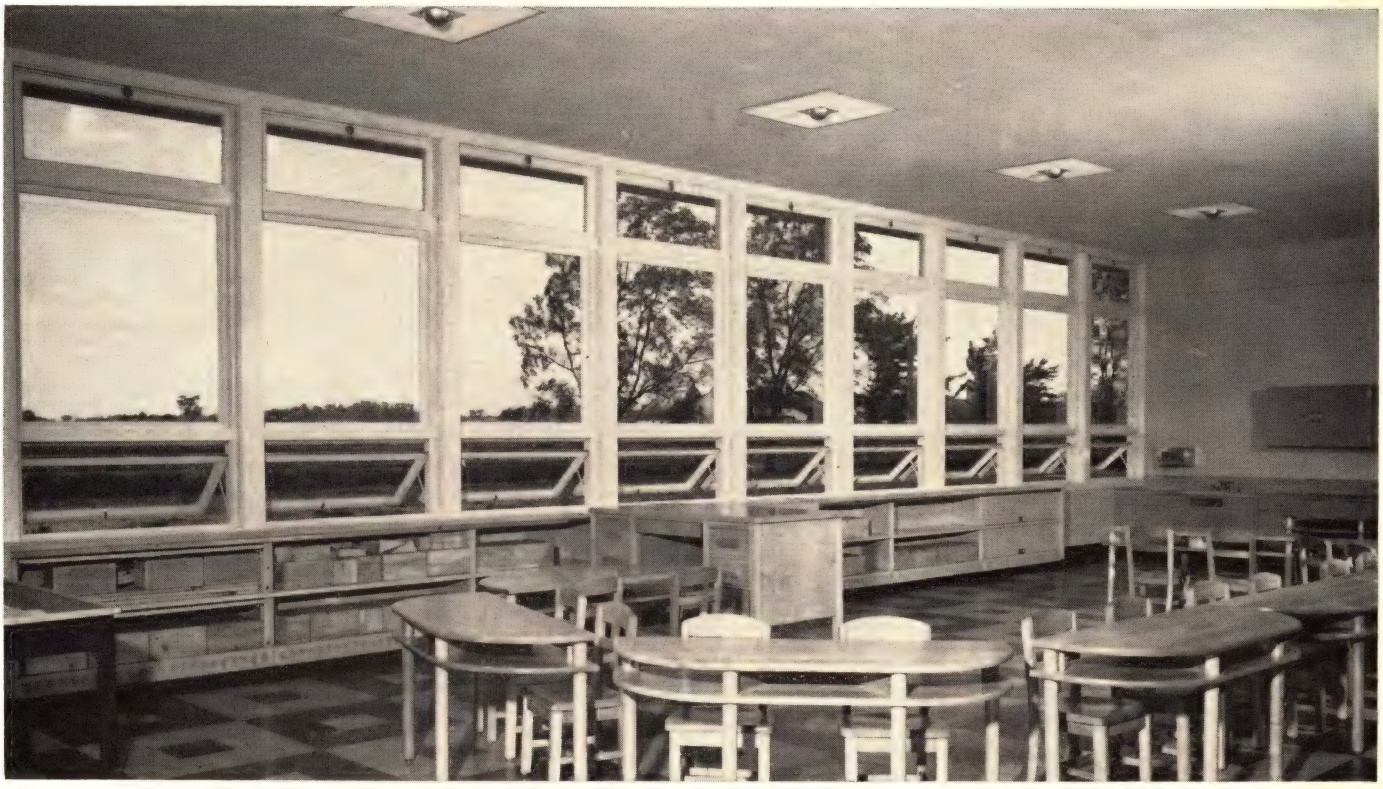


Jayhawk Construction Company, Topeka, Kansas



Richard R. Colburn Residence, Mission, Kansas
Architect: John W. Gransted; Contractor: Louis Urbanski

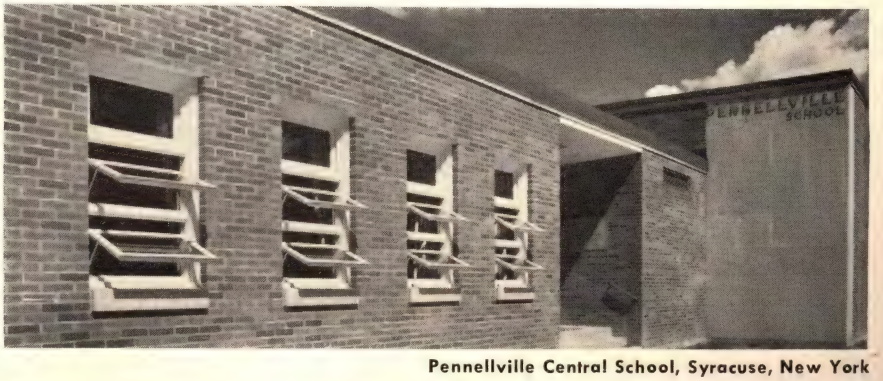
. . for residential and commercial buildings



Pennellville Central School, Syracuse, New York
Architects: Ketcham, Miller and Arnold
Contractor: J. D. Taylor Construction Corporation

FOR SCHOOLS:

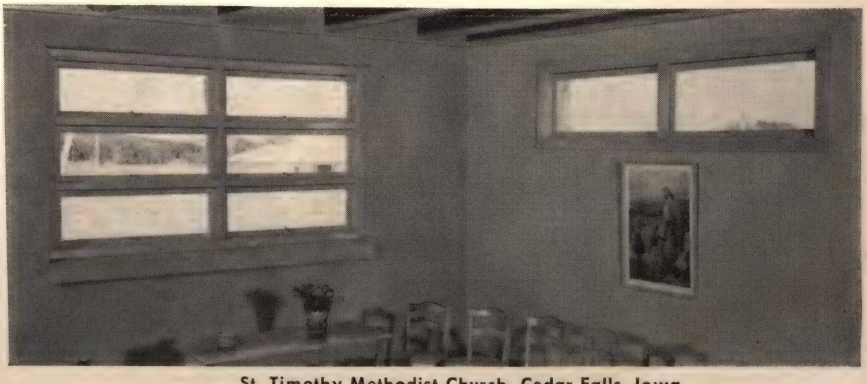
Pella Multi-Purpose Windows provide light, ventilation and draft-tight closure in schools. Sash can be ordered fixed or ventilating, with or without screens and storms. Quality construction throughout yet economical enough to fit limited building budgets.



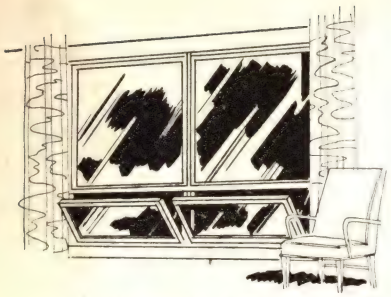
Pennellville Central School, Syracuse, New York

FOR CHURCHES:

Low-cost Pella Multi-Purpose Windows are a helpful factor in holding down building costs in churches. Here six 44″x16″ units make an interesting fenestration in masonry block construction.



St. Timothy Methodist Church, Cedar Falls, Iowa
Architects: Thorson, Thorson and Madson, Waterloo, Iowa
Contractor: A. V. Hansen Construction Company, Cedar Falls, Iowa



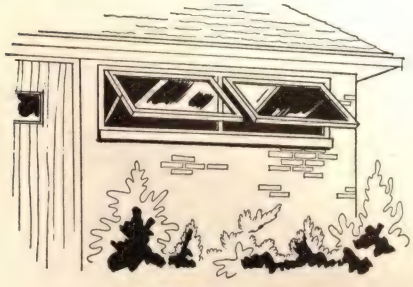
"HOPPER VENT"

44″x20″ Pella "hopper vent" projects in for ventilation under a 44″x 48″ Pella stationary unit.



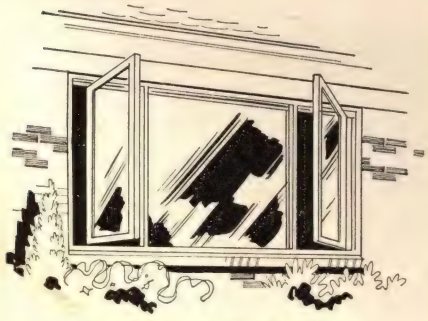
STATIONARY—STACKED

Three 32″x24″ stationary Multi-Purpose Windows are stacked horizontally to admit light to entrace area.



RIBBON

Installed end to end, two or more Pella Multi-Purpose Units form an interesting "ribbon" window.



CASEMENTS WITH FIXED

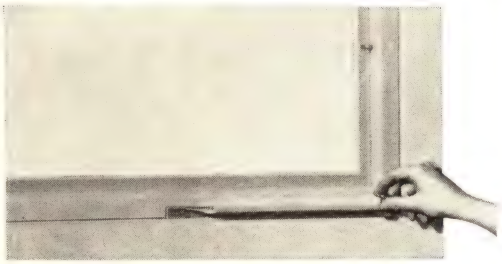
Three Multi - Purpose Units — two 24″x44″ ventilating and one 48″x 44″ stationary—form a generous daylight wall.

EXCLUSIVE UNDERSCREEN OPERATOR

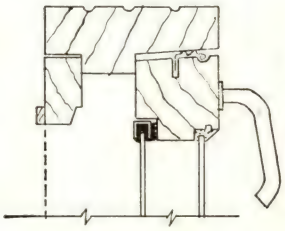
Available at no extra charge for awning or casement application



WINDOW IS OPENED by swinging cam-type underscreen operator toward left and pushing sash out to desired distance. Angular action minimizes operator into room.

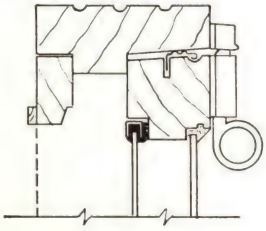


WINDOW IS TIGHTLY CLOSED by swinging cam-type underscreen operator against bottom screen rail. This new operator principle is an exclusive development by Rolscreen.



Sash Lock

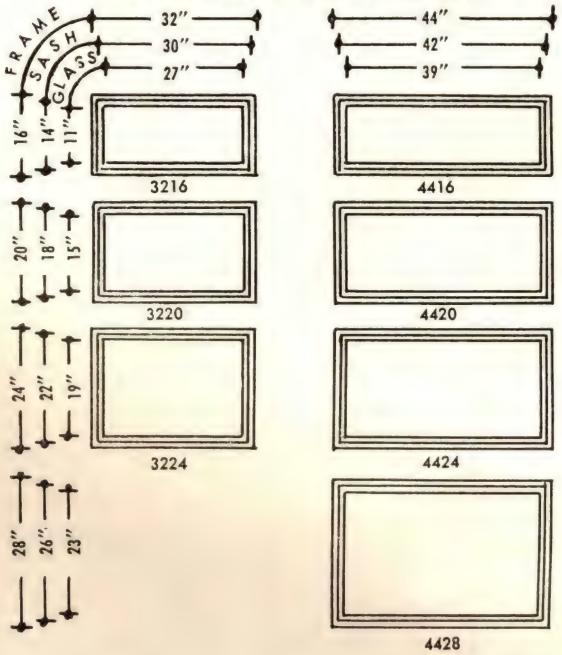
ALTERNATE HARDWARE FOR HOPPER-VENT APPLICATION



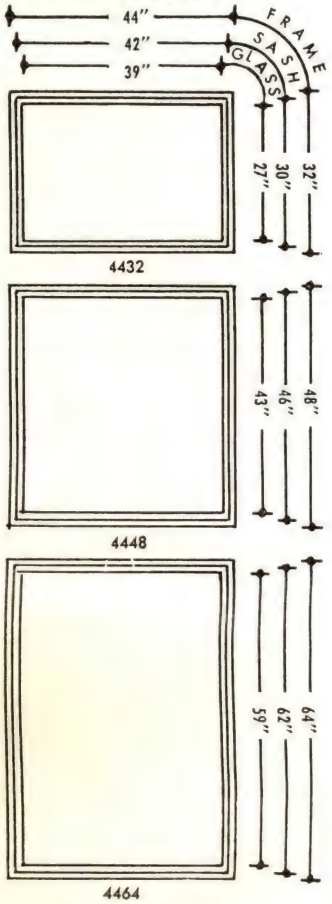
Transom Latch

TABLE OF SIZES

VENTILATING OR FIXED UNITS



FIXED UNITS

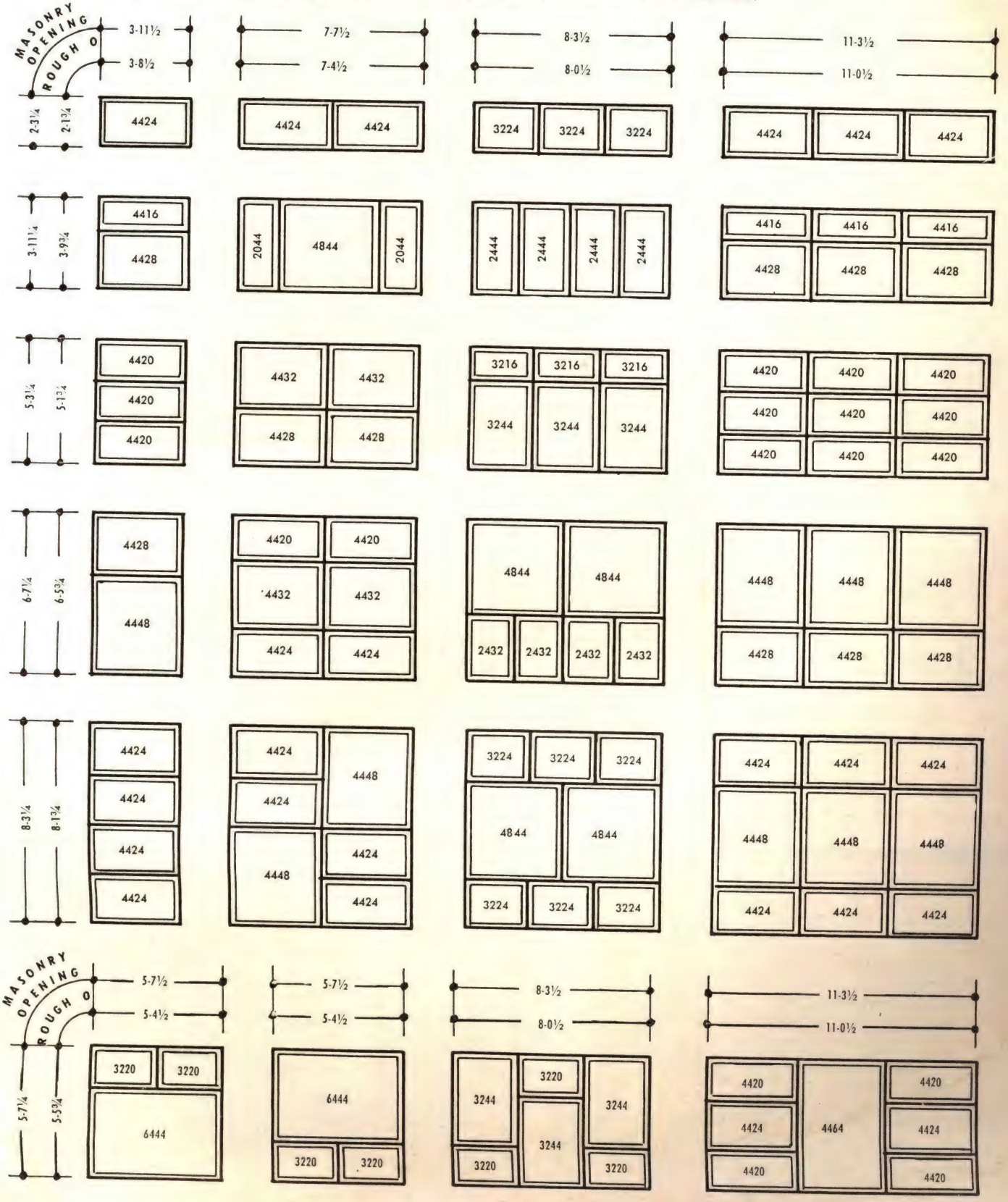


MASONRY OPENINGS—
Frame dimensions DO NOT include brick mould or subsill. Add 3½″ to frame width and 3¼″ to frame height to get masonry opening when standard Pella Multi-Purpose brick mould and subsill are used.

ROUGH OPENINGS—
Add ½″ to frame width and 1¾″ to frame height to get rough opening when standard Pella Multi-Purpose subsill is used.

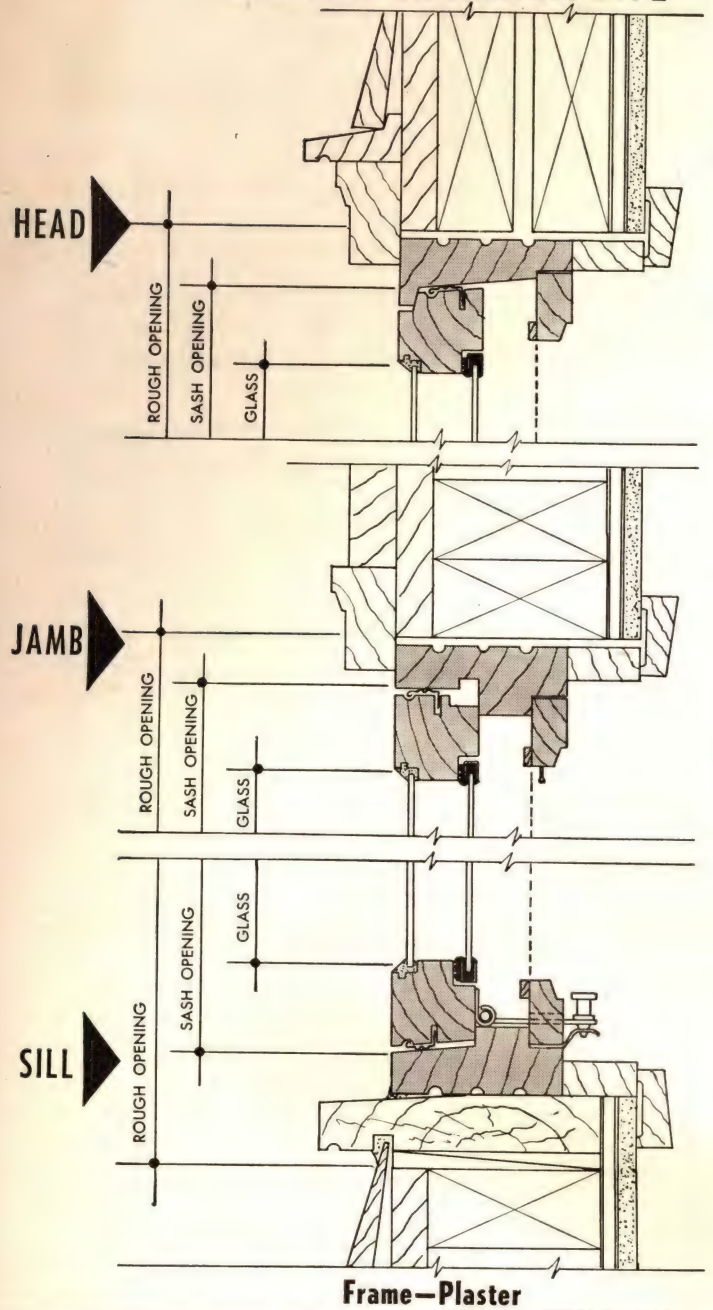
SOME TYPICAL MULTI-PURPOSE WINDOW GROUPINGS

ROUGH AND MASONRY OPENINGS FOR COMPOSITE GROUPINGS: Add ½" to the combined frame widths to get rough opening width. Add 1¾" to the combined frame heights to get rough opening heights when standard Pella subsill is used. Add 3½" to combined frame widths to get masonry opening width when standard Pella brick mould is used. Add 3¼" to combined frame heights to get masonry opening height when standard Pella brick mould and subsill are used.



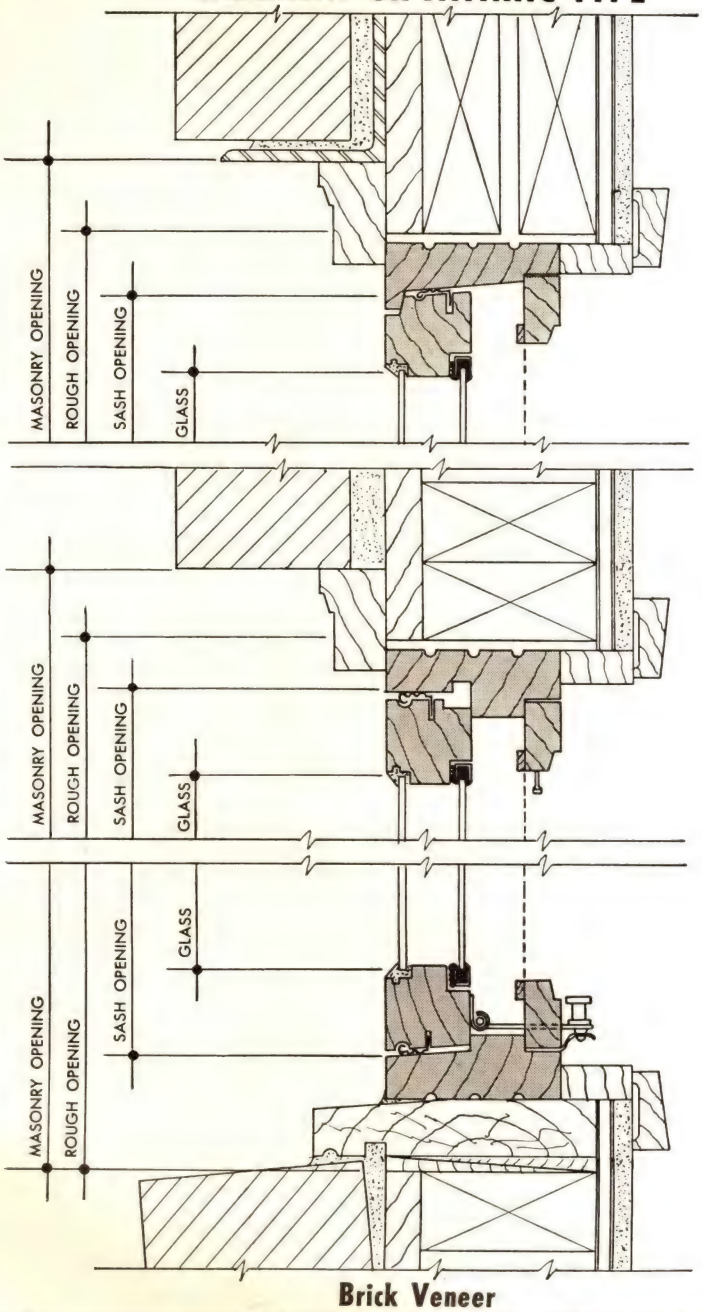
Pella MULTI-PURPOSE WINDOW DETAILS Scale 3″ = 1′

CASEMENT OR AWNING TYPE

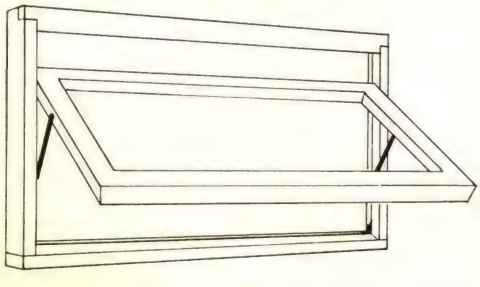


Frame—Plaster

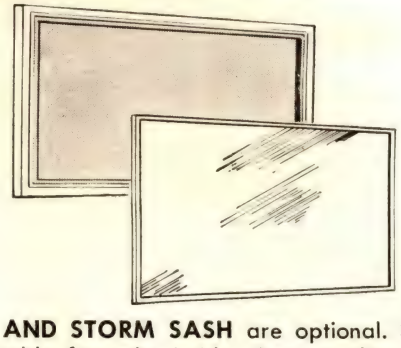
CASEMENT OR AWNING TYPE



Brick Veneer

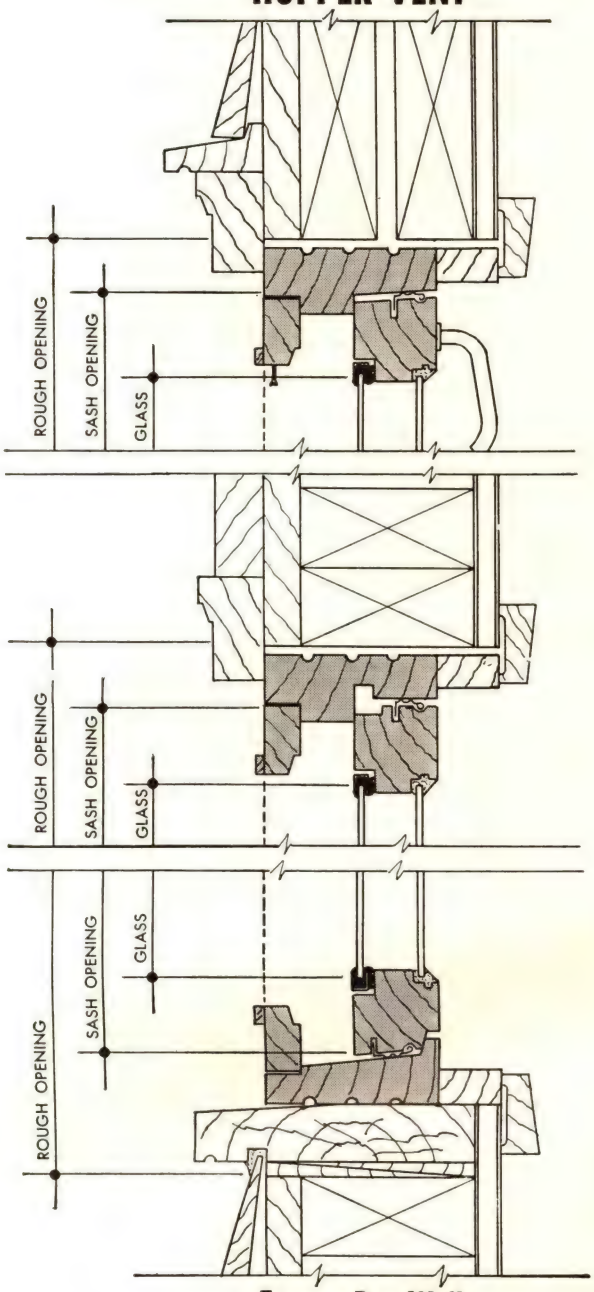


FRAME AND SASH are toxic treated Western Pine. Sturdily constructed, this packaged window comes completely assembled with sash hardware attached.



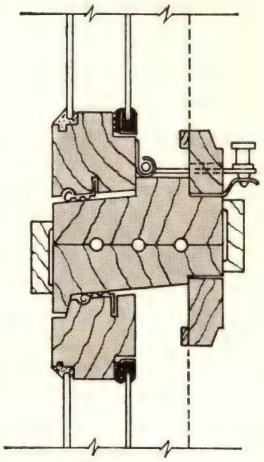
SCREENS AND STORM SASH are optional. Self-storing and removable from the inside, these quality accessories give complete window convenience. Sixteen-mesh screen cloth. Aluminum storm sash channel.

HOPPER VENT

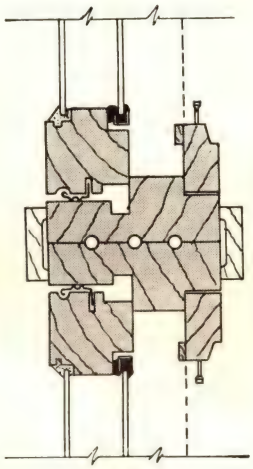


Frame—Dry Wall

SCALE 3"=1'



Transom



Mullion

SPECIFICATIONS

FRAME—Toxic treated Western Pine, completely assembled with hardware.

SASH—Toxic treated Western Pine 1¾" thick. Corners mortised and tenoned. Water groove all around.

GLASS—Single light, SSB, sizes 11"x27", 15"x 27", 19"x27", 11"x39", 15"x39", 19"x39", 23"x39". Fixed units—single light, DSA, sizes 27"x39", 39"x43" and 39"x59". All above units embedded in glazing compound.

WEATHERSTRIPPING—Stainless steel, spring type, around entire sash perimeter.

HARDWARE—Corrosion resistant steel fitted to sash and frame.

UNDERSCREEN OPERATOR—Shall be of heavy steel sections with chrome plating and designed to permit opening of sash without opening the screen.

ALTERNATE OPERATORS—Heavy corrosion resistant sash lock, may be supplied for hopper vent installation in lieu of underscreen operator. Transom latch also available for clerestory application.

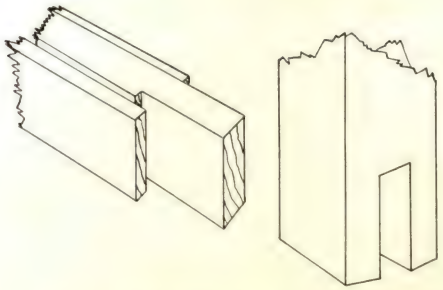
SCREENS—Zinc-coated, rust-resistant, 16-mesh screen cloth assembled in toxic-treated Pine frame.

STORM SASH—DSB glass set in a Vinyl-Plastic-lined aluminum frame, and fitted to ventilating sash. (Storm sash furnished at an additional charge when specified.) DSA glass is used in frame sizes 32"x44", 44"x48" and 44"x64".

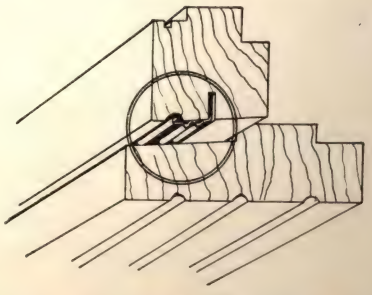
TRIM—Units are supplied without sub-sill, brick mould, jamb extensions or mullion covers. Standard Pella patterns furnished at an additional charge when specified.

ASSEMBLY—Units shall be factory assembled and fitted with sash hardware.

Note:—Specifications subject to change without notice.



FULL 1¾" SASH is mortised and tenoned, dowelled and glued for lasting strength and rigidity. Rabbeted to receive storm sash.



STAINLESS STEEL WEATHERSTRIPPING surrounds all four sides of sash. This top-quality, spring-type stripping seals against drafts and moisture. No staining from corrosion.

Pella

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BOISE
Idaho Venetian Blind Company
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CHAMPAIGN
Pella Sales Company
714 South Neil Street
Phone: 8-900
CHICAGO
Orm L. Henninger
6670 N. Northwest Highway
Phone: ROdney 3-8144
DECATUR
Brinkoetter Tiling Company
139 South Water Street
Phone: 5017
PEORIA
George B. Schneider
512 Lehmann Building
Phone: 3-9456
QUINCY
D. H. Rouse Company
1315 Broadway
Phone: BAldwin 2-6240
ROCKFORD (Loves Park)
Pella Products
427 Theodore Street
Phone: 7-4708
ROCK ISLAND
Pella Rolscreen Company
2004 Third Avenue
Phone: 6-2318
SPRINGFIELD
Geo. S. Grimmett & Company
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Phone: 2-6811
ZEIGLER
The Builders Supply Company
112 South Main Street
Phone: 2441

INDIANA
EVANSVILLE
Schlamp Building Specialties Co.
208 West Iowa Street
Phone: 2-3512
FORT WAYNE
Erven J. Stocks
817 Monroe Street
Phone: Eastbrook 2848
HAMMOND
Vanderby Screen Company
1311 Summer Street
Phone: Sheffield 3055
INDIANAPOLIS
McComb Window & Door Co.
1927 East 30th Street
Phone: Hickory 9685
SOUTH BEND
Sumner B. Shimp
224 Christman Building
Phone: 4-2931

IOWA
BURLINGTON
Pella Rolscreen Company
3021 West Avenue
Phone: PLaza 2-6675
CEDAR RAPIDS
Pella Rolscreen Company
101 First Avenue, S. E.
Phone: 2-6963
DES MOINES
J. Earl Hammer
305-11th Street
Phone: 3-1363
FORT DODGE
S. G. Rierson
221-11th Avenue, S. W.
Phone: Walnut 4826
OTTUMWA
Pella Rolscreen Company
107 South Court Street
Phone: MUrray 4-5284
SIOUX CITY
Eugene F. Wilsey Company
213-214 Benson Building
Phone: 8-4567
WATERLOO
Pella Products Company
307 West Fifth Street
Phone: ADams 3-9731

KANSAS
HUTCHINSON
Supply Service, Inc.
528 South Main Street
Phone: 5-8711
KANSAS CITY
Window Enterprises, Inc.
301 North Seventh Street
Phone: ATwater 6180
TOPEKA
Ray Anderson Company, Inc.
2322 West Sixth Street
Phone: 3-1491
WICHITA
Supply Service, Inc.
1250 N. Mosley
Phone: Amherst 7-5831

KENTUCKY
LOUISVILLE
Schneider Building Products
2345 Frankfort Avenue
Phone: TAylor 4450

LOUISIANA
BATON ROUGE
Ronald A. Coco, Inc.
3717 Florida Street
Phone: 2-5242
NEW ORLEANS
Arthur Antony Company
3269 Belfort Street
Phone: BYwater 8580
SHREVEPORT
Ideal Building Materials, Inc.
1730 Claiborne Avenue
Phone: 7-0521

MAINE
PORTLAND
M. A. Free, Inc.
98 Exchange Street
Phone: 3-6267

MARYLAND
BALTIMORE
Pella Sales Company
6518 Holabird Avenue
Phone: MEdford 3-8599

MASSACHUSETTS
BOSTON
Robert F. Crane, Inc.
31 St. James Avenue
Phone: LI. 2-1884

MICHIGAN
DETROIT
Allied Home Equipment Co.
12503 Grand River Avenue
Phone: WEbster 3-5189
GRAND RAPIDS
Grand Rapids Screen Co. Inc.
17 Library Street, N. E.
Phone: 9-0229
KALAMAZOO
C. E. Hamlin
2224 Benjamin Avenue
Phone: 2-7675
LANSING
William A. Lempier
Route No. 2, Williamston
Phone (Lansing):
EDgewood 7-7505

MINNESOTA
DULUTH
Pella Window Co.
11 S. 19th Ave., W.
Phone: 7-3460
MINNEAPOLIS
Pella Products
927 South Washington Ave.
Phone: BRidgeport 4137

MISSISSIPPI
JACKSON
Fred Thrasher Company
148 Millsaps Avenue
Phone: 3-5239

MISSOURI
SAINT LOUIS
Ed. A. Johnson
260 Paul Brown Building
Phone: Central 1-7620
SPRINGFIELD
Kennedy Brick & Steel Co.
327 Boonville Avenue
Phone: 6-5041

MONTANA
HELENA
The Builders Supply Company
Box 176
Phone: 469

NEBRASKA
OMAHA
C. G. Stuben Co., Inc.
5020 Leavenworth Street
Phone: GLendale 8282

NEW HAMPSHIRE
(See Maine)

NEW JERSEY
NEWARK
Pella Products of Northern New Jersey
95 Central Avenue
Phone: MArket 3-7888
TRENTON
Louis A. Jammer Company
909 Overton Avenue
Morrisville, Pennsylvania
Phones: 7155-5593

NEW MEXICO
ALBUQUERQUE
C. E. Top Company
316 First Street, N. W.
Phone: 2-4975

NEW YORK
ALBANY (Rensselaer)
L. A. MaLossi
Sherwood Park
Phone: 77-3374
BINGHAMTON
C. Y. Cushman
497 State Street
Phone: 2-0296
BUFFALO
A. O. Stilwell Co., Inc.
350 Masten Avenue
Phone: GRant 6506
ROCHESTER
The Maurer Company, Inc.
31 Richmond Street
Phone: HAmilton 0030
SYRACUSE
Pella Products Company
439 Hawley Avenue
Phone: 9-7473
VALLEY STREAM, L. I.
Rolscreen Company of N. Y.
627 West Merrick Road
Phone: Valley Stream 5-8484

NORTH CAROLINA
GREENSBORO
Beaman Building Specialties
2802 Lawndale Drive
Phone: 5-1191

NORTH DAKOTA
FARGO
Pella Products-Fargo
68 North Fifth Street
Phone: 24105

OHIO
CANTON
Pella Window & Door Co.
1811 Cleveland, N. W.
Phone: 6-2246
CHILLICOTHE
Pella Rolscreen Company
622 East 4th Street
Phone: 2-5378
CINCINNATI
N. W. & R. A. Richardson
626 Broadway
Phone: Main 3570
CLEVELAND
The Gunton Company
12407 Woodland Avenue
Phone: SWeetbriar 5-7100
COLUMBUS
Howard S. Sterner Co.
12 South Third Street
Phone: CA. 4-4175
CUYAHOGA FALLS
Pella Products Company
2714 Hawthorne Road
Phone: WA. 8-6233
DAYTON
Pella Sales, Inc.
2360 West Dorothy Lane
Phone: Michigan 5561
LIMA
Pella Products
133 North Elizabeth Street
Phone: 6-8951
TOLEDO
Don J. Vollmayer
31 North Ontario Street
Phone: Main 5680
YOUNGSTOWN
Kitchen Cabinet Sales Co.
1906 Market Street
Phone: Sterling 8-7238

OKLAHOMA
OKLAHOMA CITY
Bissell Builders Supply Company
Colcord Building, Room 314
Phone: CE. 2-8589
TULSA
Bissell Builders Supply Company
Corner Victor & Haskell Place
Phones: 2-8204 & 3-6268

OREGON
PORTLAND
Young and McClain, Inc.
1425 S. W. 13th Avenue
Phone: BEacon 3124

PENNSYLVANIA
ALLENTOWN
Halteman Company
Allen & St. Cloud Streets
Phone: HEmlock 4-6159
ALTOONA
Alto Glass Company, Inc.
1925 Union Avenue
Phone: 4-0874
ERIE
E. E. Austin Lumber Corporation
2003 West 12th Street
Phone: 5-4421
HARRISBURG
C. H. Hershock, Inc.
1513 North Cameron Street
Phone: 8-7331
PHILADELPHIA
W. D. Reading
4247-53 West Stiles Street
Phone: GReenwood 7-0765
PITTSBURGH
Pella Products
4105 Penn Avenue
Phone: MUseum 2-2726
SCRANTON
Strutin & Company
1105 Grandview Street
Phone: 7-0601
SHARON
Pella Products
520 South Dock Street
Phone: 4860
WASHINGTON
G. Glenn Miller
15 Sherman Avenue
Phone: 5449

SOUTH CAROLINA
COLUMBIA
Bass Building Specialties, Inc.
4413 Devine Street
Phone: 4-1640

SOUTH DAKOTA
(See North Dakota)

TENNESSEE
JOHNSON CITY
Lancaster Associates
John Sevier Hotel Building
Phone: 3200
KNOXVILLE
Lancaster Associates
Lower Lobby, Andrew Johnson Hotel
Phone: 4-4623
MEMPHIS
Maury and Company
Builders Exchange
Phone: 5-1631
NASHVILLE
Len Herndon Company, Inc.
1720 Broadway
Phone: 5-8606

TEXAS
AMARILLO
Jenkins Brick & Supply Co.
820 West Sixth Avenue
Phone: DRake 2-4336
CORPUS CHRISTI
The Howard Company
1808 Morgan
Phone: 4-1381
DALLAS
K & M Builders Supply, Inc.
1900 Block Farrington Street
Phone: STerling 5245
EL PASO
Southwestern Sash & Door Co.
2000-32 Wyoming Street
Phone: 3-3494
HOUSTON
Lehman Steel Products Co.
2423 Dunstan Road
Phone: KEystone 2511
LUBBOCK
Avenue "H" Building Materials Company
1809 Avenue "H"
Phone: 2-8053
ODESSA
Sun Glass Company
502 East Second Street
Phone: 6-6942
SAN ANGELO
Angelo Glass & Mirror Co.
11 West Washington Drive
Phone: 3388
SAN ANTONIO
Harry C. Kirby Company
Transit Tower
Phone: CApitol 7-9817
WICHITA FALLS
Wichita Glass & Mirror Co.
100 Oak Street
Phone: 2-5211

UTAH
SALT LAKE CITY
Joel P. Paulson & Company
963 East 33rd, South
Phone: 8-9251

VERMONT
(See Maine)

VIRGINIA
NORFOLK
Door Engineering Corporation
700 Front Street
Phone: 25355
RICHMOND
Pella Products
6009 West Broad Street
Phone: 5-2432
ROANOKE
Joe G. Daher
615 Salem Avenue, S. W.
Phone: 3-8812
WINCHESTER
E. W. Armstrong Company
25 West Piccadilly Street
Phone: Winchester 4643

WASHINGTON
SPOKANE
Pella Products Sales Company
124 South Wall Street
Phone: TEmple 2281
TACOMA
Roy V. Stratton, Inc.
1319½ Center Street
Phone: FUlton 2151

WEST VIRGINIA
CHARLESTON
Pella Products of West Virginia
P. O. Box 10095, Station C
Phone: 8-3106
CLARKSBURG
Builders' Center
Buckhannon Pike
Phone: 4-7056

WISCONSIN
GREEN BAY
Edward T. Ver Halen, Inc.
408 Elm Street
Phone: Adams 5212
MADISON
Edward T. Ver Halen, Inc.
130 State Street
Phone: 6-5224
MILWAUKEE
Edward T. Ver Halen, Inc.
778 North Jefferson Street
Phone: Broadway 1-7131

ROLSCREEN COMPANY, Pella, Iowa

Form No. MP-55

WOOD WINDOWS WOMEN WANT!

Easy to Lock!

Nothing to Adjust —
Nothing to Get Out of
Adjustment

WOODCO E-ZEE Loc WOOD AWNING WINDOWS

- Carefully Assembled at Factory
- All Parts Manufactured of Selected Kiln-Dried Ponderosa Pine
- Toxic and Water-Repellent Treated
- All Glass Bedded in Glazing Compound

. . . easiest-closing awning window ever made!

WOODCO®
E-ZEE PAT. Loc
WOOD AWNING WINDOWS



FIRST CHOICE IN WOOD AWNING WINDOWS

WOODCO CORPORATION
A Division of
GENERAL WOODCRAFT CO., Inc. • North Bergen, N. J.
3590 N. W. 71st ST., MIAMI 47, FLA.
Phones: 64-3219, 64-3417

Booklet No. EZ855S

WOODCO AWNING WINDOWS No. 19-E-1

SPECIFICATIONS

WOODCO E-ZEE Loc Wood Awning Window

GENERAL: Windows are to be Woodco *E-Zee Loc* Wood Awning Windows; Double-Weatherstripped at Sides, Top and at Sash Meeting Rails as per details of **WOODCO CORPORATION**, Miami, Florida.

SIZES AND TYPES: As shown on accompanying drawings.

MATERIALS: ***Frames:*** Jambs and casings milled from 5/4 stock. Sills from 6/4 stock.

Sash: to be full 1-11/16" thick.

All frame and sash parts shall be Kiln-Dried Ponderosa Pine, Toxic- and Water-Repellent Treated. Weatherstripping material shall be made of polyvinyl elastic.

Weatherstripping: All of extruded, hollow tube design at sides, head and sills. At meeting rails solid overlapping type (Pat. Pend.) which enhances easy sash operation.

OPERATING HARDWARE: Shall be enclosed in an extruded aluminum satin finished casing with a three-sided enclosure when sash are open. When sash are closed, operating hardware is thoroughly protected from all elements. Rotor operating handle shall be placed so that screen or storm sash will not have to be removed to open or close sash.

CONSTRUCTION: All frames shall be factory-assembled in good workmanlike manner. Jamb sides to be dadoed to receive head jamb and sill. Sash corners shall be mortise and tenon construction properly pinned. Operating hardware casing shall be attached to side jambs with flush head aluminum or rust-resisting screws. Sash shall be fastened to pivot arms with aluminum or rust-resisting screws. Operating hardware at Side Jambs shall have two weatherstrips each. Double Weatherstripping at Head, Double Overlapping Weatherstripping (Pat. Pend.) at sash meeting rails.

OPERATING FEATURES:

1. All Sash to react in unison to the turning of one Rotor Handle.
2. All Sash will open outward with a minimum angle of 70° to the vertical.
3. All Sash to drop 4 inches, which permits cleaning of all sash from inside of building.
4. Lower Sash shall operate: first to open, last to close, creating partial ventilation.
5. A Locking Device: locking all Sash and at the same time creating a pressure-sealing action against Weatherstripping.

INSECT SCREENS: Tubular All-Aluminum Rolled Frame and Spline, 1-piece Aluminum corner locks, 18 x 14 mesh .013 gauge aluminum wire, (in accord with U. S. Dept. of Commercial Stand. Spec. #138-49), shall have "Fabrico" quality trade mark and is furnished with all windows unless otherwise specified. Screens easily removed from inside.

GLAZING: All glass shall be of standard quality, bedded in glazing compound in a good workmanlike manner.

THERMOPANE® GLASS: Optional ½" thick, i.e.: 2 layers of Double Strength "A" quality glass with ¼" insulating air space between.

PAINTING: Exterior Face of Side Jambs, from Aluminum Casing to Outside Jamb edge shall have one prime coat of aluminum paint.

HERE ARE THE ADVANTAGES EXCLUSIVE WITH

WOODCO E-ZEE Loc WOOD AWNING WINDOWS

IDEAL, NO-DRAFT VENTILATION EVEN DURING RAIN

Exclusive **VentAir** night ventilation window opens almost to 90° to permit gentle ventilating of the room while upper sash remain locked securely. The perfect means of ventilation during blustery rainy weather!

NO OTHER WINDOW SO EASY TO CLEAN

Clean the outside from the inside . . . top vent too! No gadgets to disengage. No sash to remove!

FINGER-TIP CONTROL

So easy a child can do it, with handsome WOODCO rotor type operator. Does not interfere with drapes, blinds, etc.

TOXIC-TREATED EXTRA-HEAVY SASH and FRAMES

Toxic treated against rot, termites, fungi. Although sash are full 1-11/16" thick, they retain beautiful, extremely narrow sight lines!

PRECISION-BALANCED HARDWARE — NO ADJUSTMENTS EVER NEEDED

Trouble-free, no-wear operation for the life of the building! Nothing to adjust — nothing to get out of adjustment.



REMOVABLE INSIDE SCREENS and STORM SASH

Easy to change! Anyone can do it in seconds with minimum effort.

EASY TO LOCK!

Easy-operating positive locking device assures sure, safe closure of bottom projected sash which locks entire WOODCO E-ZEE Loc awning window easy! Sure! Protective!

DOUBLE VINYL WEATHERSTRIPPING (Pat. Pend.)

Leakage of air, moisture and dust practically eliminated! Double (Patented) Weatherstripping gives more than double protection, assures positive closure. Never sticks, never rattles!

INDEPENDENT AIR CONTROL

Vent-Air Bottom Sash — First to Open, Last to Close — permits control of air flow while the remaining sash stay closed.

CONCEALED HARDWARE

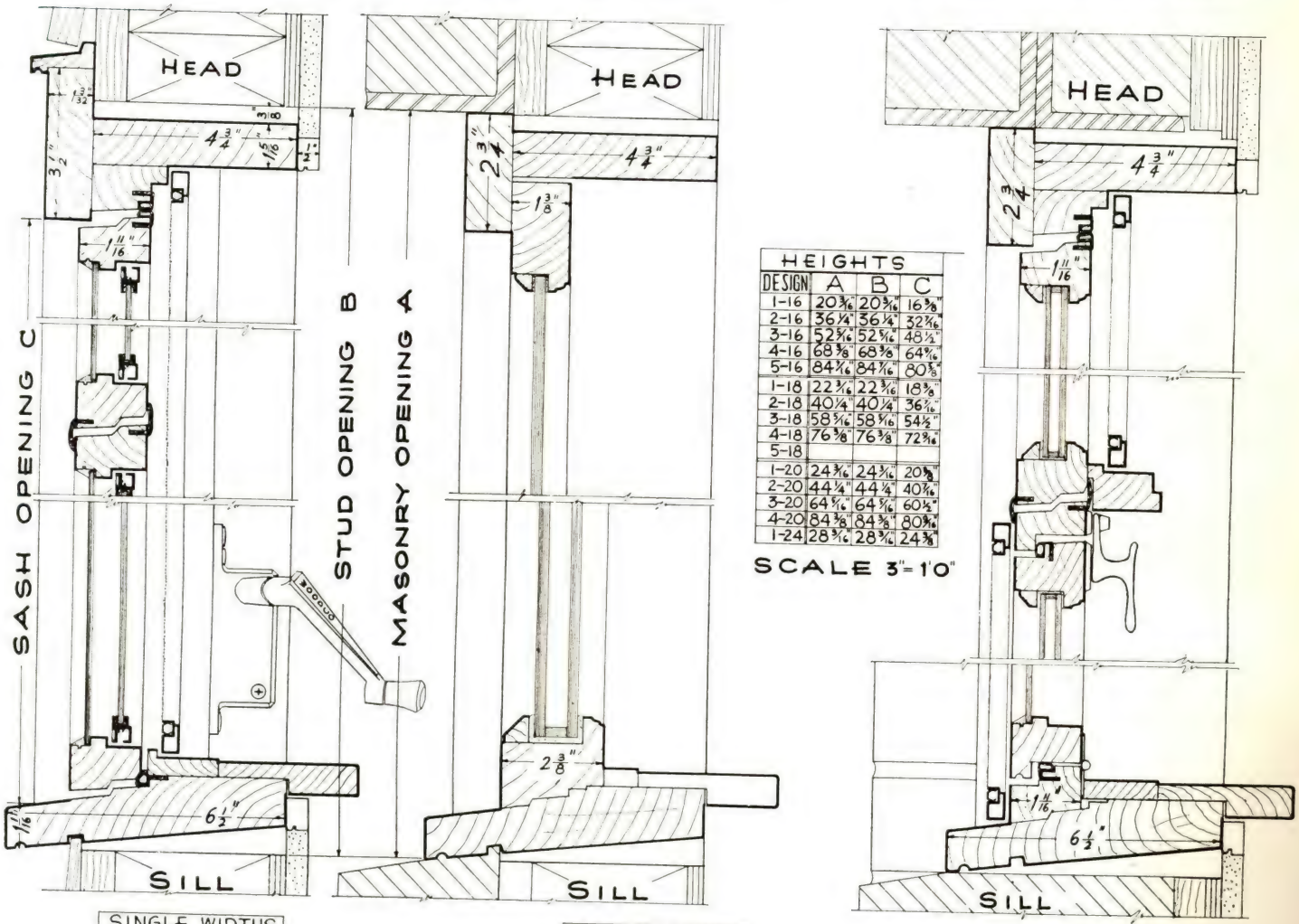
No unsafe, unsightly, dirt-collecting, exposed mechanism.

CONSTRUCTION DETAILS

WOODCO® E-ZEE Loc WOOD AWNING WINDOW

5c
Wo

NOTES: All frames are manufactured for Dry Wall construction unless otherwise specified. All Glass is bedded.



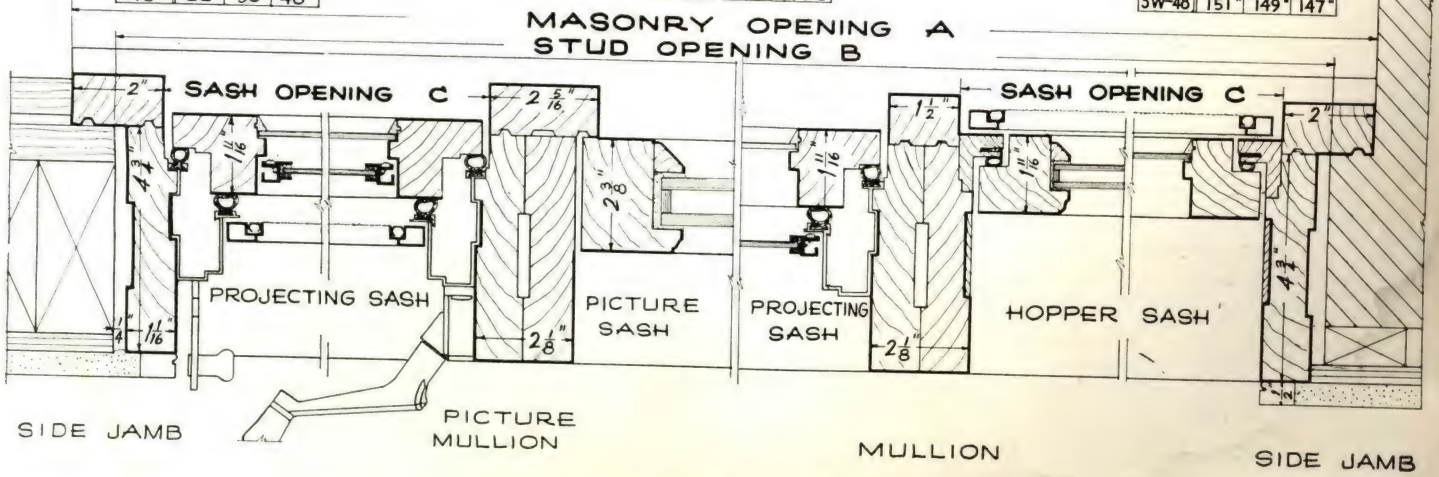
HEIGHTS			
DESIGN	A	B	C
1-16	20 3/16"	20 3/16"	16 3/8"
2-16	36 1/4"	36 1/4"	32 1/16"
3-16	52 3/16"	52 5/16"	48 1/2"
4-16	68 3/8"	68 3/8"	64 5/16"
5-16	84 1/16"	84 1/16"	80 5/8"
1-18	22 3/16"	22 3/16"	18 3/8"
2-18	40 1/4"	40 1/4"	36 1/16"
3-18	58 5/16"	58 5/16"	54 1/2"
4-18	76 3/8"	76 3/8"	72 5/16"
5-18			
1-20	24 3/16"	24 3/16"	20 3/8"
2-20	44 1/4"	44 1/4"	40 5/16"
3-20	64 5/16"	64 5/16"	60 1/2"
4-20	84 3/8"	84 3/8"	80 5/16"
1-24	28 5/16"	28 5/16"	24 3/8"

SCALE 3"=1'0"

SINGLE WIDTHS			
DESIGN	A	B	C
20	24"	22"	20"
24	28"	26"	24"
30	34"	32"	30"
36	40"	38"	36"
42	46"	44"	42"
48	52"	50"	48"

MULLION WIDTHS			
DESIGN	A	B	C
2W-24			
2W-30	65 1/2"	63 1/2"	61 1/2"
2W-36	77 1/2"	75 1/2"	73 1/2"
2W-42	89 1/2"	87 1/2"	85 1/2"
2W-48	101 1/2"	99 1/2"	97 1/2"

TRIPLE WIDTHS			
DESIGN	A	B	C
3W-24			
3W-30			
3W-36	115"	113"	111"
3W-42	133"	131"	129"
3W-48	151"	149"	147"



WOODCO E-ZEE Loc Wood Awning Window Units

Stock Sizes - - Rough Opening Guide



SINGLES — 1 LT. HIGH

DESIGN NUMBER	STUD OPENING
1 - 20 - 16	22x20½
1 - 24 - 16	26x20½
1 - 30 - 16	32x20½
1 - 36 - 16	38x20½
1 - 42 - 16	44x20½
1 - 48 - 16	50x20½
1 - 20 - 18	22x22½
1 - 24 - 18	26x22½
1 - 30 - 18	32x22½
1 - 36 - 18	38x22½
1 - 42 - 18	44x22½
1 - 48 - 18	50x22½
1 - 20 - 20	22x24½
1 - 24 - 20	26x24½
1 - 30 - 20	32x24½
1 - 36 - 20	38x24½
1 - 42 - 20	44x24½
1 - 48 - 20	50x24½
1 - 20 - 24	22x28½
1 - 24 - 24	26x28½
1 - 30 - 24	32x28½
1 - 36 - 24	38x28½
1 - 40 - 24	42x28½
1 - 42 - 24	44x28½
1 - 48 - 24	50x28½



SINGLES — 2 LT. HIGH

DESIGN NUMBER	STUD OPENING
2 - 20 - 16	22x36½
2 - 24 - 16	26x36½
2 - 30 - 16	32x36½
2 - 36 - 16	38x36½
2 - 42 - 16	44x36½
2 - 48 - 16	50x36½
2 - 20 - 18	22x40½
2 - 24 - 18	26x40½
2 - 30 - 18	32x40½
2 - 36 - 18	38x40½
2 - 42 - 18	44x40½
2 - 48 - 18	50x40½
2 - 20 - 20	22x44½
2 - 24 - 20	26x44½
2 - 30 - 20	32x44½
2 - 36 - 20	38x44½
2 - 42 - 20	44x44½
2 - 48 - 20	50x44½



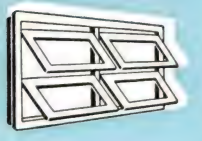
SINGLES — 3 LT. HIGH

DESIGN NUMBER	STUD OPENING
3 - 20 - 16	22x52¾
3 - 24 - 16	26x52¾
3 - 30 - 16	32x52¾
3 - 36 - 16	38x52¾
3 - 42 - 16	44x52¾
3 - 48 - 16	50x52¾
3 - 20 - 18	22x58¾
3 - 24 - 18	26x58¾
3 - 30 - 18	32x58¾
3 - 36 - 18	38x58¾
3 - 42 - 18	44x58¾
3 - 48 - 18	50x58¾
3 - 20 - 20	22x64¾
3 - 24 - 20	26x64¾
3 - 30 - 20	32x64¾
3 - 36 - 20	38x64¾
3 - 42 - 20	44x64¾
3 - 48 - 20	50x64¾



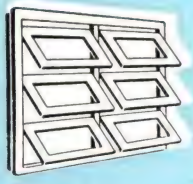
MULLIONS — 1 LT. HIGH

DESIGN NUMBER	STUD OPENING
2W - 1 - 30 - 16	63½x20½
2W - 1 - 36 - 16	75½x20½
2W - 1 - 42 - 16	87½x20½
2W - 1 - 48 - 16	99½x20½
2W - 1 - 30 - 18	63½x22½
2W - 1 - 36 - 18	75½x22½
2W - 1 - 42 - 18	87½x22½
2W - 1 - 48 - 18	99½x22½
2W - 1 - 30 - 20	63½x24½
2W - 1 - 36 - 20	75½x24½
2W - 1 - 42 - 20	87½x24½
2W - 1 - 48 - 20	99½x24½
2W - 1 - 30 - 24	63½x28½
2W - 1 - 36 - 24	75½x28½
2W - 1 - 42 - 24	87½x28½
2W - 1 - 48 - 24	99½x28½



MULLIONS — 2 LT. HIGH

DESIGN NUMBER	STUD OPENING
2W - 2 - 30 - 16	63½x36½
2W - 2 - 36 - 16	75½x36½
2W - 2 - 42 - 16	87½x36½
2W - 2 - 48 - 16	99½x36½
2W - 2 - 30 - 18	63½x40½
2W - 2 - 36 - 18	75½x40½
2W - 2 - 42 - 18	87½x40½
2W - 2 - 48 - 18	99½x40½
2W - 2 - 30 - 20	63½x44½
2W - 2 - 36 - 20	75½x44½
2W - 2 - 42 - 20	87½x44½
2W - 2 - 48 - 20	99½x44½



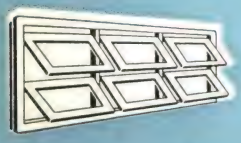
MULLIONS — 3 LT. HIGH

DESIGN NUMBER	STUD OPENING
2W - 3 - 30 - 16	63½x52¾
2W - 3 - 36 - 16	75½x52¾
2W - 3 - 42 - 16	87½x52¾
2W - 3 - 48 - 16	99½x52¾
2W - 3 - 30 - 18	63½x58¾
2W - 3 - 36 - 18	75½x58¾
2W - 3 - 42 - 18	87½x58¾
2W - 3 - 48 - 18	99½x58¾
2W - 3 - 30 - 20	63½x64¾
2W - 3 - 36 - 20	75½x64¾
2W - 3 - 42 - 20	87½x64¾
2W - 3 - 48 - 20	99½x64¾



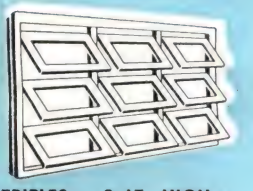
TRIPLES — 1 LT. HIGH

DESIGN NUMBER	STUD OPENING
3W - 1 - 36 - 16	113x20½
3W - 1 - 42 - 16	131x20½
3W - 1 - 48 - 16	149x20½
3W - 1 - 36 - 18	113x22½
3W - 1 - 42 - 18	131x22½
3W - 1 - 48 - 18	149x22½
3W - 1 - 36 - 20	113x24½
3W - 1 - 42 - 20	131x24½
3W - 1 - 48 - 20	149x24½
3W - 1 - 36 - 24	113x28½
3W - 1 - 42 - 24	131x28½
3W - 1 - 48 - 24	149x28½



TRIPLES — 2 LT. HIGH

DESIGN NUMBER	STUD OPENING
3W - 2 - 36 - 16	113x36½
3W - 2 - 42 - 16	131x36½
3W - 2 - 48 - 16	149x36½
3W - 2 - 36 - 18	113x40½
3W - 2 - 42 - 18	131x40½
3W - 2 - 48 - 18	149x40½
3W - 2 - 36 - 20	113x44½
3W - 2 - 42 - 20	131x44½
3W - 2 - 48 - 20	149x44½



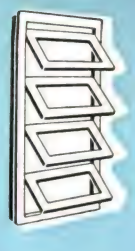
TRIPLES — 3 LT. HIGH

DESIGN NUMBER	STUD OPENING
3W - 3 - 36 - 16	113x52¾
3W - 3 - 42 - 16	131x52¾
3W - 3 - 48 - 16	149x52¾
3W - 3 - 36 - 18	113x58¾
3W - 3 - 42 - 18	131x58¾
3W - 3 - 48 - 18	149x58¾
3W - 3 - 36 - 20	113x64¾
3W - 3 - 42 - 20	131x64¾
3W - 3 - 48 - 20	149x64¾

TRIPLE AWNING WINDOW

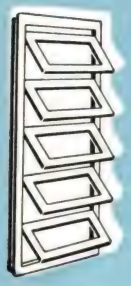
with Stationary Side Lights and Venting Centers

1st Figure indicates number of sash in frame. 2nd Figure indicates width of each sash. 3rd Figure indicates height of each sash. Prefix 2W (Mullion) or 3W (Triple) indicates number of sash sections wide.



SINGLES — 4 LT. HIGH

DESIGN NUMBER	STUD OPENING
4 - 20 - 16	22x68¾
4 - 24 - 16	26x68¾
4 - 30 - 16	32x68¾
4 - 36 - 16	38x68¾
4 - 42 - 16	44x68¾
4 - 48 - 16	50x68¾
4 - 20 - 18	22x76¾
4 - 24 - 18	26x76¾
4 - 30 - 18	32x76¾
4 - 36 - 18	38x76¾
4 - 42 - 18	44x76¾
4 - 48 - 18	50x76¾
4 - 20 - 20	22x84¾
4 - 24 - 20	26x84¾
4 - 30 - 20	32x84¾
4 - 36 - 20	38x84¾
4 - 42 - 20	44x84¾
4 - 48 - 20	50x84¾



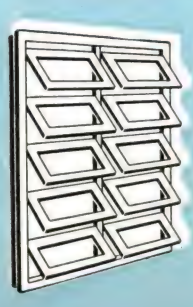
SINGLES — 5 LT. HIGH

DESIGN NUMBER	STUD OPENING
5 - 20 - 16	22x84⅞
5 - 24 - 16	26x84⅞
5 - 30 - 16	32x84⅞
5 - 36 - 16	38x84⅞
5 - 42 - 16	44x84⅞
5 - 48 - 16	50x84⅞



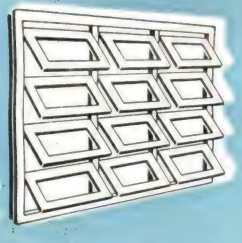
MULLIONS — 4 LT. HIGH

DESIGN NUMBER	STUD OPENING
2W - 4 - 30 - 16	63½x68¾
2W - 4 - 36 - 16	75½x68¾
2W - 4 - 42 - 16	87½x68¾
2W - 4 - 48 - 16	99½x68¾
2W - 4 - 30 - 18	63½x76¾
2W - 4 - 36 - 18	75½x76¾
2W - 4 - 42 - 18	87½x76¾
2W - 4 - 48 - 18	99½x76¾
2W - 4 - 30 - 20	63½x84¾
2W - 4 - 36 - 20	75½x84¾
2W - 4 - 42 - 20	87½x84¾
2W - 4 - 48 - 20	99½x84¾



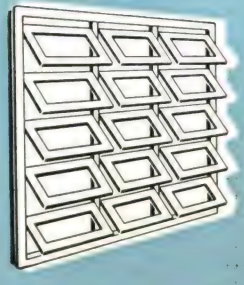
MULLIONS — 5 LT. HIGH

DESIGN NUMBER	STUD OPENING
2W - 5 - 30 - 16	63½x84⅞
2W - 5 - 36 - 16	75½x84⅞
2W - 5 - 42 - 16	87½x84⅞
2W - 5 - 48 - 16	99½x84⅞



TRIPLES — 4 LT. HIGH

DESIGN NUMBER	STUD OPENING
3W - 4 - 36 - 16	113x68¾
3W - 4 - 42 - 16	131x68¾
3W - 4 - 48 - 16	149x68¾
3W - 4 - 36 - 18	113x76¾
3W - 4 - 42 - 18	131x76¾
3W - 4 - 48 - 18	149x76¾
3W - 4 - 36 - 20	113x84¾
3W - 4 - 42 - 20	131x84¾
3W - 4 - 48 - 20	149x84¾

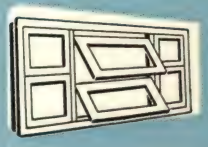


TRIPLES — 5 LT. HIGH

DESIGN NUMBER	STUD OPENING
3W - 5 - 36 - 16	113x84⅞
3W - 5 - 42 - 16	131x84⅞
3W - 5 - 48 - 16	149x84⅞

DESIGN INFORMATION

SSL indicates Stationary Side Light
VC indicates Venting Center



STA. SIDE LTS.	CENTER VENT	STUD OPENING
2 - 20 - 16-SSL	2 - 36 - 16-VC	81x36½
2 - 24 - 16-SSL	2 - 36 - 16-VC	89x36½
2 - 30 - 16-SSL	2 - 36 - 16-VC	101x36½
2 - 36 - 16-SSL	2 - 36 - 16-VC	113x36½
2 - 20 - 16-SSL	2 - 48 - 16-VC	93x36½
2 - 24 - 16-SSL	2 - 48 - 16-VC	101x36½
2 - 30 - 16-SSL	2 - 48 - 16-VC	113x36½
2 - 36 - 16-SSL	2 - 48 - 16-VC	125x36½
2 - 42 - 16-SSL	2 - 48 - 16-VC	137x36½
2 - 48 - 16-SSL	2 - 48 - 16-VC	149x36½
2 - 20 - 18-SSL	2 - 36 - 18-VC	81x40½
2 - 24 - 18-SSL	2 - 36 - 18-VC	89x40½
2 - 30 - 18-SSL	2 - 36 - 18-VC	101x40½
2 - 36 - 18-SSL	2 - 36 - 18-VC	113x40½
2 - 20 - 18-SSL	2 - 48 - 18-VC	93x40½
2 - 24 - 18-SSL	2 - 48 - 18-VC	101x40½
2 - 30 - 18-SSL	2 - 48 - 18-VC	113x40½
2 - 36 - 18-SSL	2 - 48 - 18-VC	125x40½
2 - 42 - 18-SSL	2 - 48 - 18-VC	137x40½
2 - 48 - 18-SSL	2 - 48 - 18-VC	149x40½
2 - 20 - 20-SSL	2 - 36 - 20-VC	81x44½
2 - 24 - 20-SSL	2 - 36 - 20-VC	89x44½
2 - 30 - 20-SSL	2 - 36 - 20-VC	101x44½
2 - 36 - 20-SSL	2 - 36 - 20-VC	113x44½
2 - 20 - 20-SSL	2 - 48 - 20-VC	93x44½
2 - 24 - 20-SSL	2 - 48 - 20-VC	101x44½
2 - 30 - 20-SSL	2 - 48 - 20-VC	113x44½
2 - 36 - 20-SSL	2 - 48 - 20-VC	125x44½
2 - 42 - 20-SSL	2 - 48 - 20-VC	137x44½
2 - 48 - 20-SSL	2 - 48 - 20-VC	149x44½



STA. SIDE LTS.	CENTER VENT	STUD OPENING
3 - 20 - 16-SSL	3 - 36 - 16-VC	81x52¾
3 - 24 - 16-SSL	3 - 36 - 16-VC	89x52¾
3 - 30 - 16-SSL	3 - 36 - 16-VC	101x52¾
3 - 36 - 16-SSL	3 - 36 - 16-VC	113x52¾
3 - 20 - 16-SSL	3 - 48 - 16-VC	93x52¾
3 - 24 - 16-SSL	3 - 48 - 16-VC	101x52¾
3 - 30 - 16-SSL	3 - 48 - 16-VC	113x52¾
3 - 36 - 16-SSL	3 - 48 - 16-VC	125x52¾
3 - 42 - 16-SSL	3 - 48 - 16-VC	137x52¾
3 - 48 - 16-SSL	3 - 48 - 16-VC	149x52¾
3 - 20 - 18-SSL	3 - 36 - 18-VC	81x58¾
3 - 24 - 18-SSL	3 - 36 - 18-VC	89x58¾
3 - 30 - 18-SSL	3 - 36 - 18-VC	101x58¾
3 - 36 - 18-SSL	3 - 36 - 18-VC	113x58¾
3 - 20 - 18-SSL	3 - 48 - 18-VC	93x58¾
3 - 24 - 18-SSL	3 - 48 - 18-VC	101x58¾
3 - 30 - 18-SSL	3 - 48 - 18-VC	113x58¾
3 - 36 - 18-SSL	3 - 48 - 18-VC	125x58¾
3 - 42 - 18-SSL	3 - 48 - 18-VC	137x58¾
3 - 48 - 18-SSL	3 - 48 - 18-VC	149x58¾
3 - 20 - 20-SSL	3 - 36 - 20-VC	81x64¾
3 - 24 - 20-SSL	3 - 36 - 20-VC	89x64¾
3 - 30 - 20-SSL	3 - 36 - 20-VC	101x64¾
3 - 36 - 20-SSL	3 - 36 - 20-VC	113x64¾
3 - 20 - 20-SSL	3 - 48 - 20-VC	93x64¾
3 - 24 - 20-SSL	3 - 48 - 20-VC	101x64¾
3 - 30 - 20-SSL	3 - 48 - 20-VC	113x64¾
3 - 36 - 20-SSL	3 - 48 - 20-VC	125x64¾
3 - 42 - 20-SSL	3 - 48 - 20-VC	137x64¾
3 - 48 - 20-SSL	3 - 48 - 20-VC	149x64¾

WOODCO E-ZEE-Loc AWNING PICTURE WINDOW UNITS

for WOODCO E-ZEE Loc Wood Awning Windows

— available in —

½" THERMOPANE — ¼" AIR SPACE ● 1" THERMOPANE — ½" AIR SPACE

¼" POLISHED PLATE GLASS ● 3/16" A QUALITY GLASS

EXPLANATION OF FIGURE DESIGNATIONS

The *first* figure in the style number indicates the number of sash in side lights.

The *second* figure indicates the width of the side light sash.

The *third* figure indicates the height of each side light sash.

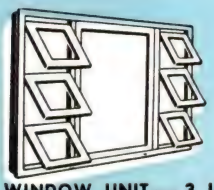
The "P" number indicates the width of the picture sash in inches.

"VSL" indicates Venting Side Lights.



PICTURE WINDOW UNIT — 2 LTS HIGH
VENTING SIDE LIGHTS

DESIGN NUMBER		TYPE OF GLAZING	STUD OPENING
2 - 20 - 16-VSL	P36	● ▲ □	81x36½
2 - 24 - 16-VSL	P36	● ▲ □	89x36½
2 - 30 - 16-VSL	P36	● ▲ □	101x36½
2 - 36 - 16-VSL	P36	● ▲ □	113x36½
2 - 20 - 16-VSL	P48	● ▲ □	93x36½
2 - 24 - 16-VSL	P48	● ▲ □	101x36½
2 - 30 - 16-VSL	P48	● ▲ □	113x36½
2 - 36 - 16-VSL	P48	● ▲ □	125x36½
2 - 42 - 16-VSL	P48	● ▲ □	137x36½
2 - 48 - 16-VSL	P48	● ▲ □	149x36½
2 - 20 - 16-VSL	P52	● ▲	97¾x36½
2 - 20 - 16-VSL	P60	● ▲	105¾x36½
2 - 24 - 16-VSL	P60	● ▲	113¾x36½
2 - 30 - 16-VSL	P60	● ▲	125¾x36½
2 - 36 - 16-VSL	P60	● ▲	137¾x36½
2 - 20 - 16-VSL	P68	●	113¾x36½
2 - 20 - 16-VSL	P76	●	121¾x36½
2 - 24 - 16-VSL	P76	●	129¾x36½
2 - 30 - 16-VSL	P76	●	141¾x36½
2 - 36 - 16-VSL	P76	●	153¾x36½
2 - 20 - 18-VSL	P36	● ▲ □	81x40½
2 - 24 - 18-VSL	P36	● ▲ □	89x40½
2 - 30 - 18-VSL	P36	● ▲ □	101x40½
2 - 36 - 18-VSL	P36	● ▲ □	113x40½
2 - 20 - 18-VSL	P48	● ▲ ■ ○	93x40½
2 - 24 - 18-VSL	P48	● ▲ ■ ○	101x40½
2 - 30 - 18-VSL	P48	● ▲ ■ ○	113x40½
2 - 36 - 18-VSL	P48	● ▲ ■ ○	125x40½
2 - 42 - 18-VSL	P48	● ▲ ■ ○	137x40½
2 - 48 - 18-VSL	P48	● ▲ ■ ○	149x40½
2 - 20 - 18-VSL	P52	● ▲	97¾x40½
2 - 20 - 18-VSL	P60	● ▲	105¾x40½
2 - 24 - 18-VSL	P60	● ▲	113¾x40½
2 - 30 - 18-VSL	P60	● ▲	125¾x40½
2 - 36 - 18-VSL	P60	● ▲	137¾x40½
2 - 20 - 18-VSL	P68	●	113¾x40½
2 - 20 - 18-VSL	P76	●	121¾x40½
2 - 24 - 18-VSL	P76	●	129¾x40½
2 - 30 - 18-VSL	P76	●	141¾x40½
2 - 36 - 18-VSL	P76	●	153¾x40½
2 - 20 - 20-VSL	P36	● ▲	81x44½
2 - 24 - 20-VSL	P36	● ▲	89x44½
2 - 30 - 20-VSL	P36	● ▲	101x44½
2 - 36 - 20-VSL	P36	● ▲	113x44½
2 - 20 - 20-VSL	P48	● ▲	93x44½
2 - 24 - 20-VSL	P48	● ▲	101x44½
2 - 30 - 20-VSL	P48	● ▲	113x44½
2 - 36 - 20-VSL	P48	● ▲	125x44½
2 - 42 - 20-VSL	P48	● ▲	137x44½
2 - 48 - 20-VSL	P48	● ▲	149x44½
2 - 20 - 20-VSL	P52	● ▲	97¾x44½
2 - 20 - 20-VSL	P60	● ▲	105¾x44½
2 - 24 - 20-VSL	P60	● ▲	113¾x44½
2 - 30 - 20-VSL	P60	● ▲	125¾x44½
2 - 36 - 20-VSL	P60	● ▲	137¾x44½
2 - 20 - 20-VSL	P68	●	113¾x44½
2 - 20 - 20-VSL	P76	●	121¾x44½
2 - 24 - 20-VSL	P76	●	129¾x44½
2 - 30 - 20-VSL	P76	●	141¾x44½
2 - 36 - 20-VSL	P76	●	153¾x44½



PICTURE WINDOW UNIT — 3 LTS HIGH
VENTING SIDE LIGHTS

DESIGN NUMBER		TYPE OF GLAZING	STUD OPENING
3 - 20 - 16-VSL	P36	● ▲	81x52¾
3 - 24 - 16-VSL	P36	● ▲	89x52¾
3 - 30 - 16-VSL	P36	● ▲	101x52¾
3 - 36 - 16-VSL	P36	● ▲	113x52¾
3 - 20 - 16-VSL	P48	● ▲	93x52¾
3 - 24 - 16-VSL	P48	● ▲	101x52¾
3 - 30 - 16-VSL	P48	● ▲	113x52¾
3 - 36 - 16-VSL	P48	● ▲	125x52¾
3 - 42 - 16-VSL	P48	● ▲	137x52¾
3 - 48 - 16-VSL	P48	● ▲	149x52¾
3 - 20 - 16-VSL	P52	● ▲ ■	97¾x52¾
3 - 20 - 16-VSL	P60	● ▲ ■	105¾x52¾
3 - 24 - 16-VSL	P60	● ▲ ■	113¾x52¾
3 - 30 - 16-VSL	P60	● ▲ ■	125¾x52¾
3 - 36 - 16-VSL	P60	● ▲ ■	137¾x52¾
3 - 20 - 16-VSL	P68	● ■	113¾x52¾
3 - 20 - 16-VSL	P76	● ■	121¾x52¾
3 - 24 - 16-VSL	P76	● ■	129¾x52¾
3 - 30 - 16-VSL	P76	● ■	141¾x52¾
3 - 36 - 16-VSL	P76	● ■	153¾x52¾
3 - 20 - 18-VSL	P36	● ▲	81x58¾
3 - 24 - 18-VSL	P36	● ▲	89x58¾
3 - 30 - 18-VSL	P36	● ▲	101x58¾
3 - 36 - 18-VSL	P36	● ▲	113x58¾
3 - 20 - 18-VSL	P48	● ▲	93x58¾
3 - 24 - 18-VSL	P48	● ▲	101x58¾
3 - 30 - 18-VSL	P48	● ▲	113x58¾
3 - 36 - 18-VSL	P48	● ▲	125x58¾
3 - 42 - 18-VSL	P48	● ▲	137x58¾
3 - 48 - 18-VSL	P48	● ▲	149x58¾
3 - 20 - 18-VSL	P52	● ▲	97¾x58¾
3 - 20 - 18-VSL	P60	●	105¾x58¾
3 - 24 - 18-VSL	P60	●	113¾x58¾
3 - 30 - 18-VSL	P60	●	125¾x58¾
3 - 36 - 18-VSL	P60	●	137¾x58¾
3 - 20 - 18-VSL	P68	●	113¾x58¾
3 - 20 - 18-VSL	P76	●	121¾x58¾
3 - 24 - 18-VSL	P76	●	129¾x58¾
3 - 30 - 18-VSL	P76	●	141¾x58¾
3 - 36 - 18-VSL	P76	●	153¾x58¾
3 - 20 - 20-VSL	P36	●	81x64¾
3 - 24 - 20-VSL	P36	●	89x64¾
3 - 30 - 20-VSL	P36	●	101x64¾
3 - 36 - 20-VSL	P36	●	113x64¾
3 - 20 - 20-VSL	P48	●	93x64¾
3 - 24 - 20-VSL	P48	●	101x64¾
3 - 30 - 20-VSL	P48	●	113x64¾
3 - 36 - 20-VSL	P48	●	125x64¾
3 - 42 - 20-VSL	P48	●	137x64¾
3 - 48 - 20-VSL	P48	●	149x64¾
3 - 20 - 20-VSL	P52	● ■	97¾x64¾
3 - 20 - 20-VSL	P60	● ■	105¾x64¾
3 - 24 - 20-VSL	P60	● ■	113¾x64¾
3 - 30 - 20-VSL	P60	● ■	125¾x64¾
3 - 36 - 20-VSL	P60	● ■	137¾x64¾
3 - 20 - 20-VSL	P68	● ■	113¾x64¾
3 - 20 - 20-VSL	P76	● ■	121¾x64¾
3 - 24 - 20-VSL	P76	● ■	129¾x64¾
3 - 30 - 20-VSL	P76	● ■	141¾x64¾
3 - 36 - 20-VSL	P76	● ■	153¾x64¾

EXPLANATION OF SYMBOLS

■ — 1" Thermopane (2 sheets of 1/4" Plate with 1/2" Air Space)

○ — 2 Sheets 3/16 "A" Thermopane with 1/2" Air Space

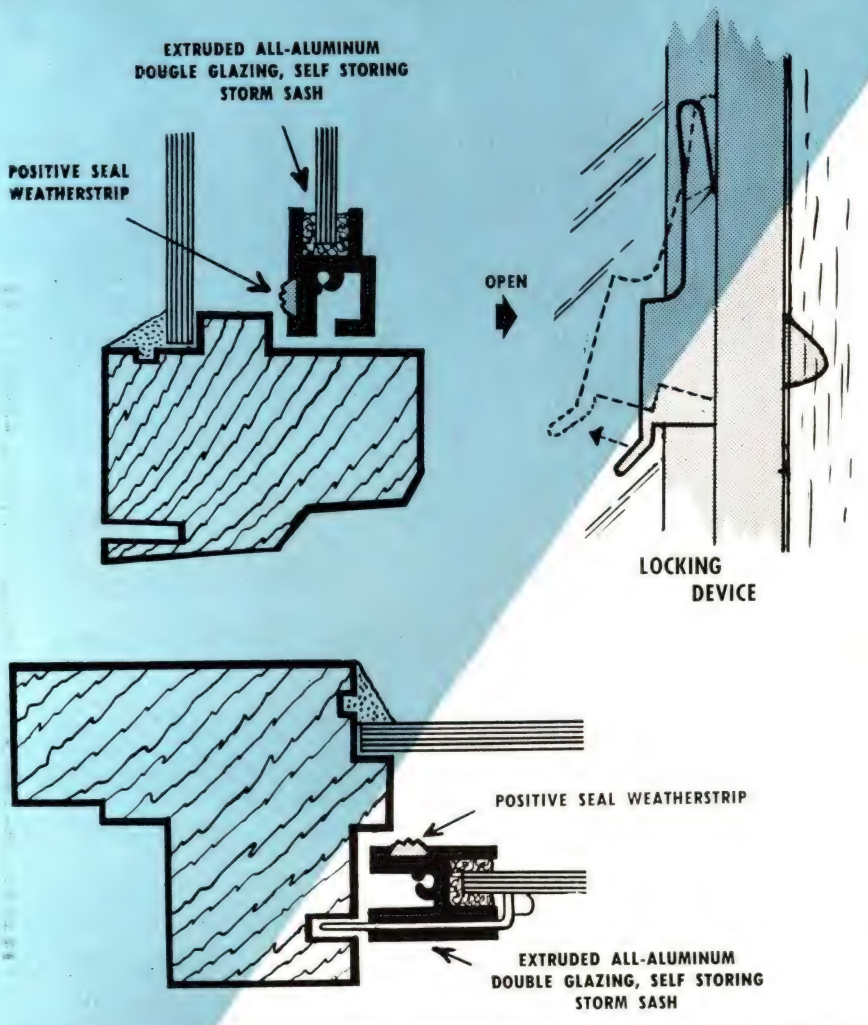
● — 1/4" Polished Plate Glass

▲ — 3/16" "A" Quality Glass

□ — 1/2" Thermopane (2 sheets of DSA Glass with 1/4" Air Space)

For complete protection in any weather!

5c
Wo



. . . Double Glazing

- EXTRUDED ALL-ALUMINUM
- SELF-STORING
- EASY TO INSTALL
- EASY TO CLEAN
- EASY TO REGLAZE
- FULL VENTILATION WITHOUT REMOVING SCREEN
- POSITIVE-SEAL WEATHERSTRIPPED
- SNUG FIT TO WINDOW SASH
- NO PAINTING REQUIRED
- WILL NOT RUST
- SCREW-ASSEMBLED

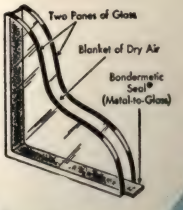
WOODCO SCREENS

Specially Designed for the WOODCO E-ZEE Loc Wood Awning Window

- ALL-ALUMINUM
- EASY TO INSTALL
- FULL LENGTH
- LIGHT WEIGHT
- WON'T RUST
- NEED NO PAINTING
- SNUG FIT TO FRAME
- WILL NOT INTERFERE WITH OPERATION



Also Available with



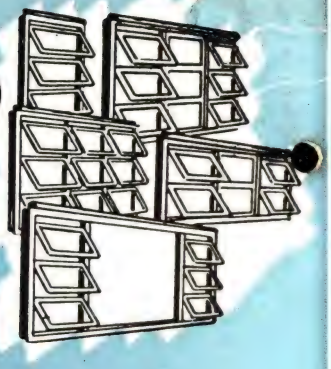
Thermopane®
INSULATING GLASS

1. Reduces Condensation: Lessens the danger of Water Drippage.
2. Eliminates the need for hanging and maintaining Storm Sash.
3. Gives the Housewife only TWO surfaces to clean, instead of FOUR.
4. Never needs removing — Eliminates the Storm Sash Storage Problem.
5. Cuts fuel bills by retaining interior heat.

WOODCO
E-ZEE Loc
WOOD AWNING WINDOWS

ACCLAIMED

by ARCHITECTS • BUILDERS
CONTRACTORS • HOMEOWNERS
AS THEIR



FIRST CHOICE IN WOOD AWNING WINDOWS!

The unmatched efficiency of **WOODCO E-ZEE Loc** operation is combined with Double Weatherstripping (Pat. Pend.) to provide you with a window so far ahead of ordinary windows that you can't afford to overlook them! The extra-heavy sash and frames of **WOODCO E-ZEE Loc** windows are **Toxic-Treated** against Rot, Termites, Fungii, and Decay; **Water-Repellent Treated** to reduce shrinkage and swelling to a minimum. Full 1-11/16"-thick sash are extra strong, but maintain extremely fine narrow sight lines. Unsurpassed in beauty, performance and economy, **WOODCO E-ZEE Loc** windows are adaptable to all kinds of architecture and any extreme of climate. Yes, **WOODCO E-ZEE Loc** has everything you ever hoped for in a window. It will Never Stick, Never Rattle . . . it assures 100% ventilation, even when it rains. Both sides of all sash may be cleaned from inside the home — there are no gadgets to disengage or jam. What's more, the **WOODCO E-ZEE Loc** gives you unheard of tightness in closing that effects **real savings** in heating and air conditioning costs.

If Planning to Build or Remodel, Consult Your Local Architect

WHEN SELECTING WINDOWS, REMEMBER —

"From Skyscraper to Cottage . . . WOODCO E-ZEE Loc Meets Every Requirement"

A COMPLETE UNIT ON THE JOB

Every WOODCO E-ZEE Loc Window unit delivered to the building site arrives completely assembled . . . all that needs be done is to secure it in the opening. No hardware to apply . . . no parts to misplace . . . no adjustments necessary . . . no delays! Builders appreciate the time-saving and simplicity of installation! There's no doubt about it: WOODCO E-ZEE Loc Wood Windows reduce window installation time . . . save money! See them today at Your Local Lumber Dealer.

+ 45M-10/54

Womans Home COMPANION

SELECTS WOODCO AWNING WINDOWS FOR "EASY LIVING" DISPLAY FEATURE









THE WINDOW WITH THE "SAFETY SEAL"

The Double Vinyl Weatherstripping (Pat. Pend.) incorporated in the WOODCO E-ZEE Loc Wood Awning Window offers DOUBLE protection against air and moisture leakage— in fact it does a BETTER than double job in preventing Seepage, Leaks or Dust Infiltration. Atmospheric changes have absolutely no effect upon the tight positive closure, while assuring exceptional ease of operation. For comfort, safety and satisfaction, get the window that

Never Sticks — Never Rattles!

***WOODCO E-ZEE Loc* is the Wood Window Women Want Most, because it's so New, so Beautiful, so Absolutely Perfect! See it Today!**

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WOODCO CORPORATION

A Division of GENERAL WOODCRAFT CO., Inc., North Bergen, N. J.

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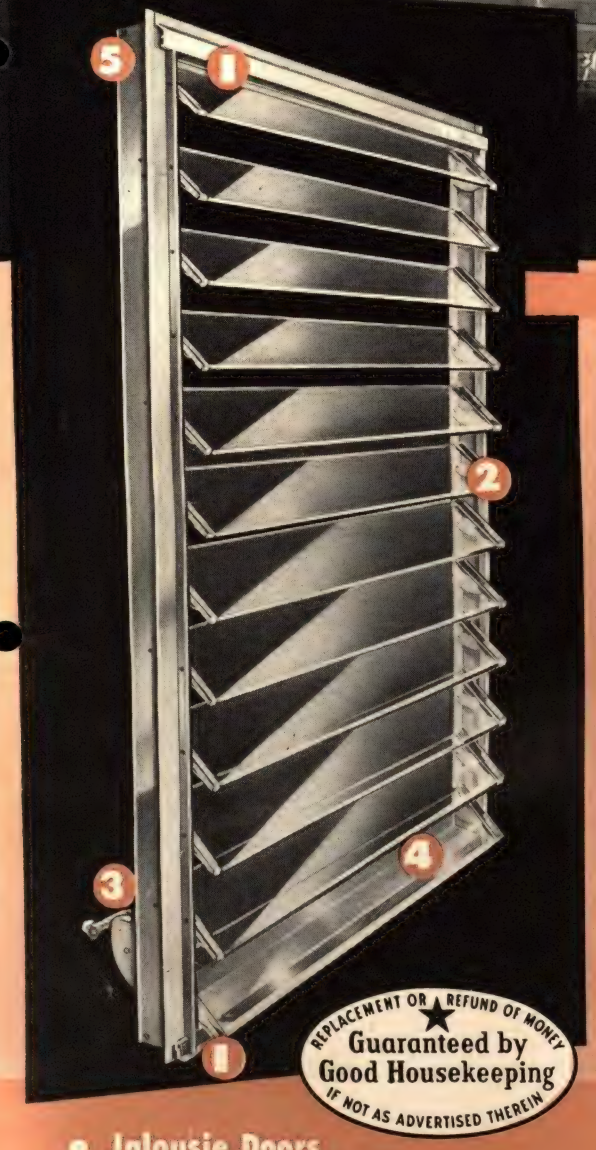
MANUFACTURERS OF WOODCO *E-ZEE Loc* WOOD AWNING WINDOW HARDWARE

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abc glass jalousie windows

New 1955 Model in Aluminum Frames





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Guaranteed by Good Housekeeping
IF NOT AS ADVERTISED THEREIN

Compare the construction and design of ABC with any other jalousie . . . Compare ABC's effectiveness against wind and water . . . Compare ABC's ease of operation. You'll see why the manufacturers invite comparison!

1 **Koroseal** weatherstripping at head and sill forms tight seal against wind and rain. *ABC is America's most weather-tight jalousie window!*

2 **patented spring-clip** has exclusive "knee action" that makes jamb faces weather-tight. Heat treated for 48% greater strength, clip eliminates bending when glazing, absorbs shocks and rattles.

3 **all balanced control** makes operation simple as ABC. With glass louvers pivoted at center, *you can "move" hundreds of pounds of glass with a fingertouch.* No drag or overhang!

4 **sloped sill** allows rain to drain off quickly, makes ABC easier to clean. Another big design feature that wins favor with architects, builders, and consumers everywhere!

5 **KD corner** design allows you to cut sections to size quickly without notching, speeds ABC assembly and installation. One-piece-frame units with *heliarc-welded corners* also available.

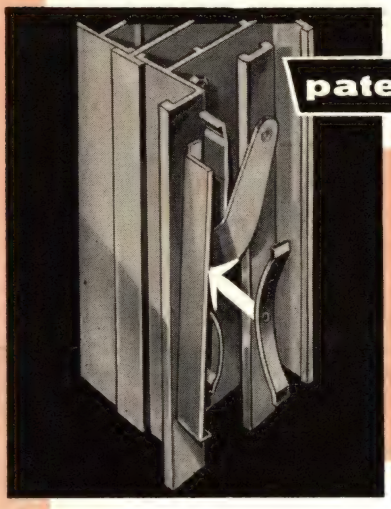
HURRICANE APPROVED
FWMA SPECIFICATIONS FOR AIR AND WATER INFILTRATION UNDER DYNAMIC CONDITIONS OF WIND AND WATER—CONFIRMED BY UNIVERSITY OF MIAMI HOUSING RESEARCH LABORATORY.
MEMBER FLORIDA WINDOW MANUFACTURERS ASSOCIATION

- Jalousie Doors
- Screens
- Storm Sash
- Glass Sliding Doors

adams engineering co., inc.

MIAMI, FLORIDA • S. HACKENSACK, NEW JERSEY

adams engineering co., inc.



patented spring-clip

All crackage is eliminated between the patented ABC clip and jamb, due to pressure of the stainless steel spring against the glass. A perfect weatherstripping for ABC jalousies, this feature is covered by U. S. Patent No. 2,640,233 issued June 2, 1953.

advanced design

The progressive styling and weathertight protection of ABC jalousie windows allow the architect maximum design freedom for prime window specifications . . . permit the builder to enhance demand for large and small home projects . . . insure absolute consumer satisfaction through years of trouble-free operation.

test results

Air infiltration shall not exceed .49 cubic foot per foot of crackage with constant wind velocity of 25 mph, according to Pittsburgh Testing Laboratory. Water infiltration shall not exceed .0008 gallons of water per minute under test conditions where wind velocity varies from 80-120 miles per hour and 20 gallons of water is introduced into the slipstream, based on tests by the University of Miami Housing Research Laboratory.

guarantee

The manufacturers, Adams Engineering Co., Inc., agree to unconditionally guarantee their products, ABC jalousie windows and doors, and ABC glass sliding doors, against defective workmanship for a period of one year, providing installation is satisfactory.

specifications

GENERAL. Windows, in standard or special widths, shall be ABC "All Balanced Control" weatherstripped glass jalousies, manufactured by Adams Engineering Co., Inc., of Miami, Florida, and South Hackensack, New Jersey.

MATERIALS. ABC jalousie frames and mullions shall be 63-S-T5 extruded aluminum alloy sections and engineered from .063 to .125 inches in thickness.

CONSTRUCTION. All ABC frame corners shall be furnished KD or heliarc-welded. KD custom widths shall be obtained by making a simple, straight cut, and shall be assembled easily and quickly with eight screws.

LOUVER CLIPS. Each ABC louver clip shall contain patented ABC lateral spring assembly of stainless steel to insure maximum weathertight closure at jamb faces, and to absorb shocks and rattles. For 48% greater resiliency, clips shall be heat-treated by the manufacturers.

WEATHERSTRIPPING. All ABC heads and sills shall be weatherstripped with durable, flexible Koroseal vinyl plastic to insure positive seal against wind and rain.

HARDWARE. All ABC jalousies to be furnished complete with worm-and-gear type operator to insure ease of operation and an infinite number of locking positions.

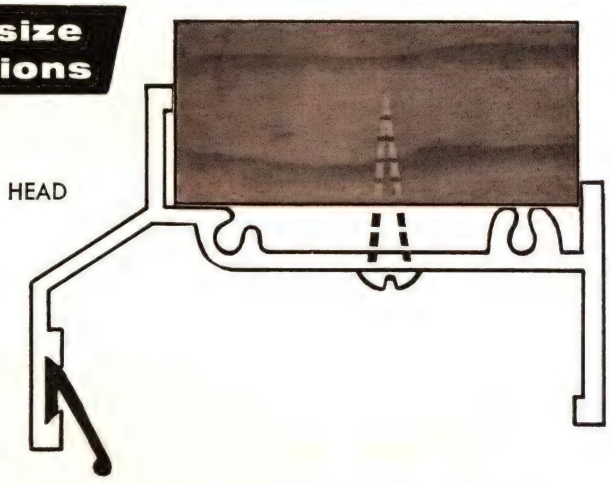
GLAZING. Glass available 4½" wide– clear, obscure, heat-absorbing Solex, or obscure heat-absorbing Solex.

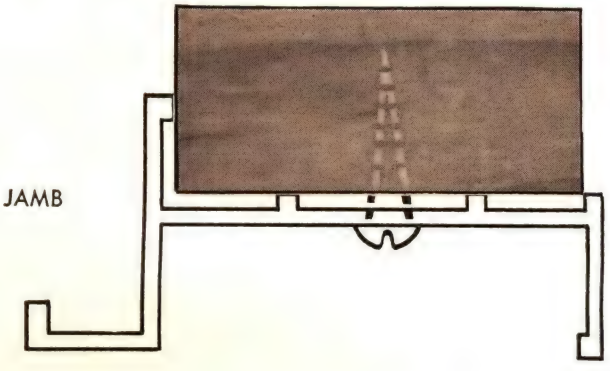
BALANCE. Louvers are to be supported in patented, heat-treated ABC clips precision-balanced at the centers for easy, effortless operation.

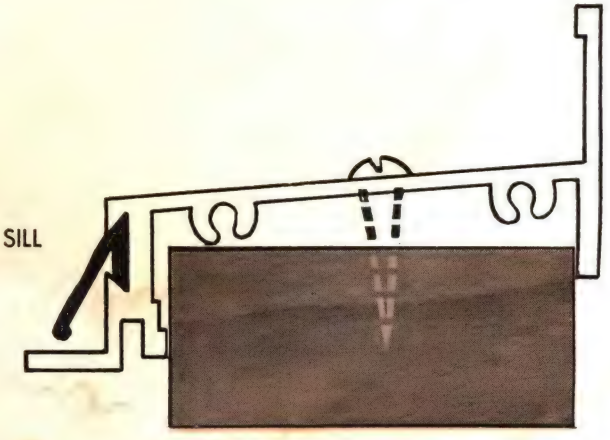
SCREENS AND/OR STORM WINDOWS. Screens shall be insert-overlap type consisting of special rolled sections and 18-14 mesh Alclad aluminum cloth woven by the manufacturers. ABC storm windows are to be interchangeable with screens and made of 63-S-T5 aluminum alloy sections extruded by the manufacturers and designed for easy "snap-in" type glazing.

SUPPLY. ABC jalousie windows, jalousie doors, and glass sliding doors may be obtained from local ABC dealers, or by writing direct to Adams Engineering Co., Inc., Box 936, Little River Branch, Miami 38, Fla.

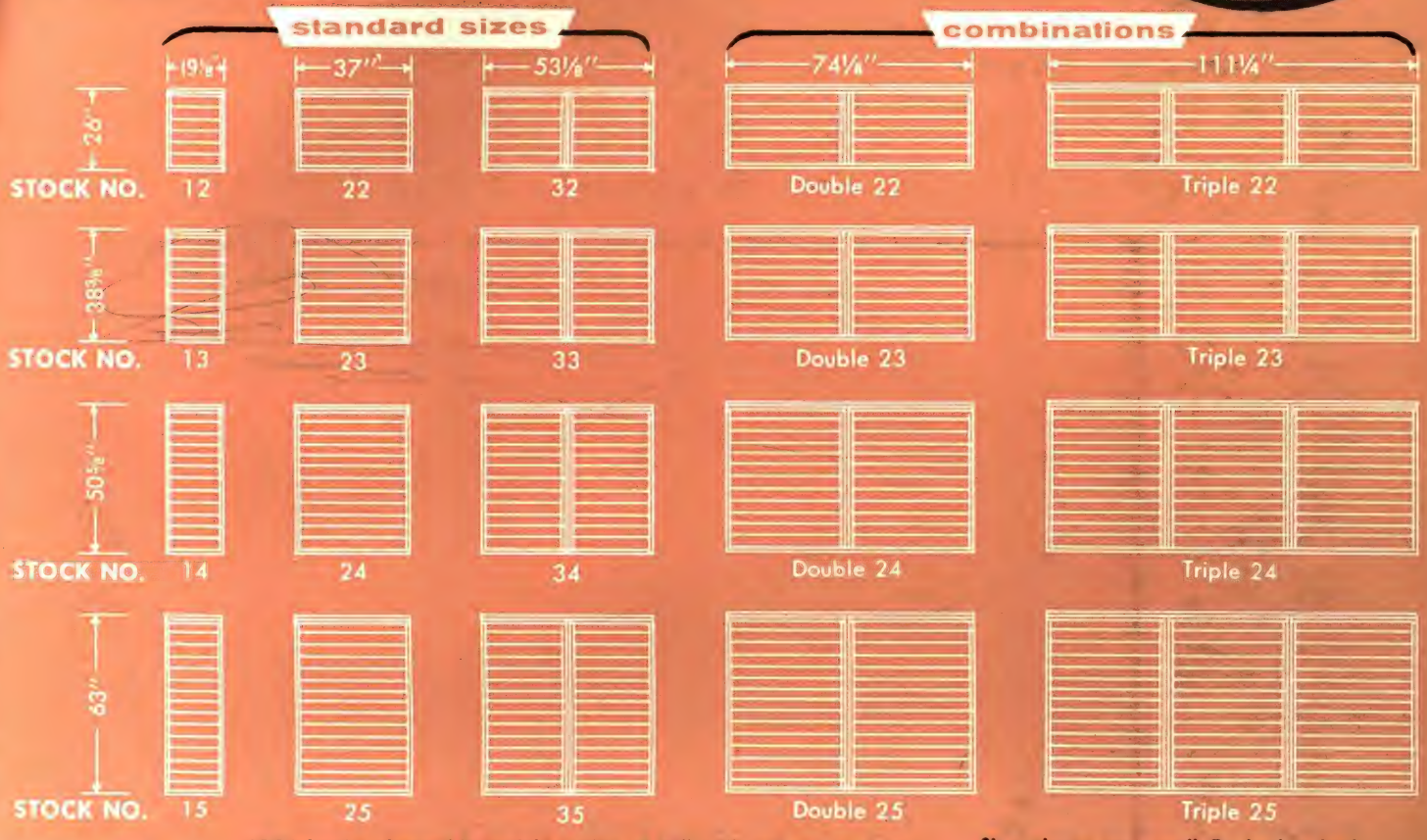
full size sections







types and sizes



modular sizes ABC jalousies obtained in modular widths of 17", 19", and two-inch increments through 43". In-between sizes available. Modular heights in *four-inch increments only*, from 14", 18", through 192". Split operation available.

Sizes shown are overall. For buck-to buck ABC dimensions, deduct 1" from width and height. When specifications are drawn specify width and height in that order.

jalousie doors



All ABC jalousie doors are 1¾" thick, vertical grain Douglas fir. Full doors have 15 glass louvers, while half doors include eight.

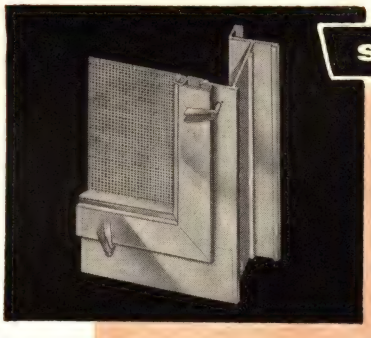
sizes

Size	Half Door Insert Size	Full Door Insert Size
2'0" x 6'8"		14" x 62"
2'0" x 7'0"		14" x 62"
2'6" x 6'8"	22" x 34"	20" x 62"
2'6" x 7'0"	22" x 34"	20" x 62"
2'8" x 6'8"	26" x 34"	22" x 62"
2'8" x 7'0"	26" x 34"	22" x 62"
3'0" x 6'8"	32" x 34"	26" x 62"
3'0" x 7'0"	32" x 34"	26" x 62"
3'6" x 6'8"		32" x 62"
3'6" x 7'0"		32" x 62"

Sizes shown are overall to include flanges. For buck-to-buck dimensions, deduct 1" from width and height.

thresholds

Heavy gauge aluminum double-lip thresholds, engineered complete with hook-strip and drain pan, available upon request.



screens

Exclusive insert-overlap screen design provides easy no-tool removal. ABC screens fit snug and firm, afford maximum protection against insects.



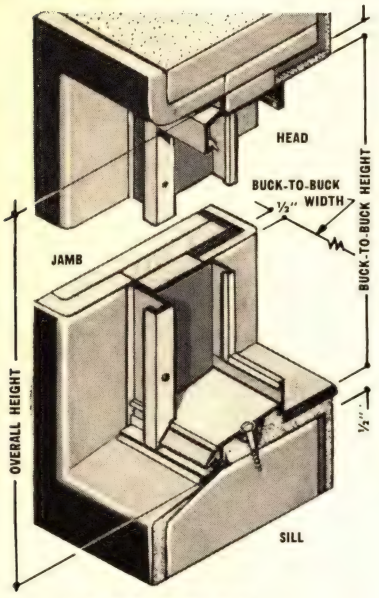
storm windows

Instantly replaces ABC screen through quick no-tool removal. Glass is sealed in with special vinyl plastic wedge, assuring 100% protection against cold air infiltration. Engineered from extruded 63-S-T5 aluminum sections, storm window is available with hopper vent (see illustration). Furnished KD, unit is simple to assemble and glaze.

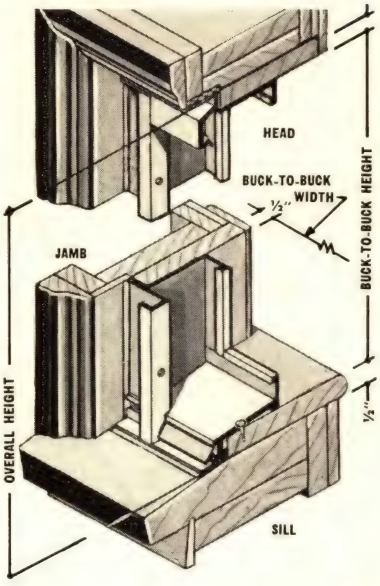


hopper vent

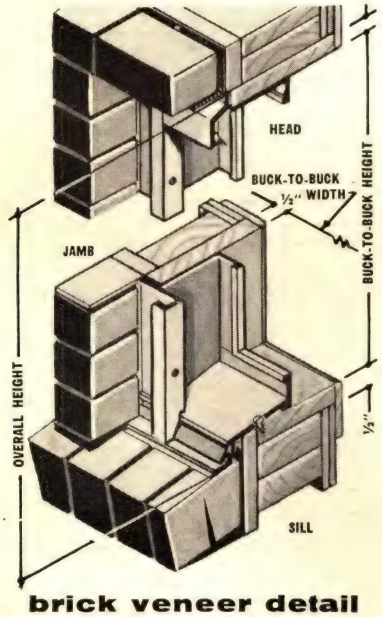
installation details



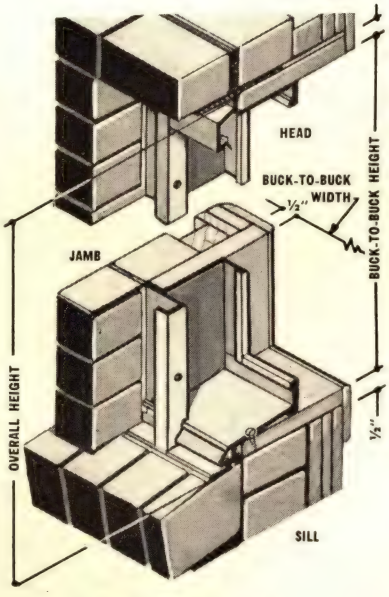
CBS detail



wood frame detail



brick veneer detail



brick detail

mullion details

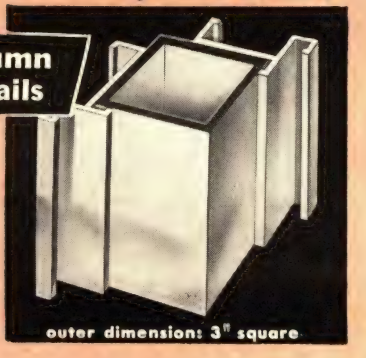


jalousie, mullion, jalousie



jalousie, picture window

column details



outer dimension: 3" square



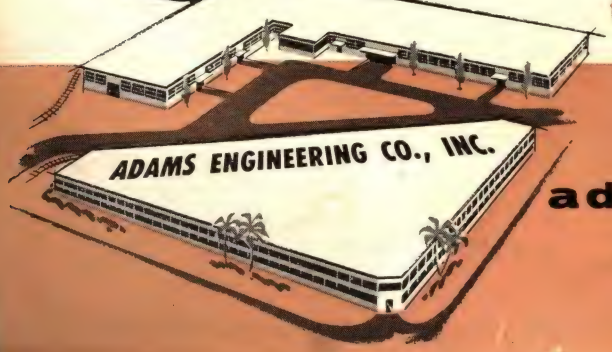
distance between buck and column faces

diameter	X
2½"	9/32"
3"	13/32"
3½"	9/16"
4"	11/16"

Illustrated are load-bearing aluminum columns. For load-bearing charts contact your nearest ABC jalousie dealer or write direct to Adams Engineering Company, Inc.

abc

Fast, Dependable Delivery from a total of 340,00 square feet to serve YOU!



adams engineering co., inc.

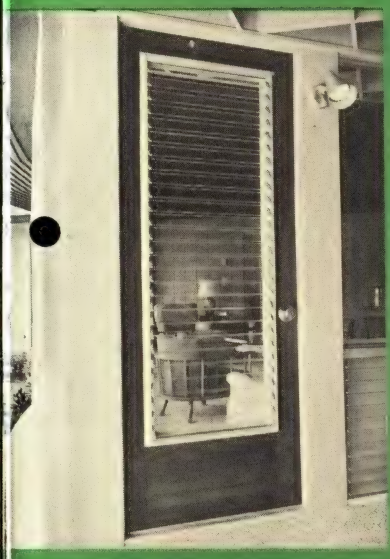
19300 Biscayne Boulevard
MIAMI, FLORIDA
Phone: North Dade 6-2676

630 Huyler Street
S. HACKENSACK, N. J.
Phone: Hubbard 9-5512



5-IN-ONE COMBINATION: outside venetian blind — awning — window guard — storm shutter — and illumination, draft and rain control with windows open.

CLEARVIEW®



4-IN-ONE COMBINATION: door — screen door — window — and storm sash (clear or obscure louvers).



Clearview louver windows, standard or custom sizes.



louver windows

louver doors

outside venetian blinds

fiberglas and aluminum awnings

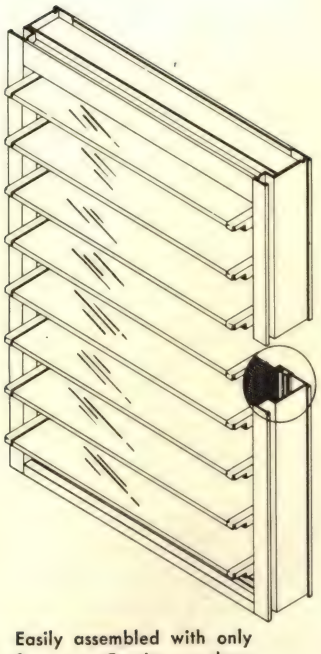
... for Residential and Commercial use

CLEARVIEW LOUVER WINDOW CORPORATION

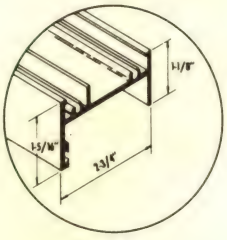
ESTABLISHED 1935

CLEARVIEW LOUVER WINDOW

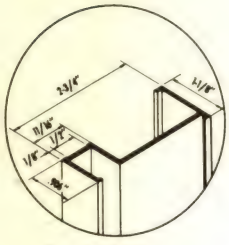
WITHOUT FLANGE



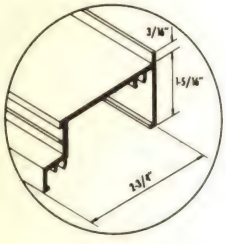
Easily assembled with only 8 screws. Continuous channels in head and sill engaged by screws, without drilling.



HEAD

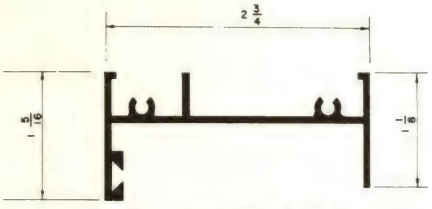


JAMB

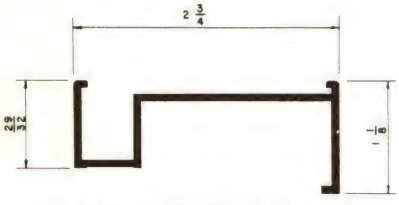


SILL

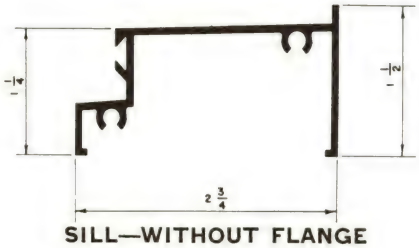
SECTIONS - ½ SIZE



HEAD—WITHOUT FLANGE

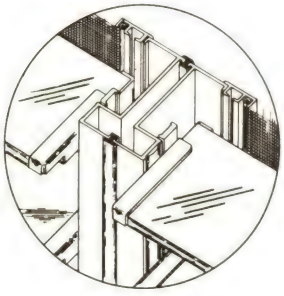


JAMB—WITHOUT FLANGE

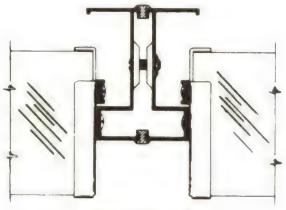


SILL—WITHOUT FLANGE

MULLION



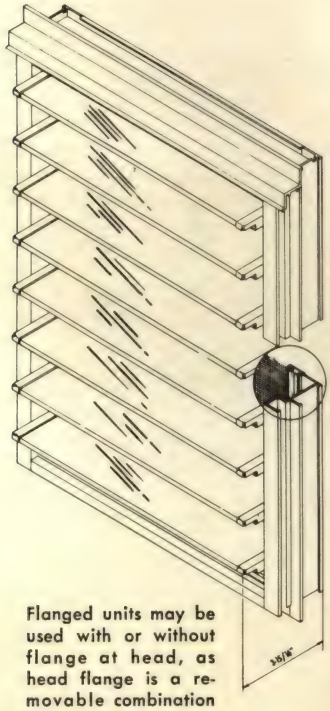
ISOMETRIC



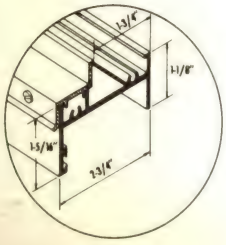
SECTION

Simplified ⅛" mullion system for units without flanges require no drillings — mullion bolts go through installation holes.

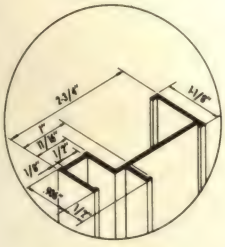
WITH FLANGE



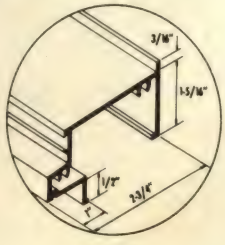
Flanged units may be used with or without flange at head, as head flange is a removable combination flange and drip cap.



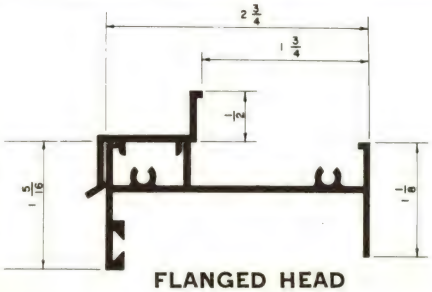
HEAD



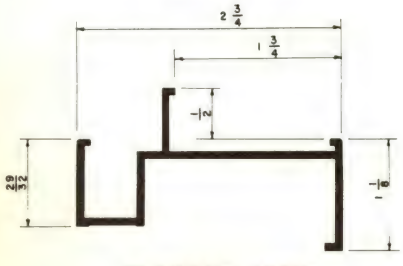
JAMB



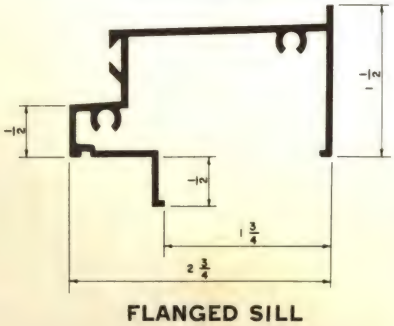
SILL



FLANGED HEAD

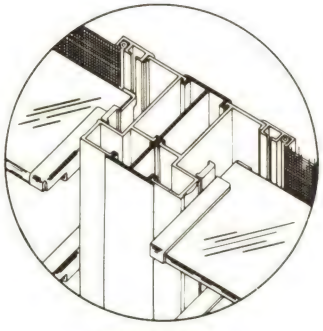


FLANGED JAMB

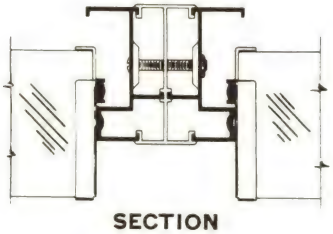


FLANGED SILL

MULLION



ISOMETRIC



SECTION

CLEARVIEW'S 1⅛" mullion for flanged windows features one-piece construction for maximum strength.

SPECIFICATIONS

for flanged and non-flanged types

1. GENERAL — All louvered windows shown on the architect's drawings shall be CLEARVIEW Louver Windows as manufactured by the CLEARVIEW Louver Window Corp., of Dallas, Texas and Ft. Lauderdale, Florida. Windows shall be furnished in the sizes indicated, and all standard hardware shall be included.

2. MATERIALS AND CONSTRUCTION — The window frames shall be manufactured from 63S-T5 extruded aluminum alloy having a minimum thickness of .064-inch. Joints of the frame members shall be neatly fitted and securely connected.

3. HARDWARE — The operator shall be CLEARVIEW patented "Loc-Tite" made of Zamak No. 5 zinc-aluminum alloy with chrome finish. Alternate: Gear operator Zamak No. 5 zinc-aluminum alloy with simulated chrome finish for the 3" louver window. Gear Operator only available on the 4" Louver Window.

4. WEATHERSTRIPPING — Weather tightness shall be provided by stainless steel weatherstripping at jambs. Head and sill weatherstripping is vinyl retained in a keyway extruded internally in the head and sill members. Jamb weatherstripping is to be installed between the louver clips and the window frame jambs.

5. LOUVER CLIPS — All louver clips shall be formed from 3S-H14 Aluminum of .051-inch thickness and shall have stainless steel leaf springs furnished with each clip to retain and insure tight and proper closure of louvers.

6. LOUVERS — All louvers are to be 7/32" clear crystal sheet glass 3" or 4" wide and the length to be 2" shorter than the overall width of the window (excluding flanges). The two long edges of each louver shall have pencil-edge finish.

Alternates:

- 7/32" J-3 Obscure
- 7/32" Obscure crystal
- 1/4" Polished plate (clear or obscure)
- 7/32" Heat absorbing (clear or obscure)
- 1/4" Heat absorbing (clear or obscure)
- 7/16" x 3" or 4" Redwood

7. SCREENS — Where indicated on architect's drawings full-length screens shall be furnished to fit window. Screen frame shall recess into the window frame and shall be manufactured from aluminum extrusions of .062" minimum thickness. Screen frame corners shall be reinforced and securely locked. Screen frames shall be screened with 18-14 mesh Alclad aluminum.

Alternate: 18-14 mesh fiberglas screen cloth.

8. STORM SASH — Where indicated on architect's drawings Storm Sash shall be furnished to fit window. Storm Sash shall recess into window frame and shall be manufactured from aluminum extrusions of .062" minimum thickness. Koroseal glazing spline shall be furnished for securing glass. Storm Sash for windows 42" or less in height shall be single section, and for windows from 44½" to 62" in height shall have a muntin bar, and for windows of height greater than 62" Storm Sash shall be furnished in two equal size sections. Standard hopper vents shall be furnished when specified.

STANDARD SIZES

Window width: 18" to 40" in 2" increments.

Louver length: 2" less than window width.

Window height (3" louver): 17" to 84½" in 2½" increments.

Window height (4" louver): 19½" to 86" in 3½" increments.

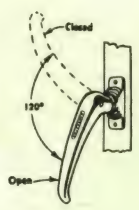
No. of louvers (3" louver): height minus 2" divided by 2½"
example: 17" — 2" = 15". 15" divided by 2½" = 6 louvers.

No. of louvers (4" louver): height minus 2" divided by 3½".

CUSTOM SIZES

In any width from 12" to 40", 3" louvers any heights in 2½" increments up to 122", and 4" louvers in 3½" increments up to 121".

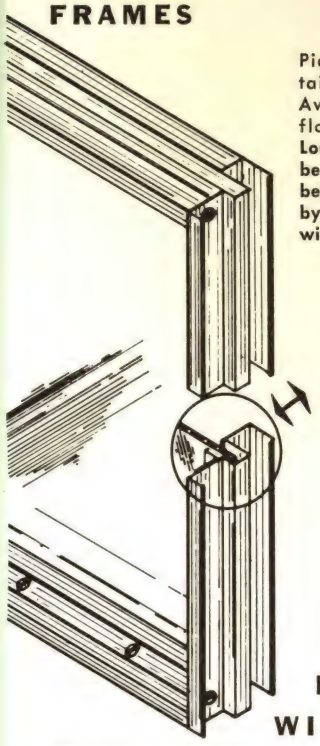
FEATURES OF THE LOC-TITE OPERATOR



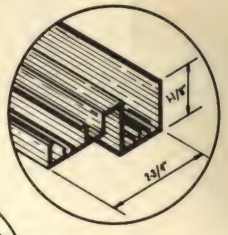
This Clearview patented operator is widely known for split-second operation, from fully open to fully closed, with only a quarter turn. A slight push on the handle locks the louvers in any position. Available also with metal ball attached to end of handle for operation from inaccessible heights with pull rod for clerestory operation. The 4" louver window is available only with gear operator.

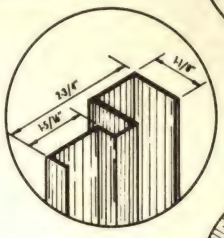
CLEARVIEW PICTURE WINDOW FRAMES

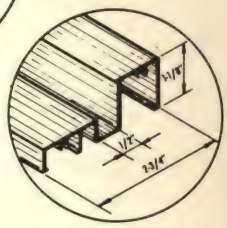
5d CL



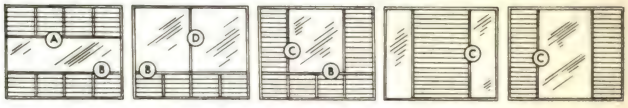
Picture Window detail, without flange. Available also with flanges. **Clearview Louver Windows may be mulled above and below as well as side by side with picture windows.**





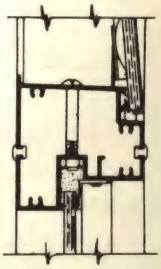


PICTURE AND LOUVER WINDOW COMBINATIONS



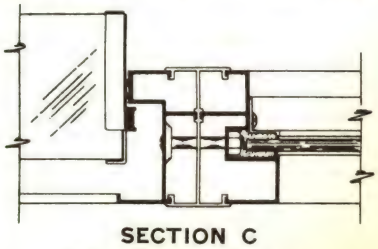
SIZES:
Deduct 1¼" from height and width to determine glass size.

STANDARD SIZES THERMOPANE OR TWINDOW		NEAREST STANDARD PICTURE WINDOW FRAME SIZE
48½" x 58"	fits	50" x 59½"
60¼" x 50⅜"	fits	61⅝" x 52"
55¼" x 60⅜"	fits	56¾" x 62"
64½" x 58"	fits	66" x 59½"
72½" x 58"	fits	74" x 59½"
80½" x 58"	fits	82" x 59½"
96½" x 58"	fits	98" x 59½"
52½" x 58⅛"	fits	54" x 59½"
56½" x 58⅛"	fits	58" x 59½"



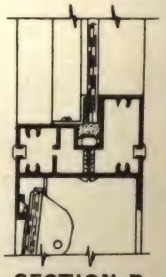
SECTION A

Louver window over picture window (without flange).



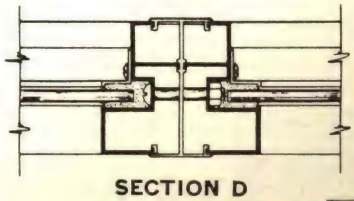
SECTION C

Picture window flanked by louver window (with flange).



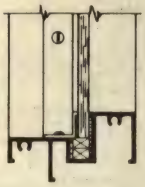
SECTION B

Louver window under picture window (without flange).

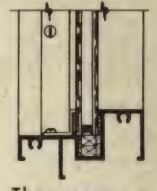


SECTION D

Picture window beside picture window (with flange).



Crystal sheet or polished plate glass.

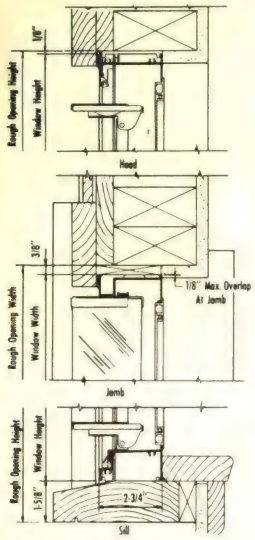


Thermopane or Twindow.

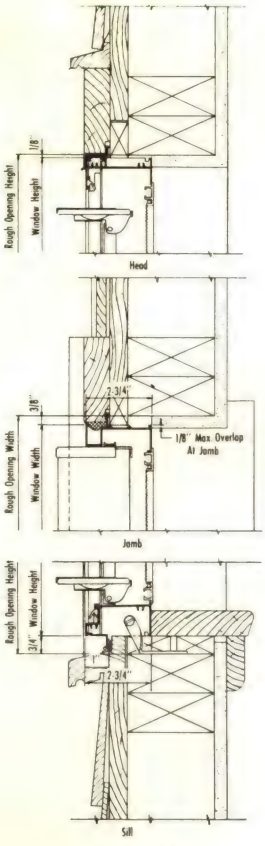
CLEARVIEW LOUVER WINDOW

INSTALLATION DETAILS

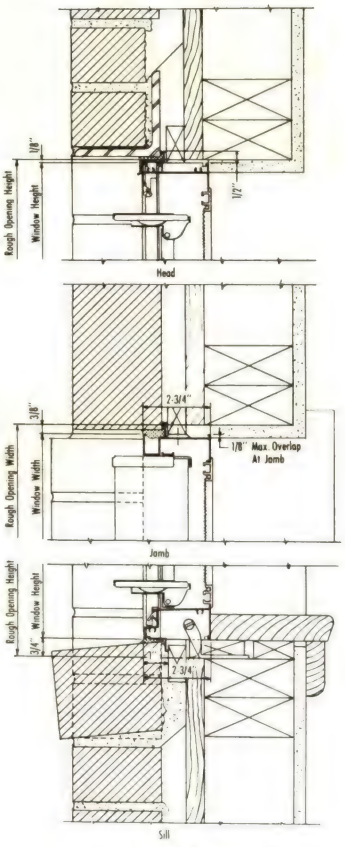
SCALE: 1½" = 1'



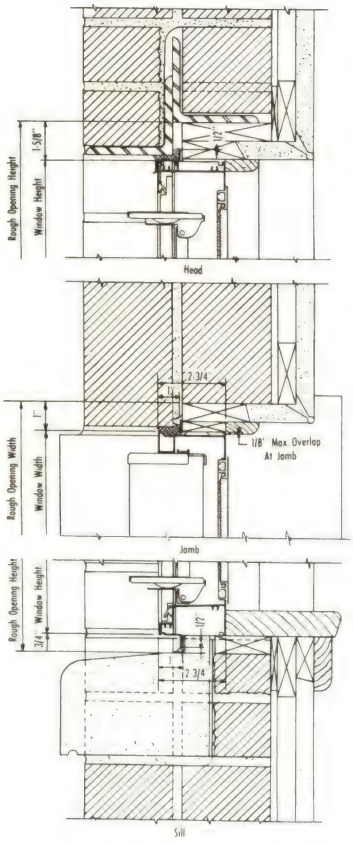
FRAME
(UNIT WITHOUT FLANGES)



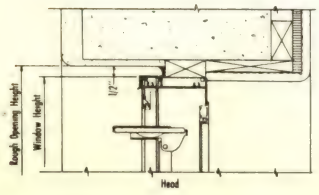
FRAME
(UNIT WITH FLANGES)

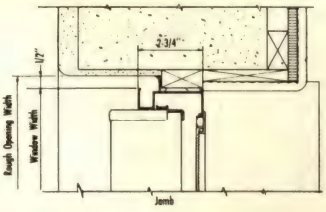


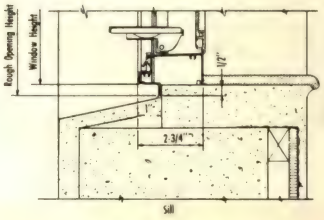
BRICK VENEER
(UNIT WITH FLANGES)



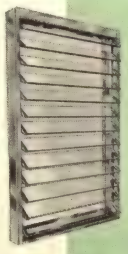
SOLID MASONRY
(UNIT WITH FLANGES)







CONCRETE BLOCK
(UNIT WITH FLANGES)



CLEARVIEW ALUMINUM LOUVERS INTERCHANGEABLE WITH GLASS LOUVERS | USING SAME FRAME AND LOUVER CLIP

It is possible to substitute aluminum louvers for glass, or use both in combination, in the same extruded frame, with or without flanges. The aluminum louver slips into the glass clip and is securely held by means of a locking screw at each end.

INTERLOCKING

Louvers are fashioned so that they interlock at the edges for a tight seal, but present the same overlapped appearance as glass from the outside.

THE PERFECT 5-IN-1 COMBINATION

- **COOLEST AWNING**—Hot sun rays are deflected, making the home cooler, with natural ventilation.
- **PROWLER GUARD** — Attempted forced entry is discouraged with the use of this aluminum louver.
- **VENTILATION AND LIGHT CONTROL** Light intensity is completely adjustable, eliminating any glare. Air flow easily controlled.
- **OUTSIDE VENETIAN BLIND** — Complete privacy is provided.
- **STORM SHUTTER** — Interlocked position of louvers when closed makes building safe from storm or hurricane.

CLEARVIEW DOORS



A quality product of select Oregon Fir with insert of glass or aluminum louvers alone or in combination, to provide all the advantages of controlled ventilation, privacy when desired, protection space - saving efficiency. The recessed screen on the inside is built into the unit, thus making an additional screen door unnecessary.

STANDARD SIZES

2'8" x 6'8" 3'0" x 6'8"
2'8" x 7'0" 3'0" x 7'0"

ADV-85 11-54R

CLEARVIEW LOUVER WINDOW CORPORATION

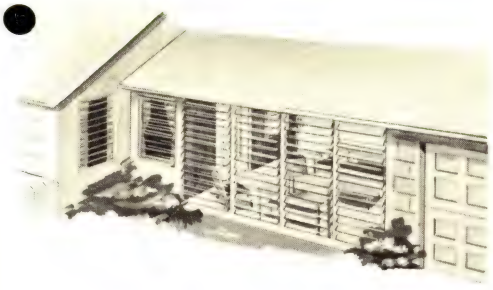
established 1935

2625 ELM STREET, DALLAS, TEXAS
3318 S. W. 2ND AVE., FT. LAUDERDALE, FLORIDA

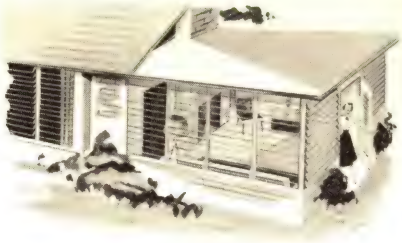
BRANCHES: NEW YORK • HOUSTON • KANSAS CITY • OKLAHOMA CITY • LOS ANGELES
SAN FRANCISCO • WEST PALM BEACH • ST. PETERSBURG

dealers in all important cities — see classified telephone directory.

Denison Jalousies



BREEZEWAYS



PORCH ENCLOSURES



DOORS, PICTURE WINDOWS



PRIME WINDOWS

The Window of Tomorrow . . . Delivered Today!

Denison Corporation

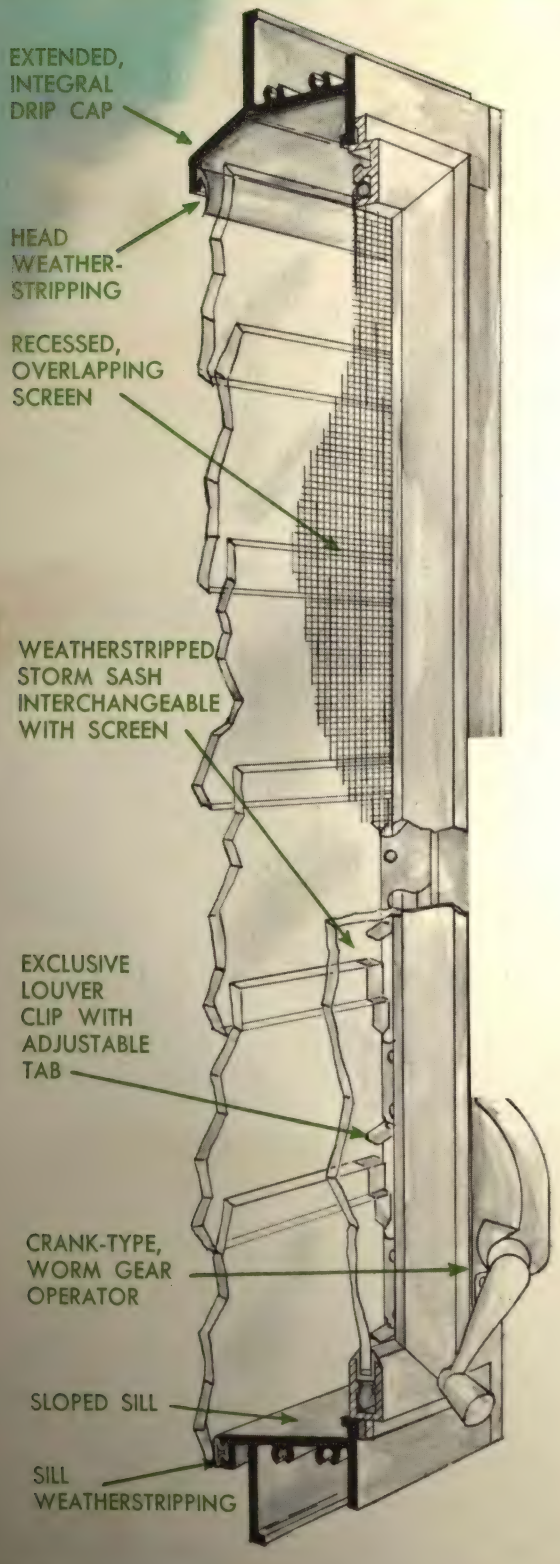
1890 N. E. 146th Street • North Miami, Florida

Manufacturers of Jalousie Windows and Doors and Aluminum Awning Windows

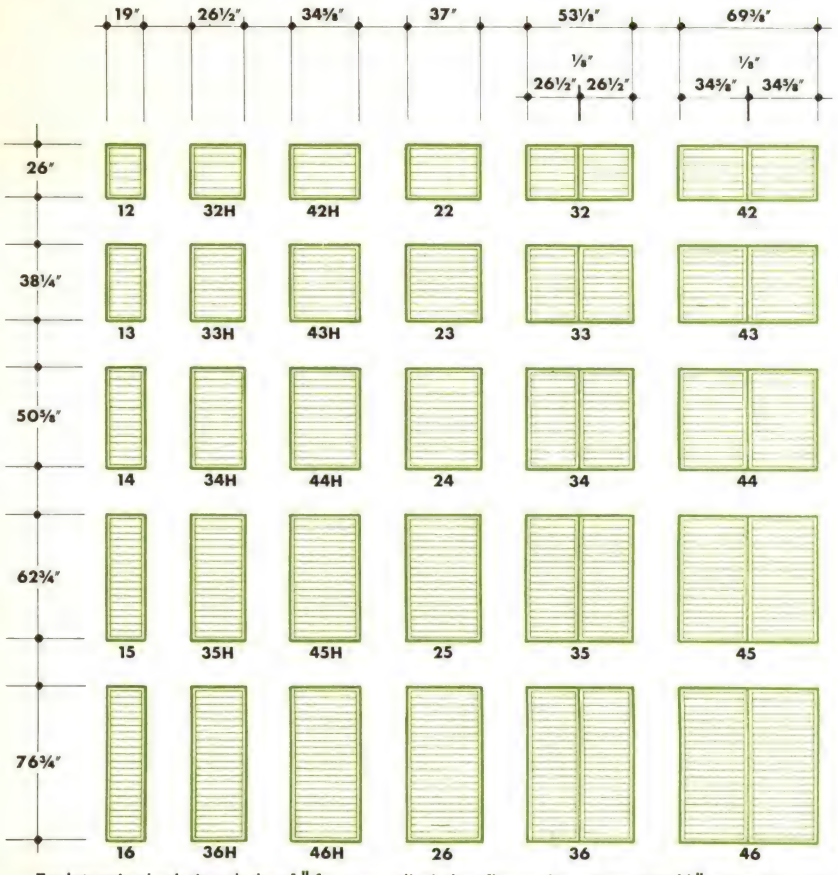
Denison Jalousies

New beauty, comfort and protection are provided by the precision-engineered DENISON JALOUSIE which has proven itself in installations in all climates . . . in every section of the United States and many foreign countries. DENISON JALOUSIES are giving customers satisfaction in all types of construction . . . residential, commercial, industrial and monumental.

- Rugged extruded aluminum construction.
- Recessed, overlapping screen interchangeable with weatherstripped storm sash.
- Complete vinyl weatherstripping on jamb*, head and sill.
- Exclusive adjustable tension-seal** louver clip***.
- Extended integral drip cap.
- Sloped sill for free drainage of moisture.
- Heavy duty worm gear operator, locks in any position.



standard overall jalousie sizes



To determine buck size, deduct 1" from overall window flange dimensions. Add ⅛" space for each standard T-mull to overall window dimensions when two or more jalousies are mulled together. Jalousies and picture windows may be horizontally or vertically mulled in unlimited combinations.

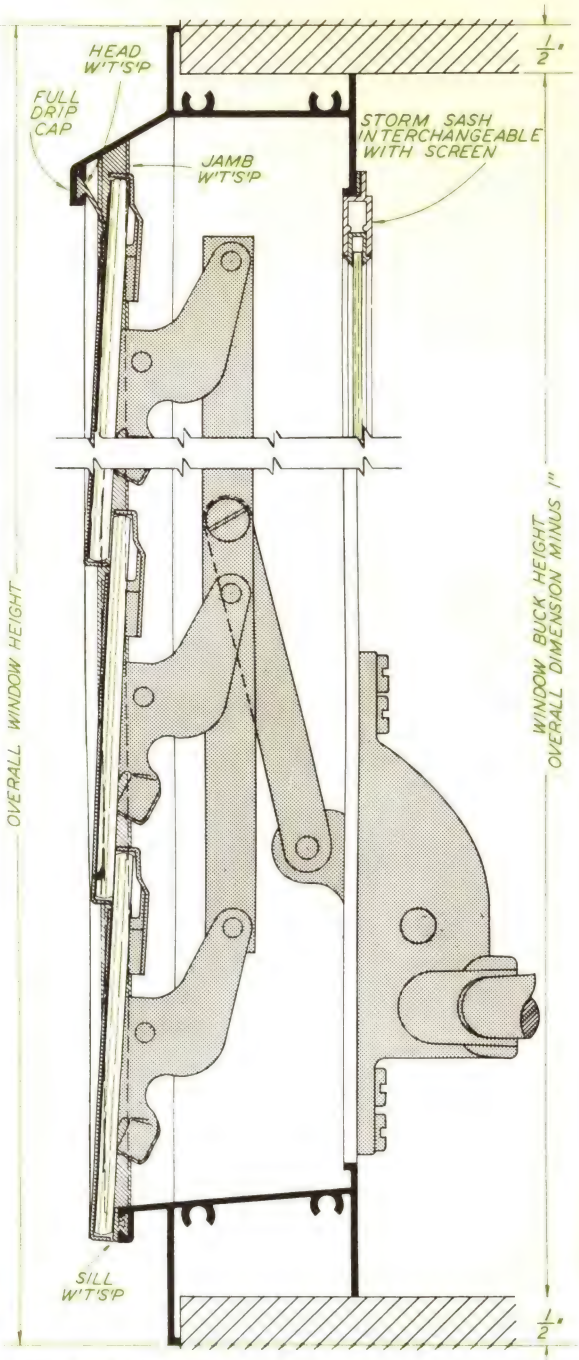
*U.S. Pat. No. 2,654,921 **Copyright 1953 Denison Corporation ***U.S. Pat. No. 2,685,717

THE 3 IN 1 DENISON JALOUSIE DOOR

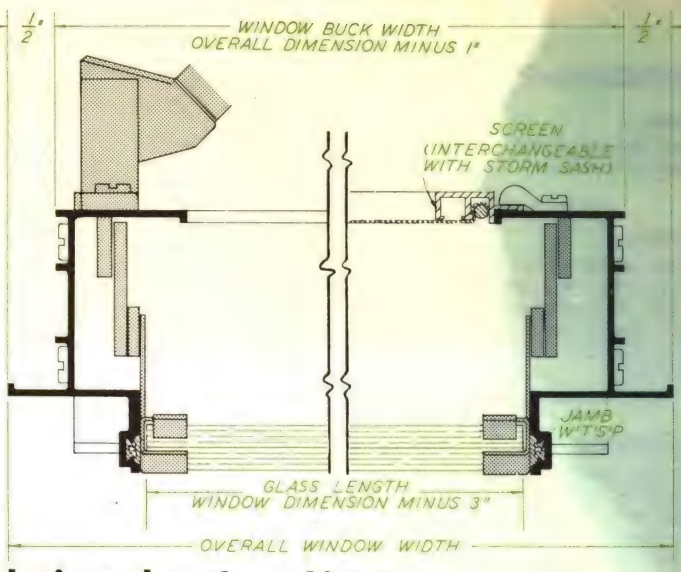
Denison Jalousie inserts, with interchangeable screen and storm sash, are combined with 1¾" Douglas fir rims to provide an all-weather door that eliminates the need for separate screen, storm and regular doors. Door rims are mortise and tenon, or dowel, 5½" stile and top rail; and 12¾" to 16¾" bottom rail according to height.



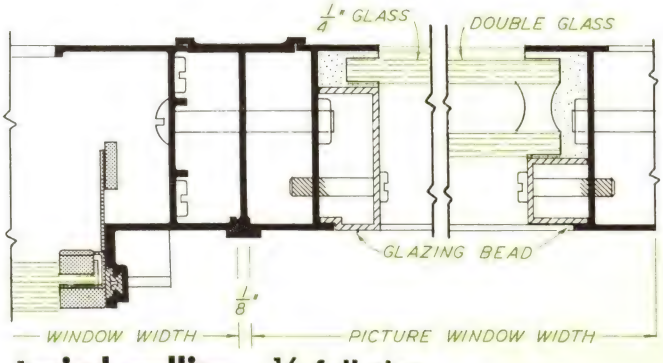
Standard door sizes:
widths: 2'6", 2'8", 3'0" — heights: 6'8" and 7'0"



vertical section — ½ full size

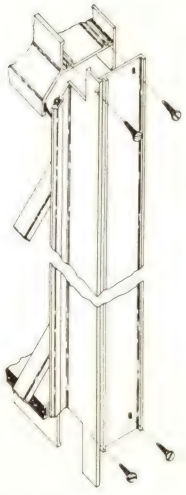


horizontal section — ½ full size



typical mullion — ½ full size

THE DENISON "KNOCKDOWN" FEATURE



Denison Jalousies are supplied either KD or assembled in both standard or standard KD sizes. KD units are easily, quickly assembled with a screwdriver and eight screws. Glass louvers slide into clip . . . are held secure and rattle-free by simply bending adjustable tab to the degree of tightness required. Any width window is made with straight saw cut across head and sill members.

STANDARD OVERALL K.D. SIZES	
Height	**Quan. Louvers**
17¼"	4
20¾"	5
24¼"	6
27¾"	7
31¼"	8
34¾"	9
38¼"	10
41¾"	11
45¼"	12
48¾"	13
52¼"	14
55¾"	15
59¼"	16
62¾"	17
66¼"	18
69¾"	19
73¼"	20
76¾"	21
80¼"	22
83¾"	23
87¼"	24
90¾"	25
94¼"	26

STANDARD K.D. WIDTHS	
Width	**Louver Size**
17	4 x 14
21	4 x 18
25	4 x 22
29	4 x 26
33	4 x 30
37	4 x 34
41	4 x 38

Denison Jalousies

SPECIFICATIONS

GENERAL:

Windows are to be glass louvered type as manufactured by Denison Corporation, North Miami, Florida.

MATERIAL:

All frame members of the windows are to be extruded aluminum alloy 63S-T5 or other alloy suitable for architectural use. Jamb frames are to be 2¾" deep and head frames to be 2⅝" (Thickness .064 to .091 minimum) deep. Glass clips, actuator bars, links and rivets shall be aluminum. Horizontal edges of glass louvers are to be edged by grinding and polishing.

CONSTRUCTION:

Jamb frames are to be notched to accept head and sill frames and to insure a tight fitting joint. Frame members shall be firmly fastened together with eight screws per unit. Glass louvers are to be held in position by "Tension Seal" glass clip with adjustable tab which insures sealing with good glass-to-glass contact across each louver. Vinyl weatherstripping shall be used to seal heads, jambs and sills against weather.

OPERATING HARDWARE:

Operator is to be die cast housing with closed back. Gears are to be fitted to insure easy operation and long-life. The operator is to be of a design which will allow operation of the window louvers without removing screens or storm sash.

FINISH:

The finish is to be a bright aluminum mill finish.

MULLIONS:

Extruded aluminum alloy 63S-T5 will be used for all standard mullions.

SCREENS AND STORM SASH:

Inside screens shall be 14 x 18 aluminum mesh with recessed overlapping aluminum frames. Frames shall be attached with swivel clips to permit easy removal and interchange with storm sash. Storm sash shall be interchangeable with screen. Aluminum storm sash frame shall be fitted with double-strength glass and weatherstripped around entire perimeter of frame. Storm sash to be fitted with hopper ventilator (when specified).

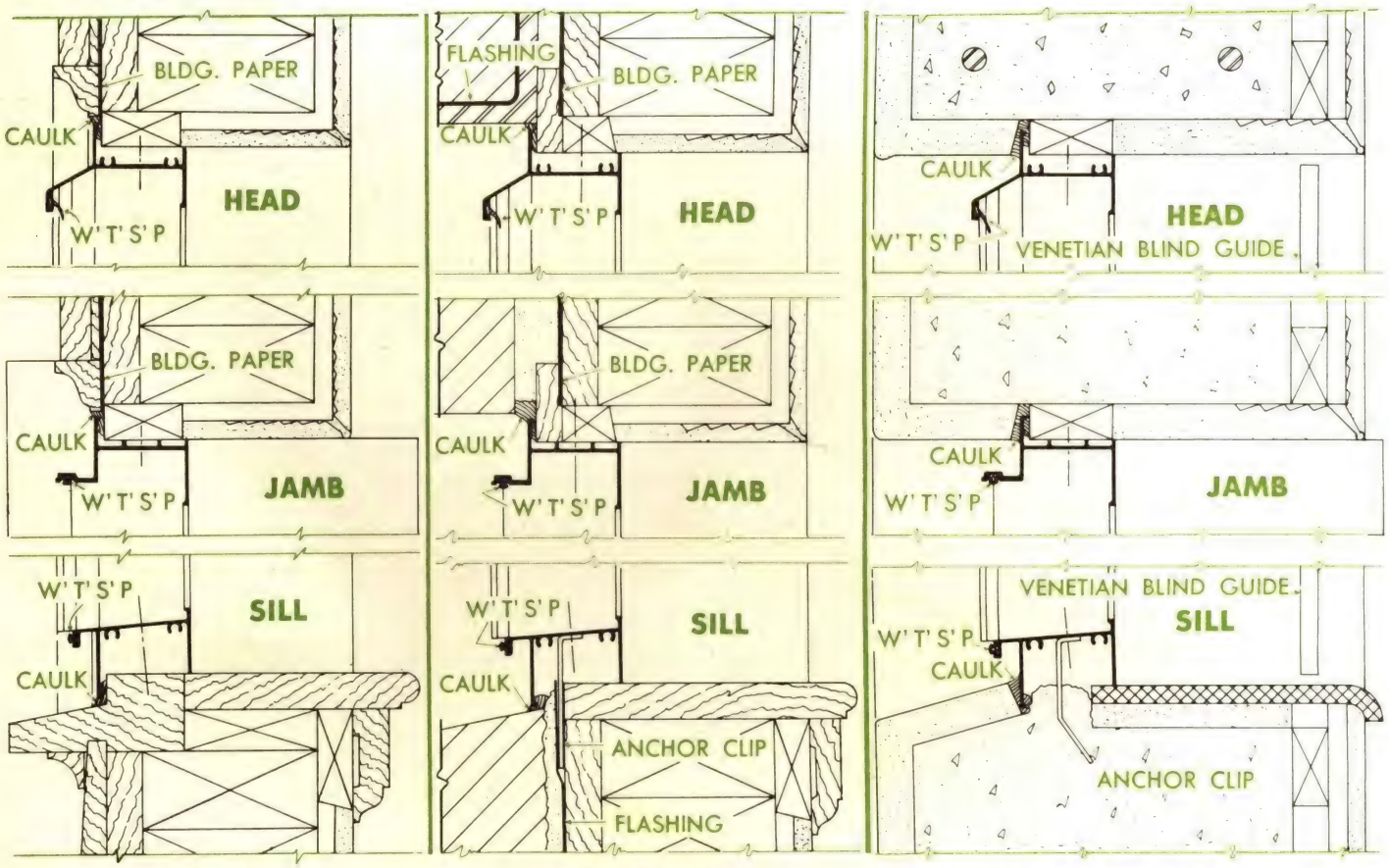
ERECTION:

The erection contractor shall securely anchor windows in place to properly prepared openings. The openings must be square, plumb and level to prevent distortion of windows. Caulking, flashing, etc. should be used in accordance with good window erection practice. Upon completion of erection, the window frames and operating mechanism shall be cleaned to prevent damage of operating mechanism and to restore original appearance.

STANDARD DOOR SPECIFICATIONS

1. Door inserts are same specifications as for windows.
2. Door frame mortise and tenon, or dowel, 5½" stile and top rail; and 12¾" to 16¾" bottom rail according to height.
3. Door frame material of old growth Douglas Fir, 1¾" thickness.

installation details scale 3" = 1'0"



FRAME BRICK VENEER CONCRETE BLOCK

Denison Corporation

General Offices:
1890 N.E. 146th St., North Miami, Fla.

Plants:
Canada — Cuba — Dominican Republic

Warehouses:
Houston, Texas — Los Angeles, California

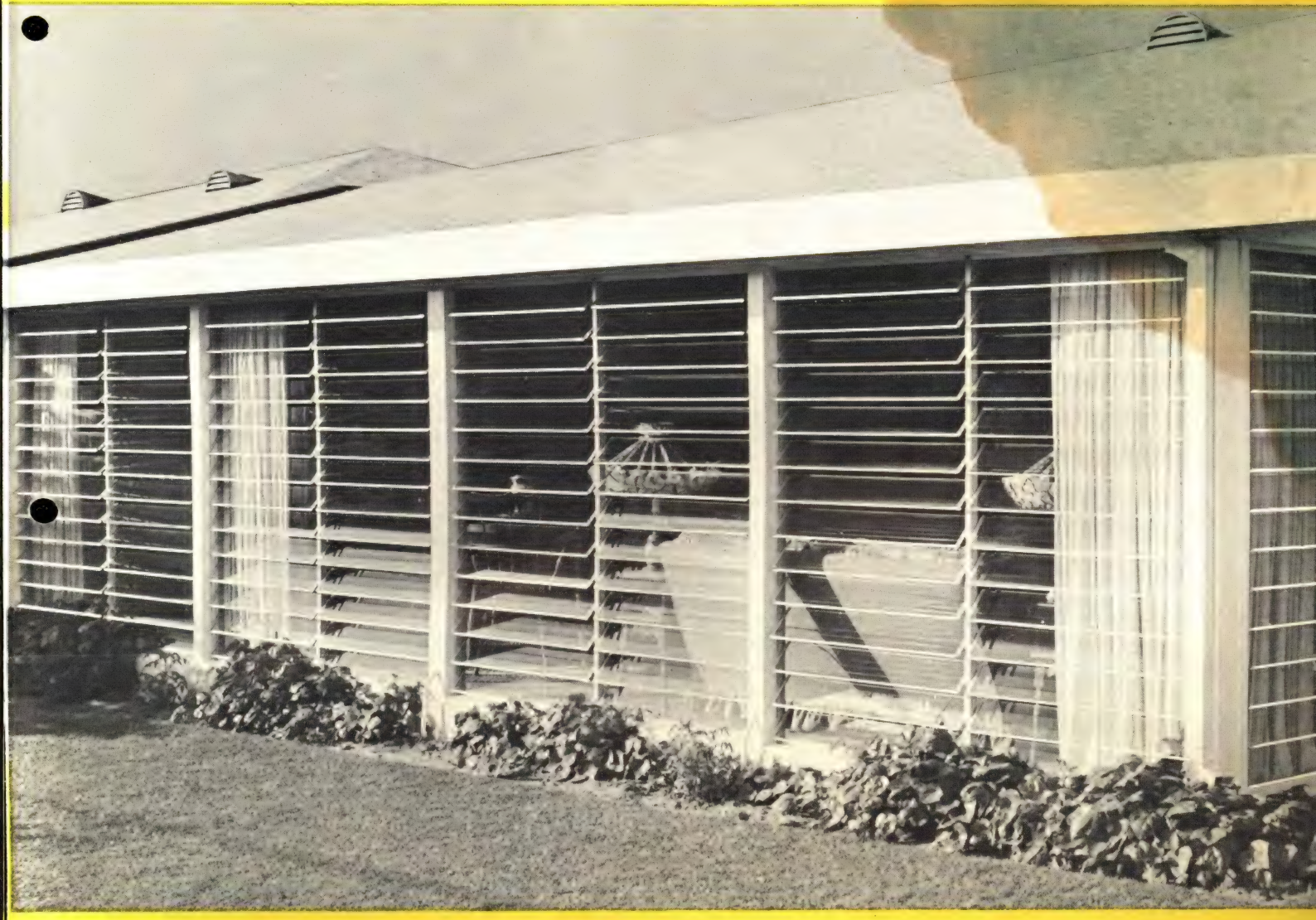
FORM JW-8 COPYRIGHT 1954 DENISON CORPORATION

5d
SU

SUN-SASH

air-control louvred windows

. . . America's Largest Selling Lowest-Cost Louvred Window!



SUN-SASH COMPANY · NEW YORK

SUN-SASH

"indoor or outdoor climate at your fingertips"

description

Patented, union-made, SUN-SASH consists of a pair of galvanized steel uprights with from three to fourteen 6" steel pockets on each, depending upon the height. A wood stop is used at head and sill for sealing. The left-hand upright (looking out the window) has a single operating handle below the gravity lock, which, when pulled down, rotates all the pockets simultaneously through a 105° turn. SUN-SASH stays open in any position to which it has been adjusted. Inexpensive crystal or sheet glass is used, 3/16" (or 7/32") thick, 6" high, and any width up to 40", depending upon the inside dimensions of the window. By closing or opening the clips, double strength or ¼" glass may also be used. Glass must be secured locally.

costs

OF SUPERIOR QUALITY, SUN-SASH is LOW in cost! Competitive wood or steel sash costs over 50% more than SUN-SASH on a square-foot basis. Compare the initial and installation prices with any window, and you will specify SUN-SASH.

SUN-SASH features:

PERMANENT DURABILITY is assured with SUN-SASH windows . . . They are skillfully engineered of heavy galvanized steel, with heavy bronze bearings. No oiling needed . . . no breakdowns. Time-Tested by over 20 years in all weathers . . . Over six-million installations in use today!

ALWAYS GOOD-LOOKING . . . SUN-SASH blends well with every type of architectural design. Different kinds, colors of glass can be used for added harmony. Wood, steel, plastic, or composition may be substituted for glass.

CLARITY OF VISION is achieved by SUN-SASH, freedom from all obstructions, crossbars. Allows maximum entry of light and air.

COMPLETE AIR CONTROL . . . 100% ventilation . . . Breezes can be deflected up or down at any angle for thorough circulation. Can be closed off when so desired.

OPERATING EASE: Dual operating rods allow maximum leverage: louvres move at a touch . . . remain perfectly balanced at adjusted angle . . . despite wind. NO MORE hard-to-open windows!

WEATHER-TITE SEALING is built into SUN-SASH with Patented Side-Seal.

RIDGED CHANNEL, an integral part of the fitting which meshes with embossed louvre-pocket to form a complete weather-seal! When locked, glass louvres overlap ½" under strong pressure . . . Keep bad weather out!

MINIMUM CARE is necessary with SUN-SASH . . . Large 6" louvres are easy to clean from the inside . . . never get foggy when kept slightly open. Broken panes can be replaced very simply by sliding in new glass, bending over louvre clips . . . no putty required! There's no friction between glass pockets and uprights . . . won't wear out!

SIMPLE INSTALLATION . . . SUN-SASH goes right up in a matter of minutes! Sizes to fit any opening. Screens or stormsash can be fitted to the window, but are not supplied.

SELF-MULLIONING . . . SUN-SASH fittings can be bolted directly together to form their own mullions. Patented SUN-SASH mullion clips fasten to head and sill sections.

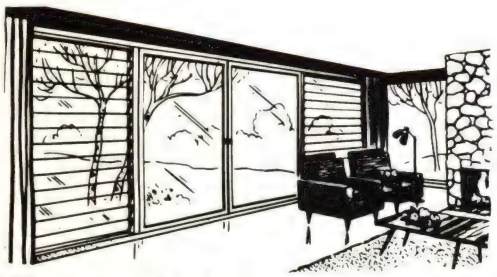
PRE-POSITIONED STOPS can be adjusted by placing top and bottom stops against side-ridges for perfect position. Stops or stool can be correctly installed before glazing.

VERTICAL LOUVRES are handsome, easy to install by mounting the fittings at top and bottom of opening . . . rather than from side to side.

AUTOMATIC LOCK is simple and foolproof for your protection. When SUN-SASH is closed, it locks itself.

versatile SUN-SASH is at home everywhere!

residential



SUN-SASH windows make bright new rooms of porches, patios, breeze-ways. Fine for partitions, too!

residential



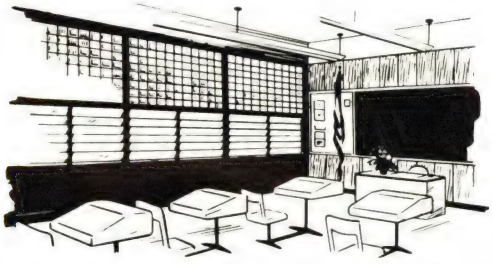
For airy, sun-filled kitchens, free of heat and odors . . . For freshness and beauty throughout the modern home!

commercial



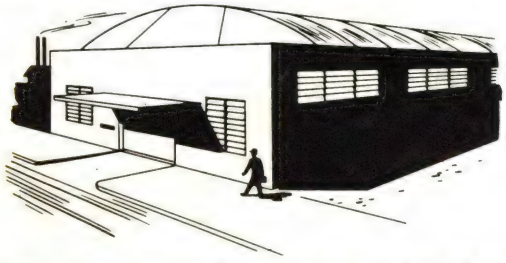
SUN-SASH means handsome, efficient offices, happier personnel. . . . Sheer simplicity in cleaning, operation!

institutional



SUN-SASH is used widely and preferred in schools and hospitals for their 'all-round' advantages.

industrial



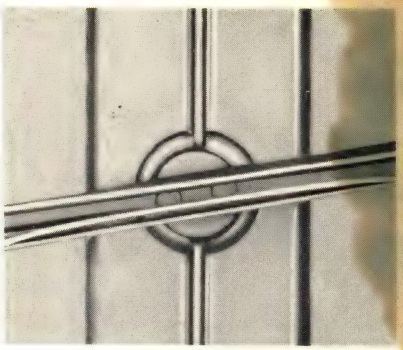
More light; fresh-air without drafts; means safety, health for factory workers. Low-costs balance building budgets.

105° arc

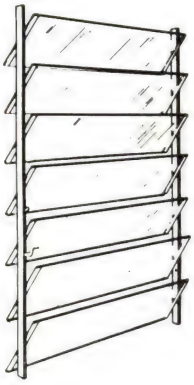
"Side-Seal" window hardware



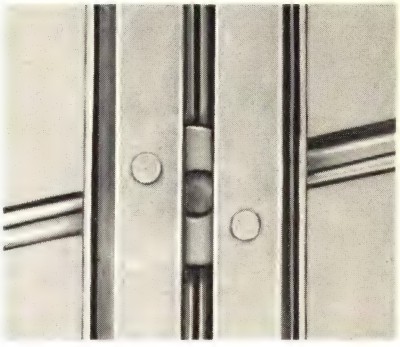
fully opened
For hot summer nights you get 100% ventilation instead of the 50% obtained with ordinary windows.



Ridged channel . . . the ridge meshes with the embossed louvred pockets to form tight weather seal. No light shows through side ridge.



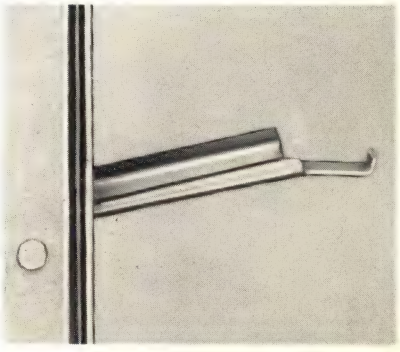
partially opened
Amount of fresh air is controlled . . . even during rain. An ordinary flow of fresh air eliminates drafts.



Large bronze bearings . . . that insure trouble-free easy operation. These large bearings add longer life to your windows—no further maintenance required.



fully closed
Warm air is sealed tight by patented lock which also secures windows so that they cannot be opened from the outside.



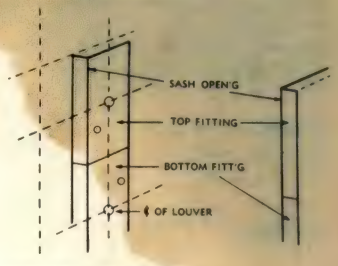
Embossed louvre pockets . . . that mesh with the ridged channel. When all glass louvres are in the closed position, a cam action seals glass against glass under terrific pressure.

standard sizes

no. of louvers	height	shipping weight lbs.
3	1'- 5⅛"	5
4	1'-11"	6
5	2'- 4⅛"	7⅓
6	2'-10"	8⅓
7	3'- 3⅛"	10
8	3'- 9"	11
9	4'- 2⅛"	12⅓
10	4'- 8"	13¾
11	5'- 1⅛"	15
12	5'- 7"	16
13	6'- 0⅛"	17⅓
14	6'- 6"	19

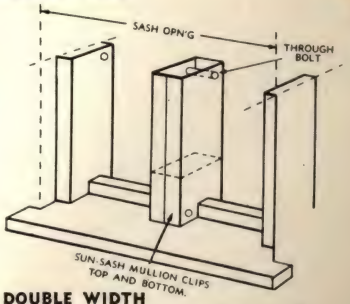
mullions

double height



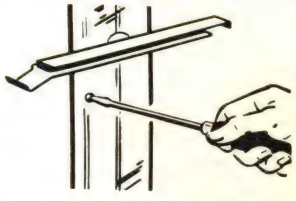
DOUBLE HEIGHT
With jamb fittings butted over each other, cut 15/16" off the top of the bottom fitting or off the bottom of the top fitting to provide for glass overlap.

double width

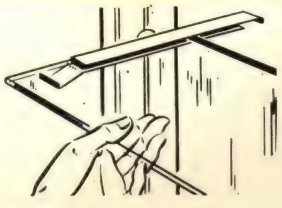


DOUBLE WIDTH
With center mullions of two (2) jamb fittings fastened back to back, use SUN-SASH mullion clips top and bottom to brace and anchor mullion.

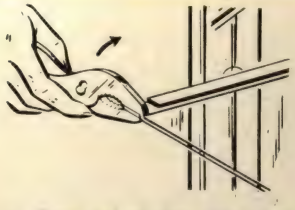
installation is easy and inexpensive



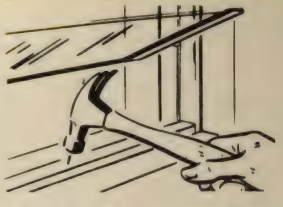
1. Screw or nail SUN-SASH fittings to side of window frames.



2. Slide glass louvres in to rattle-proof spring-clip holders . . . in horizontal position.



3. Close end of clips over glass with pliers . . . blades held firmly in position.



4. Install ¾" stop top and bottom for tight fit when closed. (Window stool may be used for bottom stop.)

specifications

general

SUN-SASH Louvred Windows are sold by the SUN-SASH COMPANY, 38 Park Row, New York 38, New York, and by building supply and glass dealers throughout the United States and Panama.

material

All members are special hot-dip, galvanized steel sections, having a shop-coat of paint in neutral color. Brass alloy bearings are used at all rotating points.

construction

Riveted construction is used to fasten rotating 6-inch pockets to bearings. Pockets are slit on the lower side to provide a spring pressure grip on the individual panes of glass. An automatic gravity lock is located just above the operating handle on the left-hand upright.

operation

All panes (louvres) open or close simultaneously by means of a single manually operated handle on the left-hand upright. When fully closed, the lock automatically engages. Panes overlap each other by ½" in that position. They rotate through a maximum angle of 105° when the operating handle is pulled down, and the window is fully opened.

screens or storm windows

Where required, screens or storm windows are mounted on the outside of the frame at least 3" from the center line of the SUN-SASH. Inside mounting is likewise at least 3" from the center line, and access to the operating handle is provided.

glazing

Sheet or crystal glass 3/16" thick (7/32" may be used) 6" high, and in widths 1-9/16" less than the frame opening is used. Glass should have the long edges roughed or seamed to remove sharpness. After the glass has been slid into the pockets, metal ends are bent over to effect a tight seal.

erection

SUN-SASH fittings should be carefully installed square with the opening and plumb. Number 9, 1¼" or longer wood screws or rust-proofed nails are used for fastening SUN-SASH to wooden frames and mullions. With metal frames, suitable holes are drilled and tapped, and the fittings securely bolted or screwed in place. ¾" quarter round wood stops are placed at head and sill for sealing.

painting

No further paint is required; however, the new SUN-SASH "Side-Seal" unit can easily be painted with ordinary paint to match woodwork. Will take up to three coats of paint.

stainless steel

For a premium deluxe unit offered as a companion to the famous SUN-SASH galvanized steel window, the SUN-SASH STAINLESS STEEL louvred windows are available at a slight increase in prices. These STAINLESS STEEL louvred windows are particularly recommended for store fronts, interior partitions, or wherever a beautiful, highly polished finish is desired.

specifications for stainless steel units

Pockets and channels are of 17% Chromium and 7% Nickel, 20 Gauge Stainless Steel, #1 Finish. Bearings are nickelplated bronze. Operating handle and lock are nickle-plated. Features the famous patented "Side-Seal" and the cam actuated "Presure-Seal of glass to glass.

ordering instructions

For existing wood or metal frames:

Measure exactly to nearest ⅛". Measure inside height, and select stock height SUN-SASH to match. Frames may be built up to equal SUN-SASH heights, or SUN-SASH cut down. Measure width of top and bottom of opening. If more than 40", divide into sections not exceeding 40" and insert 1" x 2" x 1" x 3" dressed center mullions to form sections. SUN-SASH may be mullioned together with ¾" long bolts and nuts or may be mounted on top of each other. Metal SUN-SASH spacers (available from the SUN-SASH Company) must be fastened to the top and bottom of the frame to keep the sash in position.

Order SUN-SASH and glass

Glass panes 3/16" thick (7/32" may be used), 6" high, in lengths 1-9/16" less than the measured frame opening must be used. The edges of the glass should be roughed (swiped or seamed) lengthwise to remove the sharpness. Your local glass dealer has the required equipment. Where low cost is of primary importance, this same result may be obtained by rubbing the edges several times with a soft stone held at a 45° angle. Order SUN-SASH by size number to correspond to the required height. This number indicates the number of louvres. Use #9 screws to fasten the sash to the frame.

IMMEDIATE DELIVERY BY YOUR LOCAL BUILDING SUPPLY OR GLASS DEALER!

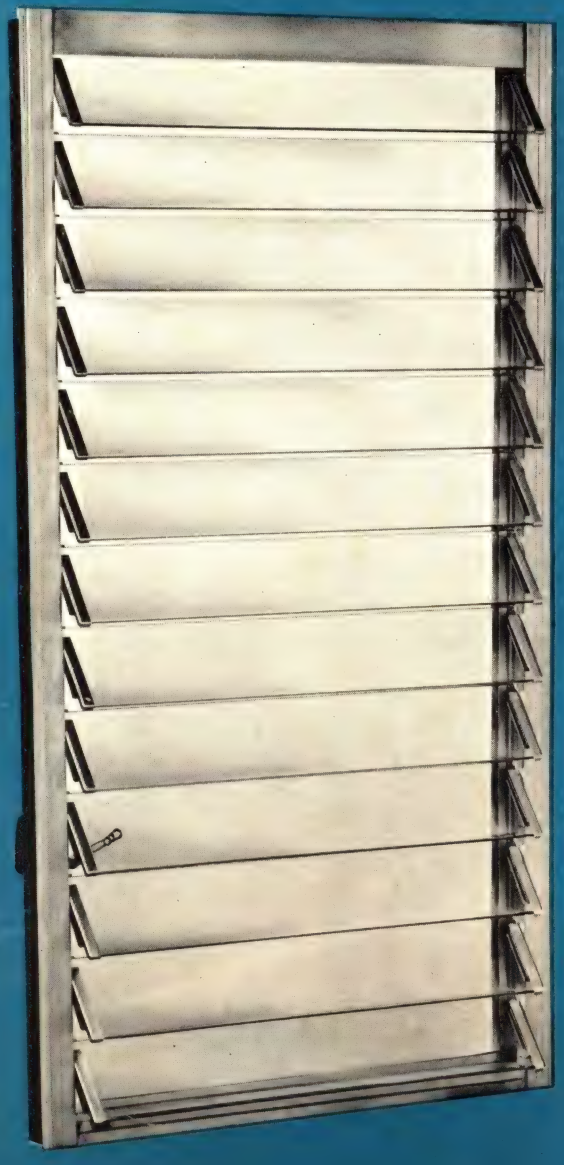
SUN-SASH company
38 Park Row, New York 38, N. Y.
telephone COrtlandt 7-4689 7-4690

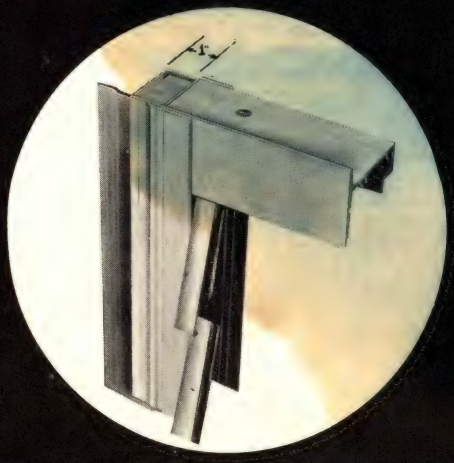
5d
Un

THE *Silver* LINE®

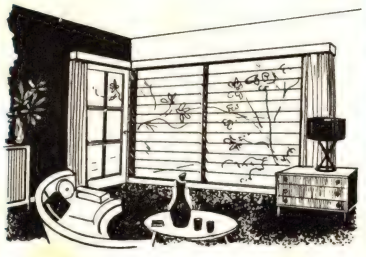
EX-PAND-O

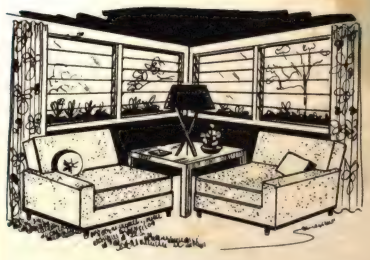
aluminum jalousies
jalousie doors and storm doors



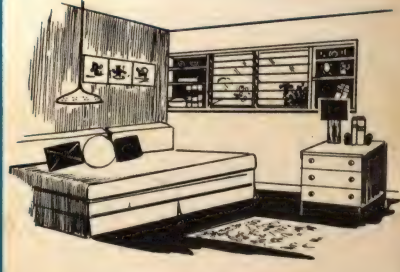


This feature permits the use of stock windows adjustable to any width opening from 16″ to 42″.
pat. pending









manufactured by **UNION MACHINE COMPANY** Kenilworth, New Jersey

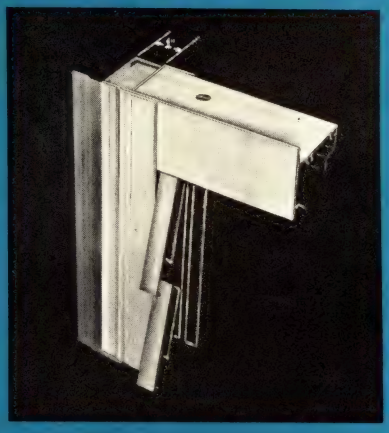
facilities

The Union Machine Company, due to the increased demand for its Silver Line Products, moved into a new and modern plant in January of 1954, and are now solely manufacturing aluminum jalousies, jalousie doors and combination storm doors. For many years this company specialized in the design and construction of custom machinery and equipment, thus carrying quality and sound engineering into its present products.

The key to good manufacturing lies in good tooling which is done on its own premises in a modern and well equipped tool room. A proper flow of materials together with excellent equipment produces efficiently the quality Silver Line Products.

features

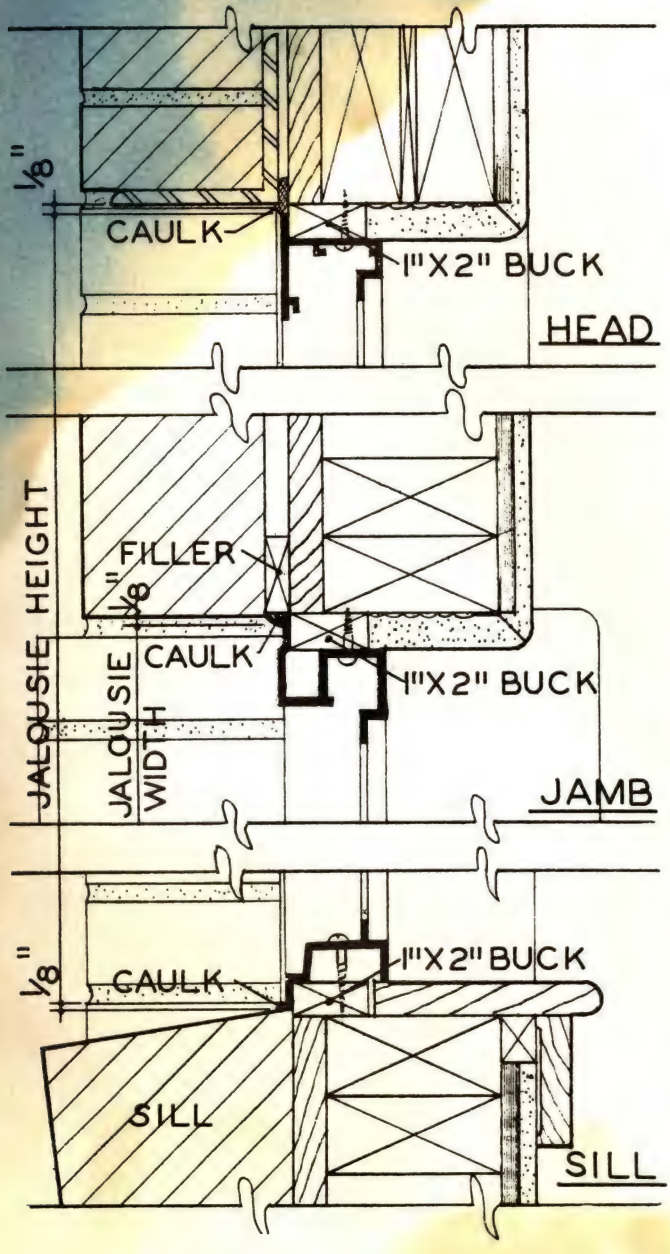
The SILVER JALOUSIES have a 1" expansion on each side and are stocked every 2" from 16" up to 42". This feature eliminates the need of special sizes or cutting down to size required.



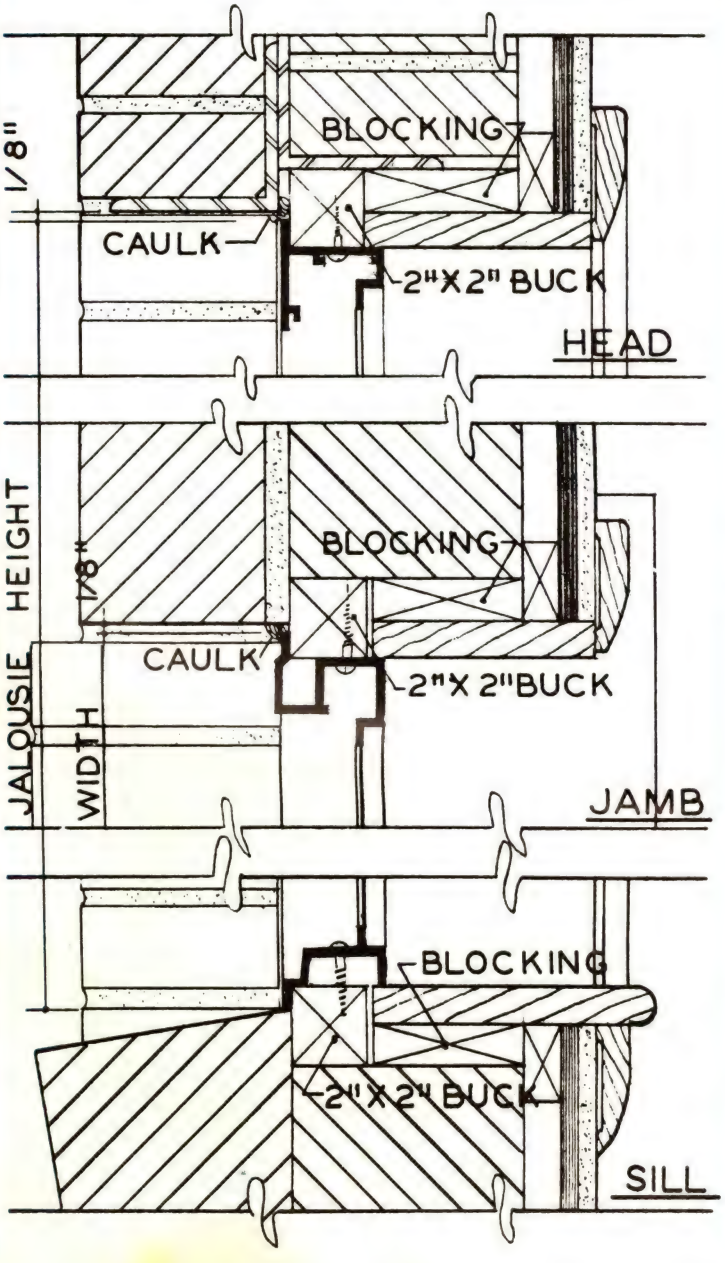
pat. pend.

installation details: scale 3"—1'0"

brick veneer

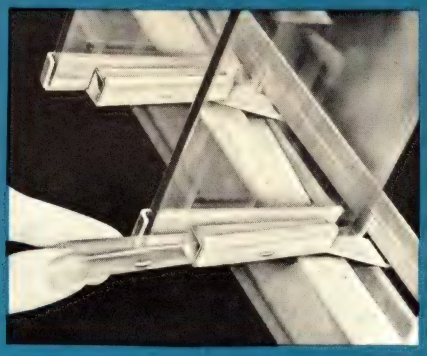


solid brick



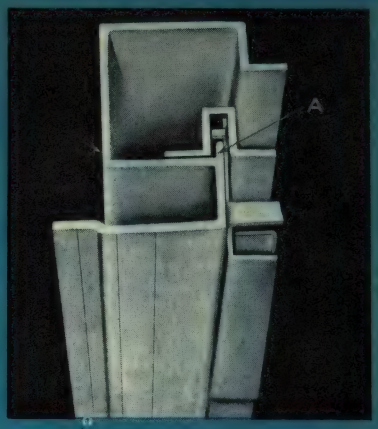
jalousie windows

Prevents rattling of louvers. This specially designed stainless steel wedge has four imported features. Easy installation of glass, no screws or bending of clips. Permits simple replacement of glass.



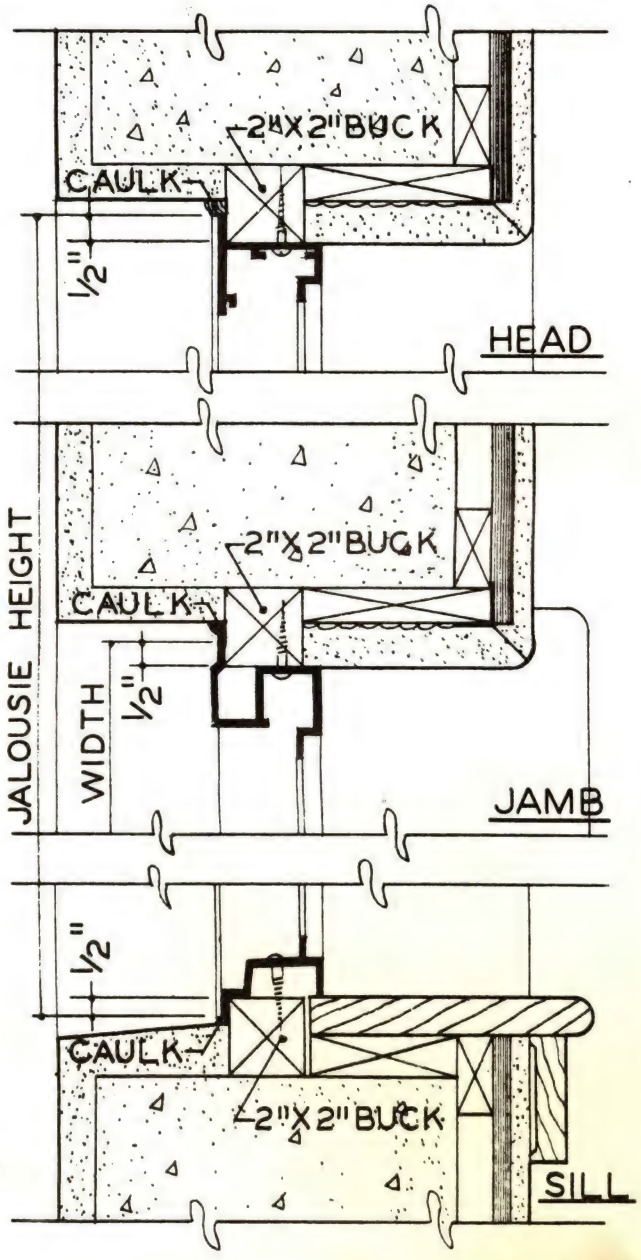
pat. pend.

Lifetime weatherstripping of jambs is accomplished by interlocking of operator bar preventing air infiltration. SEE DETAIL AT (A).

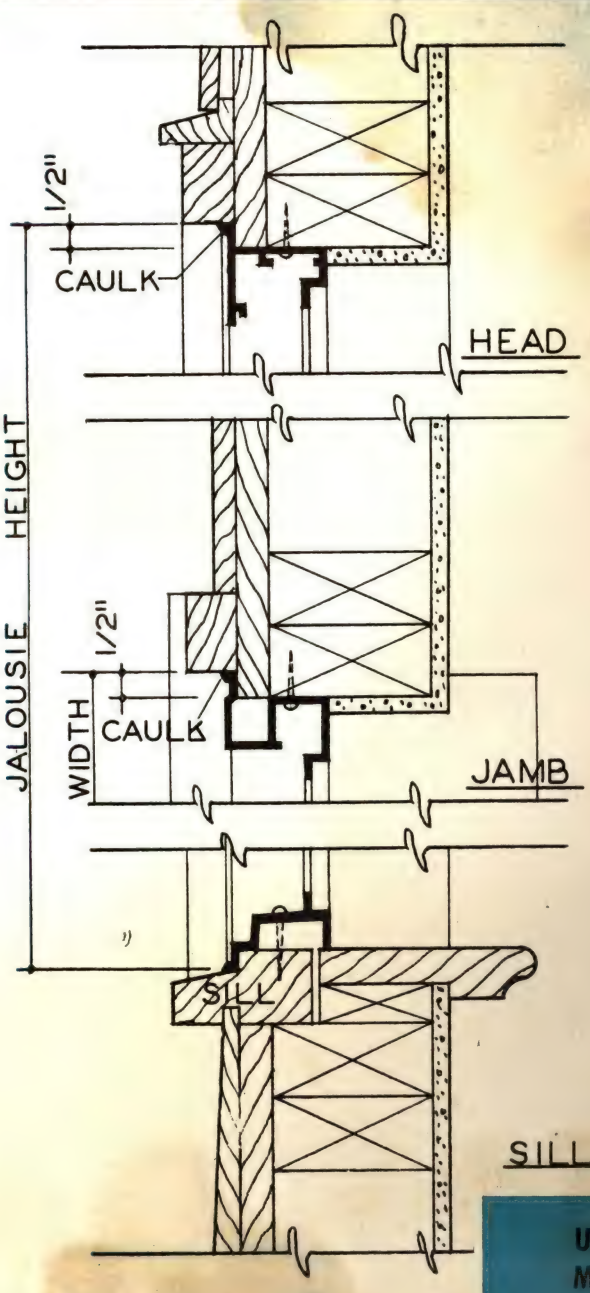


pat. pe .d

concrete block



wood frame

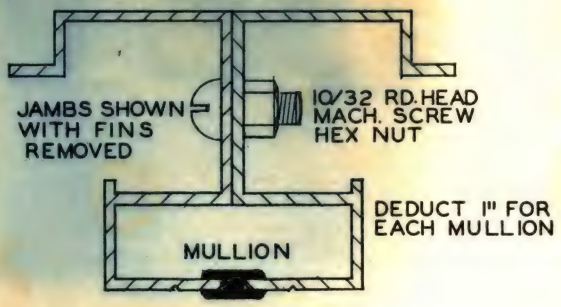


UNION MACHINE COMPANY

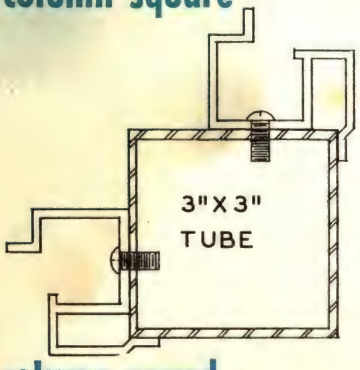
• mullion details—jalousie windows

½ full size

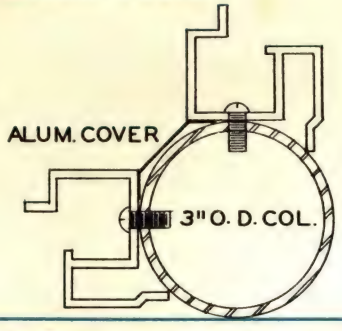
standard



corner column square



corner column round



• sizes—jalousie windows

The following heights are stocked in all widths from 16" to 42". Example: 16 to 18 or 18 to 20, etc.

height	no. of louvers	height	no. of louvers
21 "	5	57¼"	15
24⅝"	6	60⅞"	16
28¼"	7	64½"	17
31⅞"	8	68⅛"	18
35½"	9	71¾"	19
39⅛"	10	75⅜"	20
42¾"	11	79 "	21
46⅜"	12	82⅝"	22
50 "	13	86¼"	23
53⅝"	14	89⅞"	24

• specifications—jalousie windows

general: Windows are to be glass Jalousie Windows as manufactured by the Union Machine Company, Kenilworth, New Jersey. Sizes as shown on Architects' drawings.

material: Frame members, operator bar and mullions shall be made of .064 thick 6063-T5 Extruded Aluminum. Louver clip shall be made of .064 thick 52 SH-32 Aluminum, with type 302 stainless steel wedge. Glass louvers shall be 7/32" thick by 4" wide, clear or obscure, edges suitably ground and polished. All screws shall be made of Aluminum or stainless steel.

construction: Jambs are to be notched to receive head and sill and so constructed as to permit 1" expansion on each side in width allowing window to be adjusted to size required. A durable vinyl plastic shall be used to weatherstrip the head and sill. Weatherstripping of the jambs shall be achieved by interlocking flush against inside of jamb when in a closed position. Stainless steel spring type wedges shall be used with the louver clips to hold glass firmly and allow for commercial tolerance variations in thickness of glass. These wedges shall also permit easy replacement of glass and prevent removal of glass when Jalousie is in closed position. The outside face of the Jalousie shall be flush without any pertrusion or louver clip rivets showing.

operator: Shall be of the standard casement type with worm and gear mechanism permitting the louvers to be rotated through more than 90° without removing the screen or storm sash.

screens and storm sash: Inside screens shall be made with 14 x 18 Aluminum wire mesh with recessed overlapping extruded aluminum frame, aluminum storm sash to be furnished where specified, glazed with double strength glass and interchangeable with screens. Both shall be held by clips which swivel out of the way to permit easy removal of screen and storm sash. Storm sash to be furnished with hopper vent when specified.

erection: 1. Openings must be plumb, level and square. 2. Contractor shall secure Jalousies in openings without distortion, using holes in jamb and Aluminum screws provided. 3. Contractor shall supply an approved caulking compound compatible with aluminum, to seal entire window in a workmanlike manner.

Silver-doors

Aluminum Jalousies Doors and storm doors are available in all sizes with the following features:

- Full 1" thick all aluminum frame
- Stainless steel fastenings throughout
- Door check and hardware included
- Completely rust resistant
- Extra Heavy Kick-Plate

1¾" thick wood Jalousie doors



UNION MACHINE COMPANY
708 Colfax Avenue
Kenilworth, New Jersey
Telephone: MURDOCK 6-9020



smart planning for

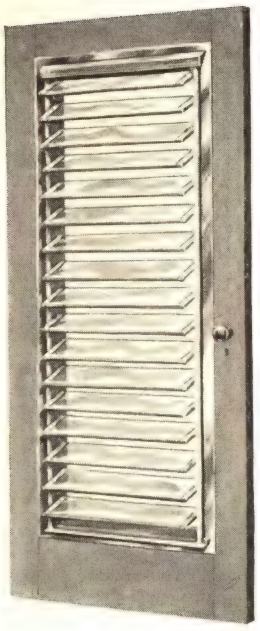
homes
apartments
schools
hospitals
plants



UNIVERSAL

louvre windows





Louvre doors available with wood or aluminum frames.

UNIVERSAL louvre windows

Instant, tight closure and minimum glazing time sets Universal louvre windows apart from all others. No loose, shuddering louvres . . . no rattle—glass slips easily into Self-Lock clip and is automatically locked firmly and securely. Tempered Aluminum Self-Lock clip automatically adjusts to varying thicknesses of commercial tolerances.

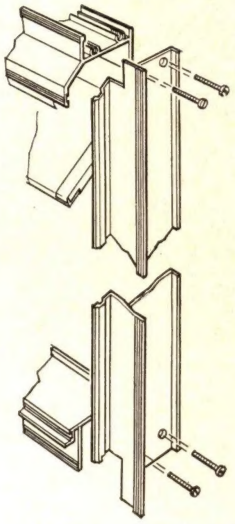
Louvres are balanced to pivot smoothly on shoulder rivets. Fingertip Roto operation does not interfere with blinds, drapes or curtains.

Heavy, extruded 63S-T5 fluted aluminum frames need no painting, no upkeep . . . will not rust, rot, warp or rattle. Head and sill members can be square cut to fit any required width. Built-in head-drip deflects rain . . . sloping sill especially designed so as not to trap water. Completely vinyl or stainless weatherstripping at sill, head and jambs.

Universal louvre windows use glass lengths in even inches for economical cutting. Glass available clear, opaque, Solex and Aklo.

1. Smart, comtemporary architectural appearance.
2. May be used for "window wall" design of a principle room or a porch enclosure.
3. May be used in new construction or alteration.
4. Opens completely from top to bottom—no dead louvres.
5. No-draft controlled ventilation makes building cooler in Summer, sunnier in Winter.
6. Easy to clean from inside the building.
7. Interchangeable screens, storm sash and ventilators for storm sash are available.
8. Universal standard size louvre conveniently used as louvre door inserts.
9. Louvres stay put in any position-afford prowler protection even when open.
10. Universal louvre windows compactly packaged for knock-down shipping.
11. Simple, 8-screw assembly . . . only tool required is a screw driver.

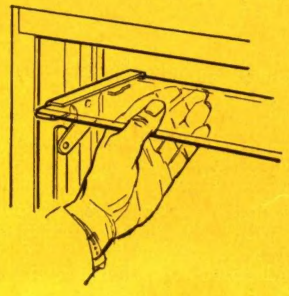
Assembly of the Universal Jalousie window requires only a screw driver . . . for only four screws at head member, four screws at sill member.



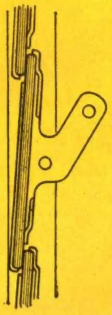
Minimum on-the-job glazing time *from the inside.*



Self-Lock clips require no tools.



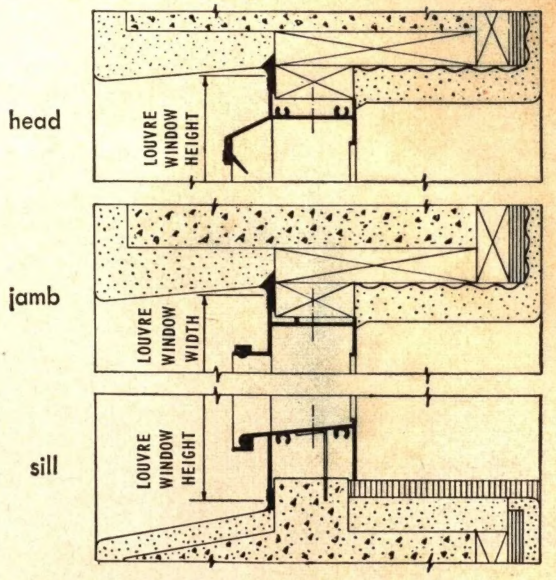
No bending, no loose parts . . . tempered aluminum holder snaps securely behind glass louvre. Often cuts glazing time in half.



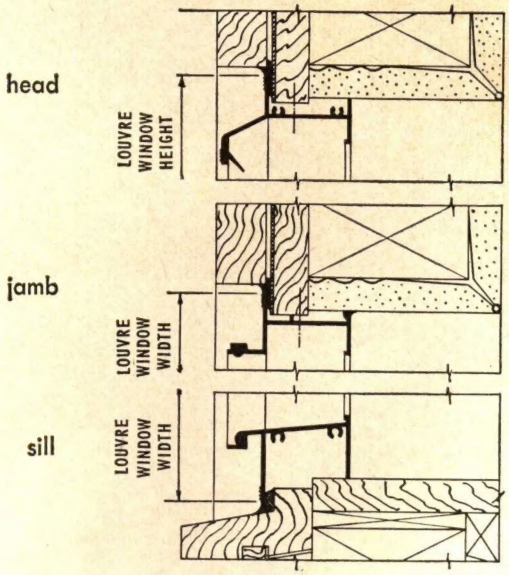
installation details

scale 3″=1′-0″

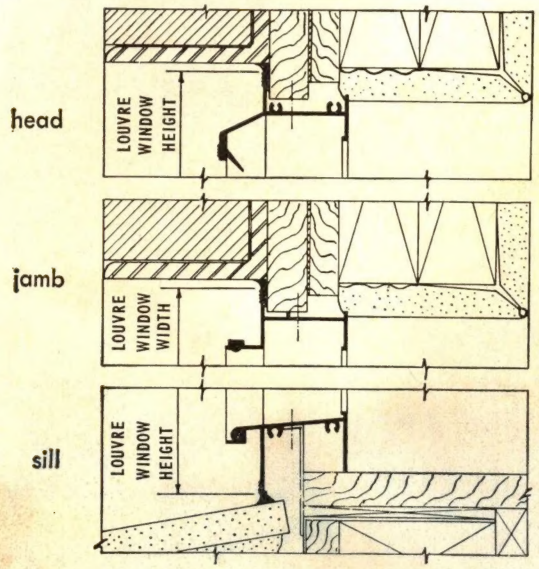
CONCRETE BLOCK



WOOD FRAME



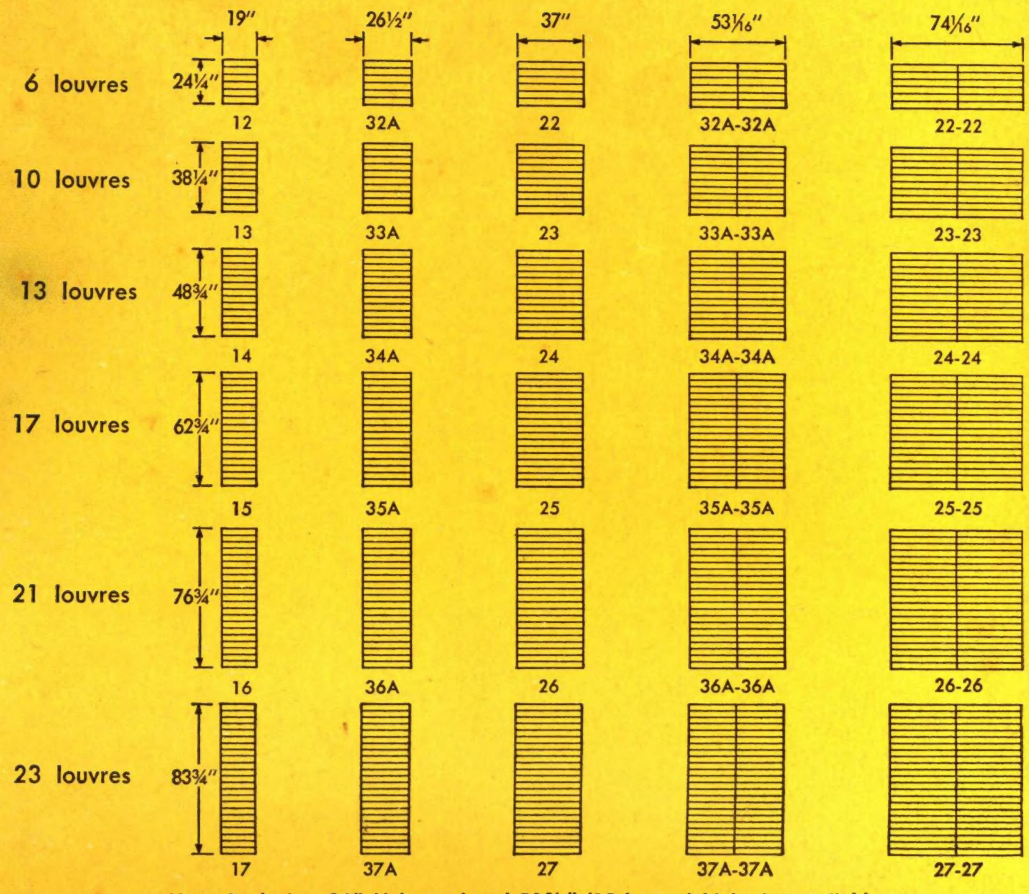
BRICK VENEER



UNIVERSAL louvre windows

stock sizes

single operator



Note: Stock sizes 26" (6 louvres) and 50⅝" (13 louvres) high also available.

specifications

general

Louvre Windows shall be glass louvred type as manufactured by Universal Fabricators, New York, N. Y.

material

All frame members of the windows shall be extruded aluminum alloy 63S-T5. Frames are to be 2¾" deep (thickness .064 to .09). Glass clips, actuator bars, links and rivets shall be of the same aluminum alloy. Horizontal edges of glass louvres shall be ground and polished.

construction

Jamb frames shall be notched to accept head and sill frames and to insure tight fitting joints. Frame members shall be firmly fastened together with eight screws per unit. Glass louvres shall be securely held in position by "Self-Lock" glass clips which insure complete sealing with glass-to-glass contact across each louvre. Heads, jambs and sills shall be weatherstripped with permanently seated vinyl.

operating hardware

Operator shall be a die cast housing with closed back section. Gears shall be permanently fitted to insure easy operation. The operator shall be of such design so as to allow smooth operation of all window louvres without removing screens or storm sash.

finish

All extrusions shall be finished in a bright aluminum mill finish.

mullions

Extruded aluminum alloy 63S-T5 will be used for all standard mullions.

erection

Openings to receive Universal Louvre Windows must be square, plumb and level to prevent distortion of units. The contractor installing Universal Louvre Windows shall securely anchor windows in place to openings. Caulking, flashing, etc. should be used in accordance with good window erection practice. Upon completion of installation the window frames and operating mechanism shall be tested and cleaned to restore original appearance.

doors

1. Specifications for door inserts are the same as those outlined above for windows.
2. Door frame material shall be of vertical grain, Douglas fir 1¾" thick.
3. Top rails and stiles shall be a minimum of 5" and bottom rails 12½ to 16½ depending on design.
4. Jalousie Doors made of heavy extruded 63S-T5 aluminum are available complete with Z bar outer frame, stainless steel hinges, door knob and latch, storm chain, embossed kick plate and with cast aluminum reinforcing at all four corners. Key lock optional.

screens and storm sash

Screens to be 18x14 heavy coated aluminum-mesh in heavy gauge tubular aluminum frame. Storm sash to have extruded aluminum weatherstripped frame with double strength window glass. Tilt-in ventilators in storm sash shall be provided where indicated.

UNIVERSAL FABRICATORS

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